THE ECCENTRIC DEAD:

A REANALYSIS OF EARLY ANGLO-SAXON CEMETERY DATA FROM EAST ANGLIA AND LINDSEY

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Abstract

The concept of ‘deviant burial’ has been part of archaeological vocabulary since the 1980s, but is still often used too casually to be meaningful. The term has been used to describe individuals who have been accorded alternative burial rites when compared to others within the same burial ground, region or time period. As ‘deviant burial’ is widely found in archaeological and anthropological contexts, there was need to examine the range of these alternative burial rites and to determine whether this differentiation at death was reserved for the ostracised and the punished. This study used a cemetery analysis of eight early Anglo-Saxon sites to test whether the accordance of ‘deviant’ or atypical burial rites was associated with a particular group of individuals or set of funerary motifs. A total of 1016 inhumed individuals were examined from East Anglia and North Lincolnshire (Lindsey) and entered into a searchable database before being subjected to a comprehensive statistical analysis. This identified atypical rites that were not necessarily associated with criminal punishment or negative treatment. This study found that individuals who were accorded differential burial treatment were not always found in an iniquitous context and could instead be interpreted as evidence of eccentricity at death.

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CHAPTER 1: INTRODUCTION

In recent years 'deviant burial' has resurfaced as somewhat of a 'hot topic' in the world of archaeology. The discussion of peculiar graves and the unusual treatment of human remains have provided many intriguing cases studies of supernatural affiliations, apotropaic rituals and subcultural activity (Gilchrist 2008, Murphy 2008, Reynolds 2009 and Gregoricka *et al*. 2014). The study of non-normative burial practice has been undertaken in a variety of chronological and geographical contexts, making the discussion of these individuals relevant across a number of disciplines.

This study will examine the way atypical inhumation burials can be identified and interpreted in the context of early Anglo-Saxon East Anglia and Lindsey. Burial records from eight early Anglo-Saxon cemeteries from these areas will be used to examine the variability of this practice. A database of 1016 individuals from 980 graves dated between the 5th and 8thcenturies will be generated and will be used to quantify burial attributes and contents in order to better understand the relationship between grave construction, osteology and material culture. This will be carried out by entering records for each inhumed individual into a searchable database in order to allow a statistical analysis to take place. The structure of this approach is similar to previous large-scale projects such as The Anglo-Saxon Kent Electronic Database (Harrington and Brookes 2008), which will be discussed later in the text. The database will be used to establish to what extent burial attributes can distinguish certain individuals from the main cemetery population. Comparable techniques have been implemented in the past to identify wealthy and high status graves (for a summary see Hines and Bayliss 2013: 17). In this study however, grave information and osteological data will be used to determine how easily 'deviant burial' can be

recognised. For this purpose, ‘deviant burial’ is defined here as any individual or grave which displays atypical characteristics when compared to either their cemetery population, the complete database, age or sex group, or commonly understood ideas of Anglo-Saxon burial rites (Reynolds 2009). In essence, this study will build upon the assertion made by Lucy and Reynolds (2002: 22), that ‘although burial rites are not, and cannot be, a direct mirror of life... they do offer much information, when interpreted with a critical eye’. This, in short, is what the study offers, an opportunity to re-evaluate 980 graves critically in order to better understand the mentality behind inhumation burial in the early Anglo-Saxon period in East Anglia and Lindsey.

Research Aims

This study has three main research aims. The first aim of this research is to evaluate theories of ‘deviant burial’ using the data collected. Concepts and indicators of atypical burial will be applied to a large population and used to evaluate existing hypotheses of ‘deviance’. The data will also be used to ascertain whether any particular ratio is necessary for ‘deviancy’ to be identified or if ‘deviancy’ must always be the minority to be named as such. This goal will be achieved by completing the second and third aims of this thesis which involve constructing and analysing an inhumation database that can be used as a resource for other researchers. The study framework has been designed to allow it to be freely applied to any set of burial records, providing a template that other researchers may choose to replicate. This stage will also involve a re-analysis of this data to determine if any relationships or anomalies exist within the burial information, osteological data and grave good assemblages.

In addition to these three main aims, the study has several underlying concepts that have inspired its creation. This includes the difference found in the cemetery reports used for the previous study (Whitehouse 2008), which alerted the author to the variation in terminologies, levels of detail and image production in each report. On the surface this may not seem problematic or even unusual as inter-cemetery analysis is unaffected. However, where an intra-cemetery comparison is required, the task becomes dependent upon the ease by which they can be compared and contrasted. This is obviously hindered by the lack of standardisation found in many cemetery reports, including those used in this study. To remedy this, the data was homogenised before being entered into the database to enable burials to be analysed across cemeteries but also to allow individuals to be compared on a variety of attributes including; sex, age, orientation and body position.

The structure of this piece of work is also, in part, due to the difficulties faced in the first few months of research. For instance, when attempting to gather information on suitable cemeteries for the database, many early cemetery reports did not include sufficient osteological analyses. This is especially evident in reports published before the 1990s (e.g. Hirst 1985 and West 1988). This was an indication that one of two circumstances had occurred during the excavation of the cemetery; either very few skeletal remains had been recovered or the osteological analyses had not been accorded sufficient time or funds. This discovery opened another avenue of enquiry for this study as it highlighted the problems with taking archaeological evidence at face value. Many of the older cemetery reports considered for the database had used grave goods to make assumptions about past individuals and societies, without reference to osteological evidence. The potential pitfalls involved

in the interpretation of archaeological evidence can be shown most distinctly through the burial record as it provides information that can never be confirmed, such as occupations or lifestyles (Weiss-Krejci 2011). Using archaeological evidence, such as grave assemblages, we can infer many different aspects of an individual's identity through analysis of material culture. In many instances, osteological data can reinforce these assumptions by confirming attributes such as sex (Babić 2005). For instance if a typical 'female' assemblage is recovered, the skeletal remains can be analysed to determine the sex of the individual. This will reinforce the interpretation of the individual's sex with tangible data. As with many areas of archaeology, doubt always remains as osteological examinations can only provide a likely biological profile. Nonetheless, assuming preservation is adequate and techniques are employed correctly, the information taken from skeletal remains can be very accurate which may avoid the subjectivity generally associated with grave good analysis.

Thesis Structure

This opening chapter is designed to lay a foundation for the study, to provide the aims and context for the following sections. This includes background to each of the cemetery sites as well as the necessary terminology needed to understand the definitions used throughout the text. Chapter 2 outlines the method in order to explain the approaches chosen to construct, analyse and interpret the associated database. Critique of the methods used is also offered to justify the choices made. Chapter 3 comprises the literature review, which examines the publications and research relevant to this study as well as the theoretical framework within which this thesis is situated. The discussion will outline the dearth in literature which this thesis

fills, as an illustration of the importance of this research. Chapter 4 discusses the osteological theory used in this study in order to provide a clear dictation of basic skeletal analysis techniques and difficulties faced when examining human remains. This chapter is followed by the statistical analysis portion of the thesis (Chapter 5), which will provide a comprehensive set of primary and secondary statistics to identify any patterns and anomalies within the database. The results will then be discussed in order to examine the correlations and variances discovered in the dataset. Chapter 6 includes an analysis of the alternative burial rites found in the database. This is followed by a discussion of the possible reasons and interpretations behind the accordance of differential treatment in the dataset. The individual cases will be examined within categories of atypical treatment and interpretations of the atypical graves will be offered. Chapter 7 will deliver a summary of the study's most important findings and any suggestions for future work will be outlined.

Study Remit

This study's subject matter and period were chosen in order to demonstrate the breadth of data available. The database includes information from over 1000 inhumed individuals from the early Anglo-Saxon period. The data was sourced from published and unpublished cemetery reports. Eight cemeteries have been analysed from East Anglia and Lindsey from between the 5th and 8th centuries; Bloodmoor Hill, Cleatham, Great Chesterford, Lakenheath, Morning Thorpe, Snape, Spong Hill and Westgarth Gardens. These sites were selected from these specific regions for a number of reasons, including the inspiration from Anglo-Saxon works published on this subject, including Dickinson (2004), Leahy (2007a) and Penn and Brugmann

(2007). Another key consideration when choosing East Anglia and Lindsey was due to the rare high concentration of cremation burials in comparison to inhumed remains (Lucy 2000). It is therefore reasonable to expect that inhumation burials are less visible within the reports from East Anglia (Leahy 2007a). As cremation was the predominant burial rite in early Anglo-Saxon East Anglia, inhumation cemeteries are somewhat limited when compared to other regions of England and because of this few in-depth studies of inhumation data have been conducted. In a sense, because of the comparatively low numbers of inhumation burials, this rite may be seen as 'deviant' in East Anglia.

These realisations were made shortly after the method was developed from a previous study conducted by the present author on early Anglo-Saxon Kent (Whitehouse 2008) where it had become apparent that there was much scope to produce a further study on a similar project. The author's previous study involved the analysis of 1000 inhumed individuals to determine whether gender could be correctly identified using stereotyped grave assemblages. The framework for the first study was very similar to that presented here, but included an extensive grave catalogue as opposed to a searchable database. As the early Anglo-Saxon period provided optimum conditions for such a study, with extensive cemetery records, identifiable grave goods and well documented chronologies, the decision to develop this area of research was an obvious one. The previous cemetery study was much more concise than this thesis as it focused solely on the interpretation and distinction between biological sex and socially constructed gender in the dataset. To improve upon this method, the current study was adapted to include a much greater amount of detail and present it in a more practical way. In addition to the application of a database,

this thesis is obviously larger in terms of content and longer in time taken for completion. Overall, this study provides a comparable but significantly more comprehensive dataset and interpretation than its predecessor by incorporating a fuller profile of the burials studied.

Anglo-Saxon East Anglia and Lindsey

East Anglia is located in the east of England and is usually considered to include Norfolk, Suffolk and Cambridgeshire although there are a variety of county combinations that have been included under a definition for the region (Hoggett 2010 and Bates and Liddiard 2015). The region gets its name from the Anglo-Saxon kingdom of the East Angles. It is believed the kingdom was formed with the merging of the North and South Folk (Norfolk and Suffolk) and the colonisation of Cambridgeshire around AD 500 (Arnold 1997). The study also includes Lindsey (North Lincolnshire) within the geographic remit in order to determine whether a geographical component can be added to the grave good analysis. Broadly speaking, the study area stretches from the Lincolnshire fens to the Essex marshes (seen in Figure 1.1 below). These regions have been joined in previous studies (e.g. Fisher 1995, Stenton 2001 and Williams 2002) due to their common geographical location within the east of England and prevailing cultural similarities demonstrated by the use of cremation as the predominant burial rite. These similarities can also be seen in the artefactual evidence as the two regions have also been included within the 6th century Anglian cultural zone, namely using wrist-clasp typologies (Hines 2013).

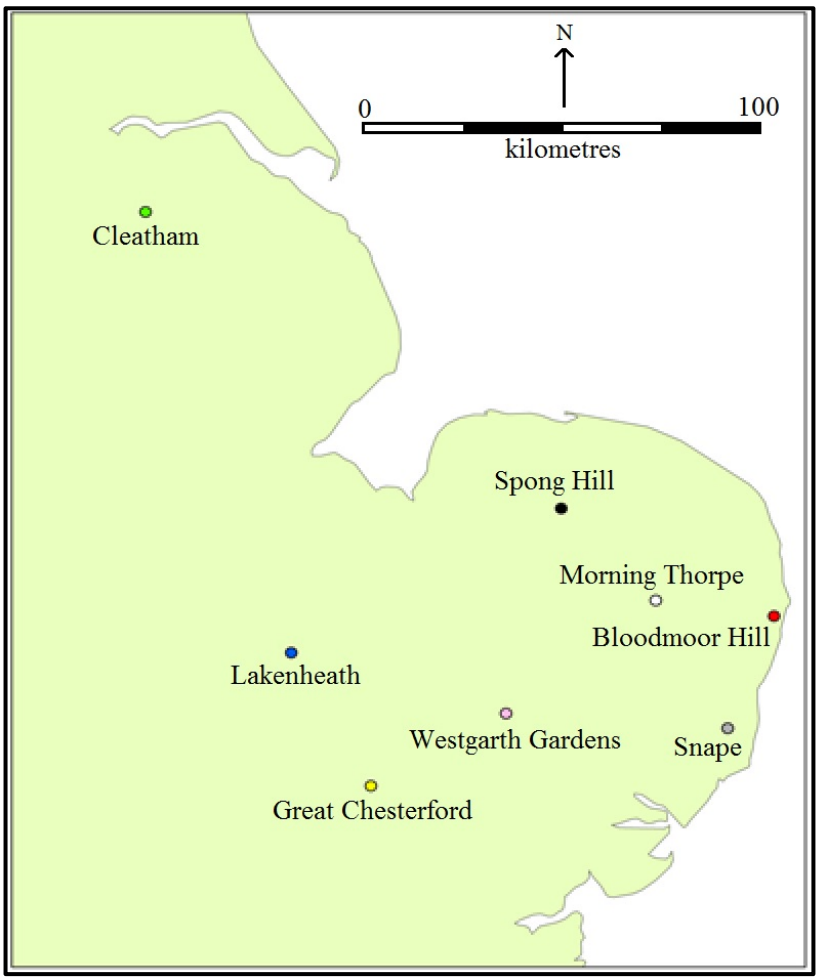
The Anglo-Saxon archaeology of East Anglia presents a range of material evidence (for a comprehensive catalogue see West 1998), from settlements such as West Stow (West 1985), to cemeteries such as Springfield Lyons (Tyler and Major

2005), to ship burials such as those excavated at Sutton Hoo (Carver 1998). The majority of East Anglian Anglo-Saxon finds have been made unexpectedly during construction and redevelopment, with metal detector discoveries having also dramatically increased the number of Anglo-Saxon finds (Newman 1995). However, the majority of Anglo-Saxon evidence across England has been recovered from burial contexts. East Anglian excavations have produced 'at least 3000 inhumations and some 4000 cremations' with over 200 Anglo-Saxon cemeteries and burial grounds having being discovered (Penn and Brugmann 2007: 4). Due to the large number of sites and sheer mass of burial evidence recovered from this region, many recent scholars have suggested that insufficient analysis and understanding has been applied (Dickinson 2011, Hines and Bayliss 2013 and Sofield 2015). Indeed, this indicates a key consideration within this study's research aims as under-analysed data has the potential to produce new insights and develop old ones.

This need for the reanalysis of burial data is accompanied by theories of under-populated Anglo-Saxon East Anglia made by a number of scholars (e.g. Hills 1993, Fisher 1995, Heather 2010 and Hoggett 2010) who suggest that there is a disproportionately small distribution of early Anglo-Saxon graves when considering the size of the region. Hodges (1989) and Higham (1992) suggest that the burial record at present may only represent the elite tiers of society and propose that the majority of the population utilised alternative and as-yet undetermined mortuary practices. This may be the case; many Anglo-Saxon communities may have disposed of human remains in a way that has left no archaeological trace. The only way to definitively determine this would be to not only discover all settlement sites but to have then compared estimated populations against all the individuals buried or

cremated in the period. The difference would then indicate the number of individuals who are missing from the burial record. Needless to say, this is an impossible task. Whilst future excavations will shed more light on these missing groups, it is very important that the burial evidence already recovered is analysed as comprehensively as possible. With this issue in mind, this study was developed to avoid the difficulties faced when interpreting early Anglo-Saxon burial evidence by using a database which could filter and query any information required.

Figure 1.1 –Map showing East Anglia and Lindsey and the eight cemetery locations



Cemetery Sites

It is necessary here to situate the cemeteries used in this study within the broader context of early Anglo-Saxon burial practices. As this thesis focuses on inhumation graves it is important to recognise that this mode of burial was not common in England before the second half of the 5th century. As such, these burials 'represent a chronological horizon which can be used to help characterize earlier phases of material culture' and mortuary trends (Hines and Bayliss 2013: 524). What must also be remembered is that the majority of evidence for this time period has been formed from the analysis of grave goods that may have been deposited only with the wealthy and elite members of the burying society (King 2005). Also, when considering the deposition of grave goods and their influence on the chronology and dating of a burial, it may only be the imperishable items that remain in many cases. Therefore it would be overly assumptive to classify unfurnished burials as undoubtedly that, especially in areas such as East Anglia which suffer from poor levels of preservation. In addition, it would also be unwise to apply the chronological association between later Anglo-Saxon practices and unfurnished burial to all graves without assemblages. Indeed, it can be strongly argued that the range of burial rites varied, 'from lavishly furnished to unfurnished,' throughout most of the early Anglo-Saxon period (Hines and Bayliss 2013: 524).

Regional and social aspects of burial practice must also be taken into account in order to understand the similarities and differences between the eight sites chosen for this study. Unlike the minimally-furnished inhumations of western England and Wales from the first half of the 5th century, East Anglia and Lindsey used cremation as the predominant funerary rite, with burials incorporating material culture from

North Sea coastal areas (Hines 2013). The latter half of the 5th century saw the popularity of the furnished inhumation spread throughout Anglo-Saxon England, although the eastern regions continued to use cremation well into the 6th century. Nevertheless, it appears that by 'the middle of the 6th century [cremation] is restricted to the higher and elite segments of society (Hines and Bayliss 2013: 526). Cremation had almost ceased by the second half of the 7th century, being replaced by furnished inhumation burial. This, however, did not remain constant, as the practice of depositing grave goods began to decline with the conversion to Christianity during this period. It can be argued, therefore, that the changes in burial rites at this time were also spurred by social and economic factors, which altered the disposable wealth that individuals were prepared to bury with the dead (Lucy and Reynolds 2002). As such, it is possible that socio-political and economic circumstances during the 660s and 670s, together with the increasing influence of Christian beliefs, provided a dual context for the end of traditional burial practices that incorporated the deposition of grave goods (Hines and Bayliss 2013: 553).

The cemeteries examined within this study can be used to provide evidence for the transitions described above. All sites were characterised as early Anglo-Saxon with dates of use ranging from the 5th to the 8th centuries. Many of the cemeteries hold both inhumations and cremations and all vary in population size. The burial information recorded can help to determine the chronologies of the cemeteries, as for instance, after the late 6th century fewer grave goods were interred and cremation was used less frequently (Lucy 1998). In contrast, a typical early Anglo-Saxon inhumation grave from the 5th century usually contained an assemblage of mixed goods including dress accessories, knives, jewellery, weapons, utensils and tools.

Those interred within graves could be placed face-up with their legs straight, or slightly flexed with their head to the west (Faull 1977). Therefore, in order to produce a well-balanced thesis, the cemeteries were selected following the deliberation of a collection of sources, which included compilation works such as Meaney (1964) and Penn and Brugmann (2007), as well as cemetery reports from across East Anglia and Lindsey. Sites were assessed in terms of: the number of inhumations, the nature of site, the excavation date, their geographical context, and the quality of the accompanying publication. The eight cemeteries were selected after much consideration and were chosen because they each added a different dimension to the database. The ideal circumstance for the study would have been to include all inhumation data from East Anglia and Lindsey to produce a complete database. However, as with any study such as this, time and word constraints must be adhered to. Even so, the cemeteries were chosen to provide a range of site types with suitable datasets and were not 'cherry-picked' in order to guarantee a certain result or with 'deviant' statistics in mind.

Cemetery Background

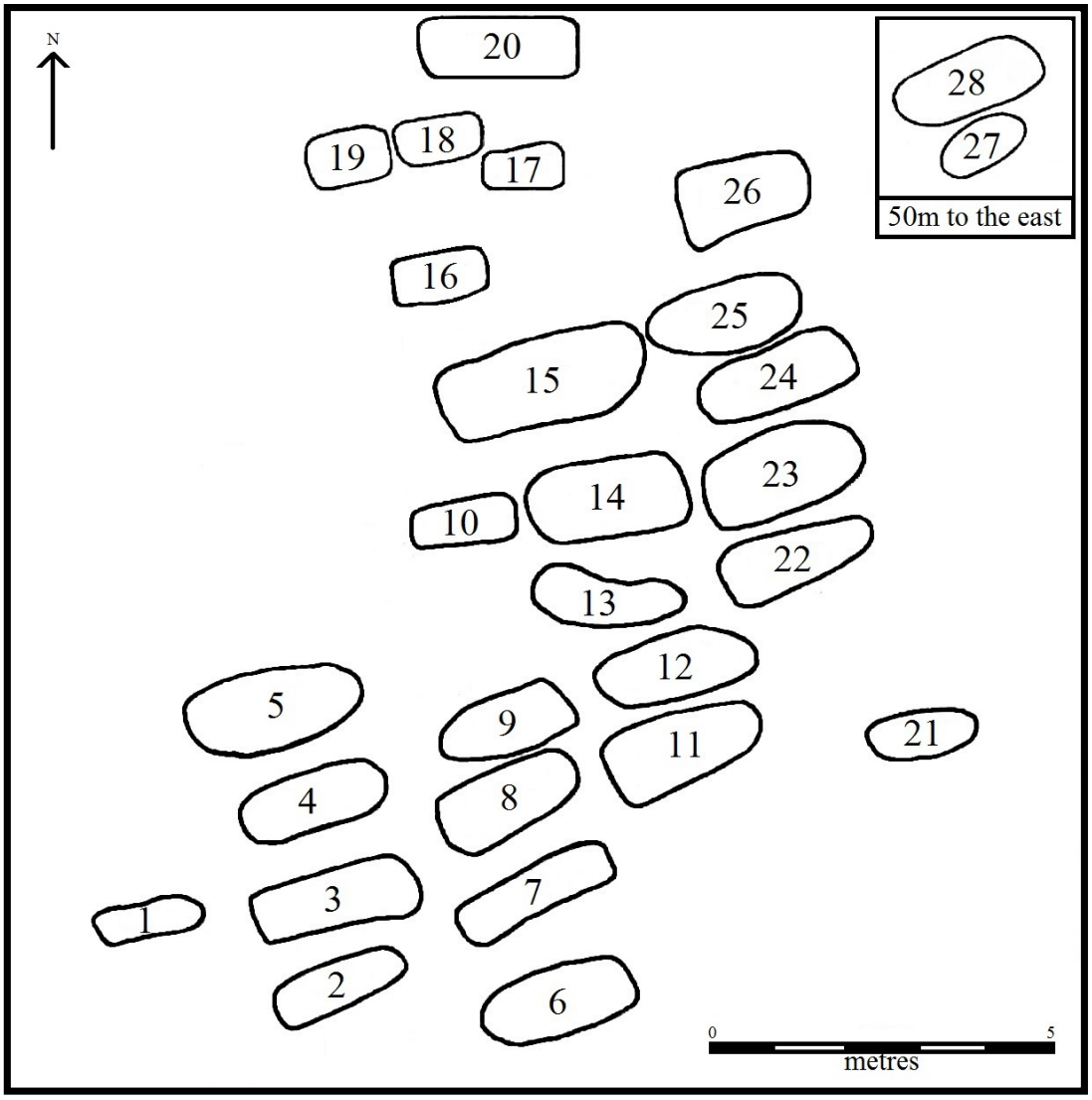
In order to better understand the context of each cemetery, it is necessary to provide background information on each site. This helps to establish any geographical and topographical details that may affect the nature of the burial evidence, especially considering the soil conditions within East Anglia and Lindsey, which have proved damaging to grave remains in the past. However, although conducive to a thorough study, the cemetery backgrounds provided in the following section are not pertinent to the overall usefulness of the associated database. Nevertheless, in order to fully

understand the nature of each site, background information may complement the data analysis by providing an insight and a context for later interpretation.

Bloodmoor Hill Cemetery

Bloodmoor Hill, Carlton Colville, Suffolk, is situated one kilometre from the coast in the 'Sandlings' area. The excavation was undertaken by Cambridge Archaeological Unit between 1998 and 2001 and included machine stripping, metal detector work, deposit sieving and environmental sampling. The cemetery was likely short-lived, with grave assemblages and the 'residual material in the grave fills' (Lucy *et al.* 2009: 414) suggesting use between the 7th and early 8th centuries. In contrast, the settlement is hypothesised to have been occupied between the 6th and early 8thcenturies. This was substantiated using radiocarbon dating which gave an estimated start of use at '*cal AD 630-660 (68% probability)* or *cal AD 600-660 (95% probability)* and an end of *cal AD 670-690 (68% probability)* or *cal AD 660-700 (95% probability)*'. This gives an estimated time of use for the cemetery at between '*20-50 years (68% probability*) and *20-80 years (95% probability)*' (Lucy *et al.* 2009: 416). 'The total excavated area [settlement and cemetery] exceeded 30,000sq m' with an extensive collection of finds and 29 buried individuals (Lucy *et al.* 2009: 1). The 29 individuals were recorded from 28 graves; 26 were found inside the settlement area in a 'small formal cemetery' (Lucy *et al.* 2009: 385). The remaining two graves, including the double inhumation, were situated 50m to the east of this group (see Figure 1.2).

Figure 1.2 – Plan of Bloodmoor Hill (After Lucy *et al.* 2009: 386)



Many graves were affected by animal damage and some (Graves 5 and 23) 'may have suffered deliberate attempts at robbery in antiquity'. The likelihood of robbery therefore increases the chance that some items deemed 'residual' in the cemetery report could have been originally deposited in the graves. Even though the preservation levels were far from ideal at the site, there was evidence for a coffin in three graves and one burial had evidence of a possible grave marker. This fact then must be taken into consideration when analysing the stratigraphic and topographic

locations of the cemetery and graves. The geology is brown sands, and gravel with high soil acidity (Lucy *et al.* 2009). Unfortunately, as a result of this acidity the preservation of skeletal remains was 'extremely variable but generally very poor... there [was] poor survival of the torso, the extremities and the articulating facets/epiphyseal ends' (Lucy *et al.* 2009: 389). 'Human bone was recovered from eighteen individuals' and grave goods 'were recovered from 10 graves, but the number of furnished inhumations may have been greater' (Lucy *et al.* 2009: 385). Several of the furnished inhumations have been interpreted as females of high status due to the large assemblages of 'portable wealth' deposited with these individuals (Lucy *et al.* 2009: 422). This may, however, give an inaccurate portrayal of the buried community at Bloodmoor Hill as (unlike the other cemeteries in this study) the site is of a later date. This directly influences the material culture found at the cemetery as by the 7th century weapon burial had become less popular in eastern England thereby reducing the number of more stereotypical 'male' burials than we find from earlier sites (Lucy *et al.* 2009: 422).

Unlike the other cemeteries included in this study, it has also been hypothesised that a mortuary building existed at the site comprising an 'earthfast timber building' set 'in close proximity to the cemetery... [with certain graves respecting] its eastern post alignment' (Lucy *et al.* 2009: 385). Interpretations of the settlement have included the suggestion that it 'may have been an early form of estate centre with associated high-status burial and industrial activity' (Lucy *et al.* 2009: xii). The cemetery was also found to include several pits and features which contained evidence of technologies such as metal-working and animal husbandry, in addition to the grave assemblages recovered.

Overall, the inhumations at Bloodmoor Hill suggest the community engaged in a range of burial practices. Some are typical of the period, such as the use of grave markers, whereas others indicate more unusual conditions such as the deposition of grave goods after the adoption of Christianity in East Anglia (Blair 2005). The remaining evidence also suggests local traditions may have seen females being buried at the cemetery with more 'portable wealth' than males. Preservation and chronological considerations must be appreciated but it may be the case that, at this site, females 'enjoyed a higher social rank than anyone else' (Lucy *et al.* 2009: 423)

Cleatham Cemetery

Cleatham cemetery lies in the parish of Manton, North Lincolnshire, and is the northernmost cemetery considered in this study (Leahy 2007a). The cemetery is located in Kirton in Lindsey, 25 kilometres north of Lincoln. This mixed-rite cemetery (seen in Figure 1.3) sits on the edge of a limestone slope, overlain with a chalky brown soil. The preservation of the site was largely of a very good standard, especially for the urns and associated grave goods. The human remains were also reasonably well preserved but had been repeatedly damaged by extensive ploughing (Leahy 2007a). Cleatham cemetery was excavated between 1984 and 1989 by volunteers led by Kevin Leahy, and the post-excavation phases were either funded or voluntarily undertaken by a variety of professionals and institutions; including Scunthorpe Borough Council, the Yorkshire and Humberside Area Museum Council and Doncaster Conservation Agency (Leahy 2007: 3). As the site was predominantly a cremation cemetery, much of the excavation was done by hand to avoid any further damage being made to the urns and to recover any associated sherds. 'Problems were encountered in distinguishing archaeological features on the site' even using geophysical methods and aerial photography (Leahy 2007a: 23).

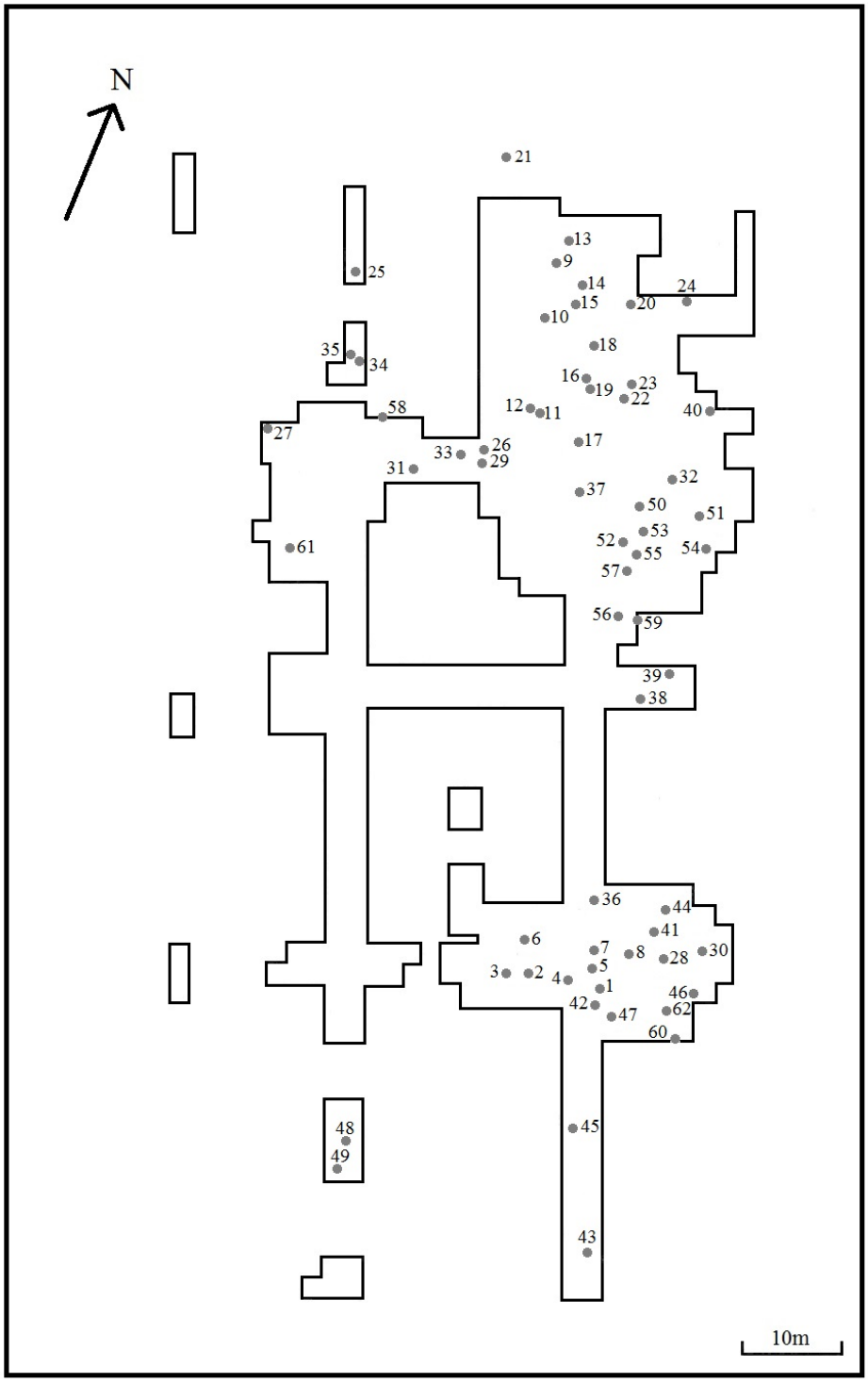
Unlike the other cemeteries within this study, Cleatham lies in the Anglo-Saxon kingdom of Lindsey, which shares many similarities with East Anglia, such as predominant cremation burial, cemetery organisation and burial environment. The site is mainly a cremation cemetery but does hold small number of inhumations. This is one of the main reasons why the cemetery was chosen instead of alternative sites from Lindsey such as Castledyke South. Cleatham provided 62 individuals from the same number of graves, alongside over 1200 cremation burials, making it very

similar in composition to another site in the study, Spong Hill. Therefore, Cleatham provided a population figure that would not overwhelm the totals from East Anglia but could also be compared and contrasted against similar sites and this would not have been the case if, for instance, the well-known Castledyke South cemetery was used as it housed over 200 inhumations (Drinkall *et al.* 1998).

In terms of inhumation evidence and in addition to the original cemetery report (Leahy 2007a), a much more in depth osteological analysis on the human remains recovered from the site was undertaken as part of a separate project by Squires (2011). It is generally believed that the cremations predate the inhumation burials, although it is likely that there is some overlap in chronology. As Leahy (2007a: 263) makes very clear, 'burial started at Cleatham around the middle of the 5th century… [and] continued to take place on the site into the second half of the 7th century'. It is hypothesised that, in total, the cemetery would have housed over 1500 burials including over 120 inhumations, although some areas had been previously destroyed (Leahy 2007a: 31).

The 62 individuals inhumed at the site were buried in both furnished and unfurnished graves typical of the region and chronology. It was found that the older adults were deposited with more grave goods than the younger age groups and many adolescents were accorded similar assemblages to the young adult individuals. Females were more likely to be found with a greater range of grave goods than males but not necessarily as a direct indication of wealth (Leahy 2007a: 61). There were, however, certain 'exotic' items recovered from the site (such as cowrie shells and coral beads) that suggest individuals at Cleatham has access to traders and goods from across the 'early medieval world' (Leahy 2007a: 263).

Figure 1.3 – Plan of Cleatham (After Leahy 2007a: 3)



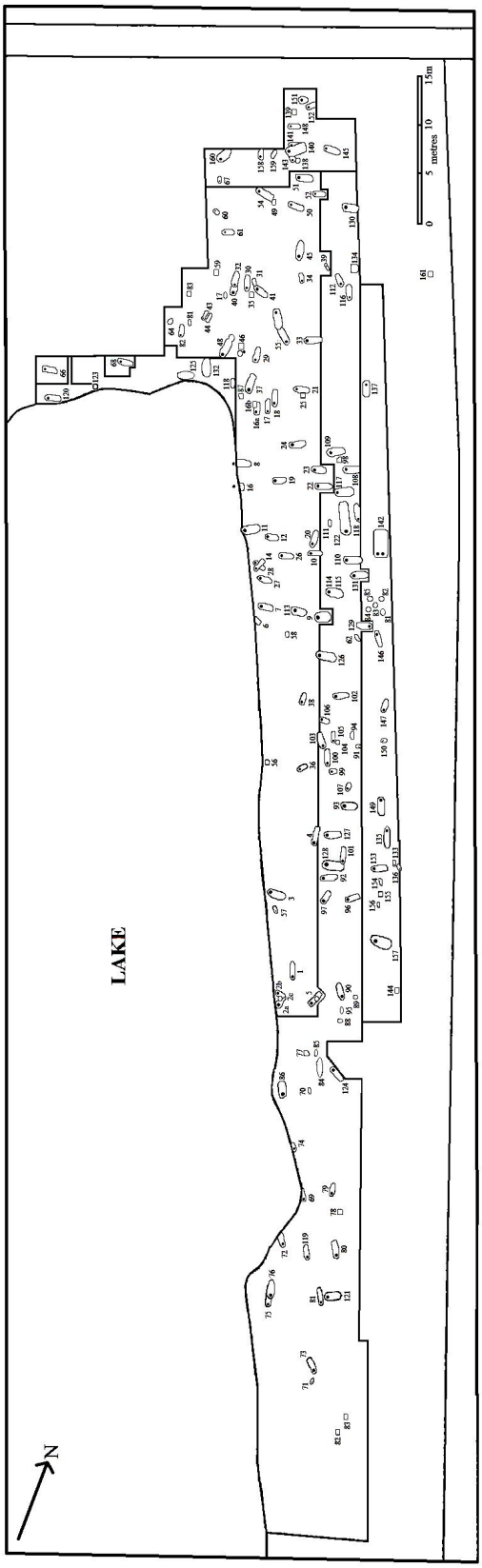
Great Chesterford Cemetery

Great Chesterford cemetery is located in Uttlesford, Essex, approximately 19 kilometres south of Cambridge. In 1952, evidence was recovered during gravel-digging that suggested Anglo-Saxon graves had been disturbed. Great Chesterford had previously been identified as a Roman town and cemetery and the Inspectorate of Ancient Monuments allowed a wider excavation of the area. 161 inhumation graves (as seen in Figure 1.4 below), 33 cremation graves, two horse graves and two dog burials were identified (Evison 1994: xi). The cemetery was in use between AD 450 and 600 (Inskip 2008: 57). The site proved difficult to date as many graves were unfurnished and a large proportion included 'commonplace objects which [were] not dateable' (Evison 1994: 45). The chronology for the cemetery was provided using artefact typologies and the phases of use were 'therefore assigned tentative and overlapping dates' (Evison 1994: 46).

171 individuals, recovered from 164 graves (including the four animal burials), were included in the database. The difference in totals comes from alternative counts of individuals from multiple graves, especially with reference to Grave 83, which held a possible six foetuses. A relatively large number of child graves (in comparison to the other cemeteries) were also discovered, and the site may represent a more accurate illustration of the infant mortality rate at the time than some of the other cemeteries studied (Evison 1994: 59). Other than the high proportion of non-adult remains found at Great Chesterford, the cemetery report suggests the site is very typical both culturally and chronologically 'for the local Anglo-Saxon population' Evison (1994: 51).

The site held both damaged and degraded remains. Some graves had been damaged by ploughing and gravel quarrying and the remainder had endured the acidic subsoil layers of sand and gravel. The level of preservation and the condition of remains is typical of the area but was worsened by their treatment during post-excavation and storage (Evison 1994: 52). A re-analysis of the burial evidence has been undertaken by the University of Southampton in recent years in an attempt to fully realise the 'research potential' of the collection (Inskip 2008: 57). This has involved a re-examination of the skeletal material in order to better understand the osteology of the site, especially the palaeopathological data.

Figure 1.4 – Plan of Great Chesterford (After Evison 1994: 207)



Lakenheath Cemetery

The Lakenheath cemeteries are situated in Suffolk, approximately 13 kilometres west of Thetford. The site discussed in this thesis is the third of the three cemeteries excavated at Eriswell. The data for this site was generously provided by Suffolk County Council Archaeological Service and is, at the time of writing, undergoing analysis prior to publication. All information for Lakenheath was taken from the active site record after the first stage of the post-excavation process.

214 graves were excavated and found to contain a total of 220 individuals, 11 of whom were found within multiple burials. The preservation and condition of the remains varied considerably but generally have followed the pattern found in the cemeteries above due to the high soil acidity in the region. Due to the unpublished status of the cemetery records, the author was working from site lists and working record sheets. The information was, therefore, not edited after it was received from Suffolk County Council Archaeological Service and so may differ slightly from their future cemetery report. As grave numbers were assigned by the author, these may also differ to those that will feature in the publication. Although presenting difficulties at some points, this cemetery proved very worthwhile as a component of the database. This is because, unlike the other cemetery reports, the data was in raw form and had not been subjected to post-excavation interpretation. For instance, the sex of the individuals were only created from the osteological analysis as the full profile for each individual had not been compiled to allow the grave goods to be used as a sexual signifier. This is a refreshing aspect of handling unpublished raw data as the likelihood of bias or subjectivity cannot jade the overall results or reliability of the study. However, this did mean that no cemetery plan was available to the author.

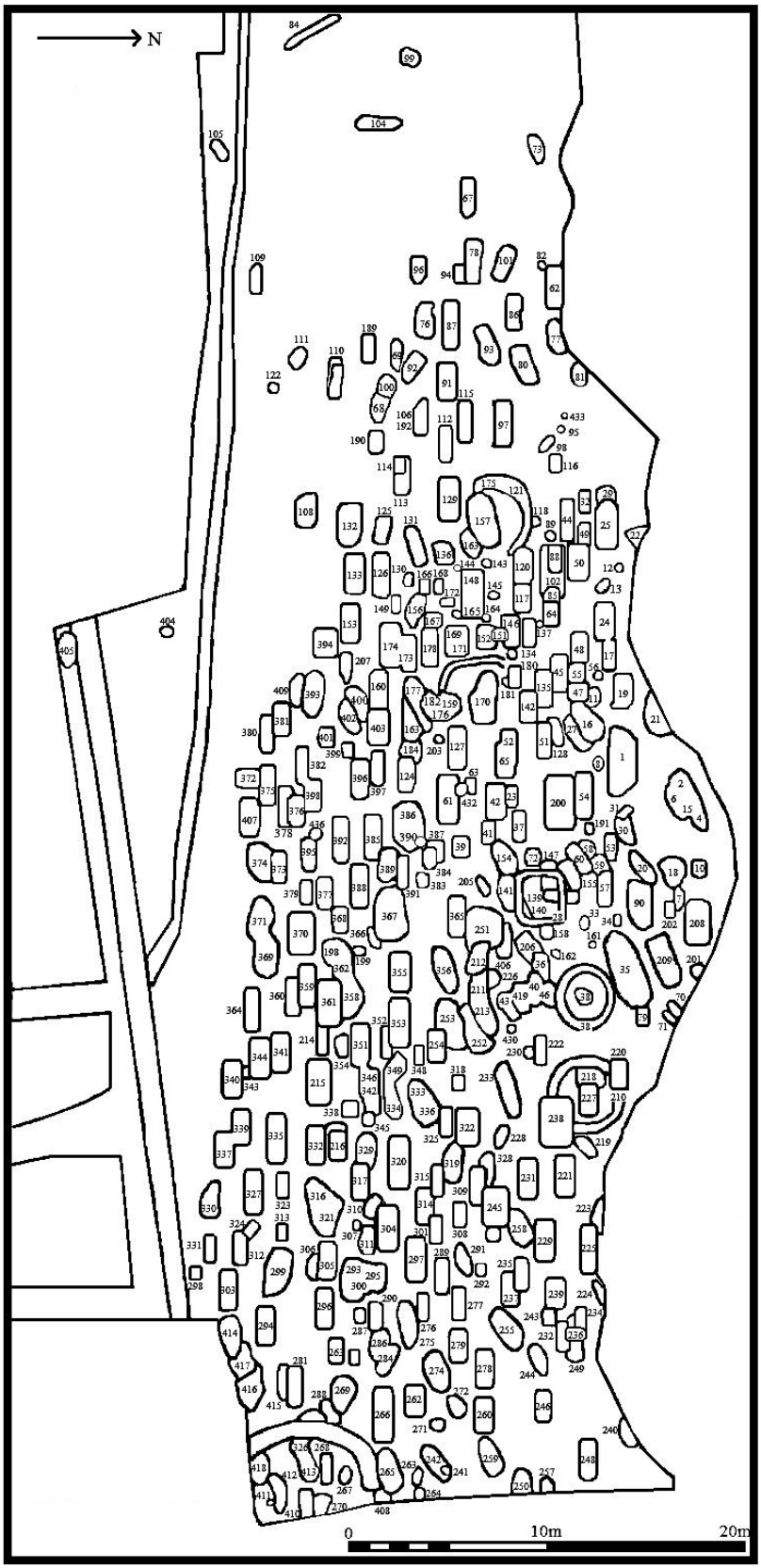
Morning Thorpe Cemetery

Morning Thorpe cemetery lies 20 kilometres south of Norwich, in Norfolk. The site was discovered initially when two suspected Anglo-Saxon cremation urns were recovered during gravel-digging. The finds were taken to the Norwich Castle Museum and excavation was carried out in two sessions in 1974 and 1975 by Norfolk Archaeological Unit, who also produced the cemetery report. The excavation identified 365 inhumations and nine cremation burials. In addition to the human graves, 'two small ring-ditches...a penannular ditch...and a probable penannular ditch' (Green *et al.* 1987: 1) were recorded. Although the majority of the cemetery was successfully excavated, the northern edge had been subject to quarrying and the eastern edge was outside of the excavation area (Green *et al.* 1987: 1).

The majority of grave goods recovered from the site were typical of the 6th century and ranged from weapons and dress accessories to musical instruments and textiles (Green *et al.* 1987). The poor preservation levels at the site affected the recovery of these items but also 'as a result of the acidic nature of the gravels… bone was recovered from only thirty-two per cent of the graves recorded' (Green *et al.* 1987: 188). The human bone found was in a poor condition – except around grave goods containing copper alloy, which often protected the skeleton.

The cemetery held the greatest number of individuals in the overall study: 362 individuals found within 347 graves (Figure 1.5). The individuals who could be aged osteologically were found to have died as young adults, with only one individual surviving over 35 years of age (Green *et al.* 1987: 188). This will be examined further in the analysis section of the study.

Figure 1.5 – Plan of Morning Thorpe (After Green *et al.* 1987: 7)



Snape Cemetery

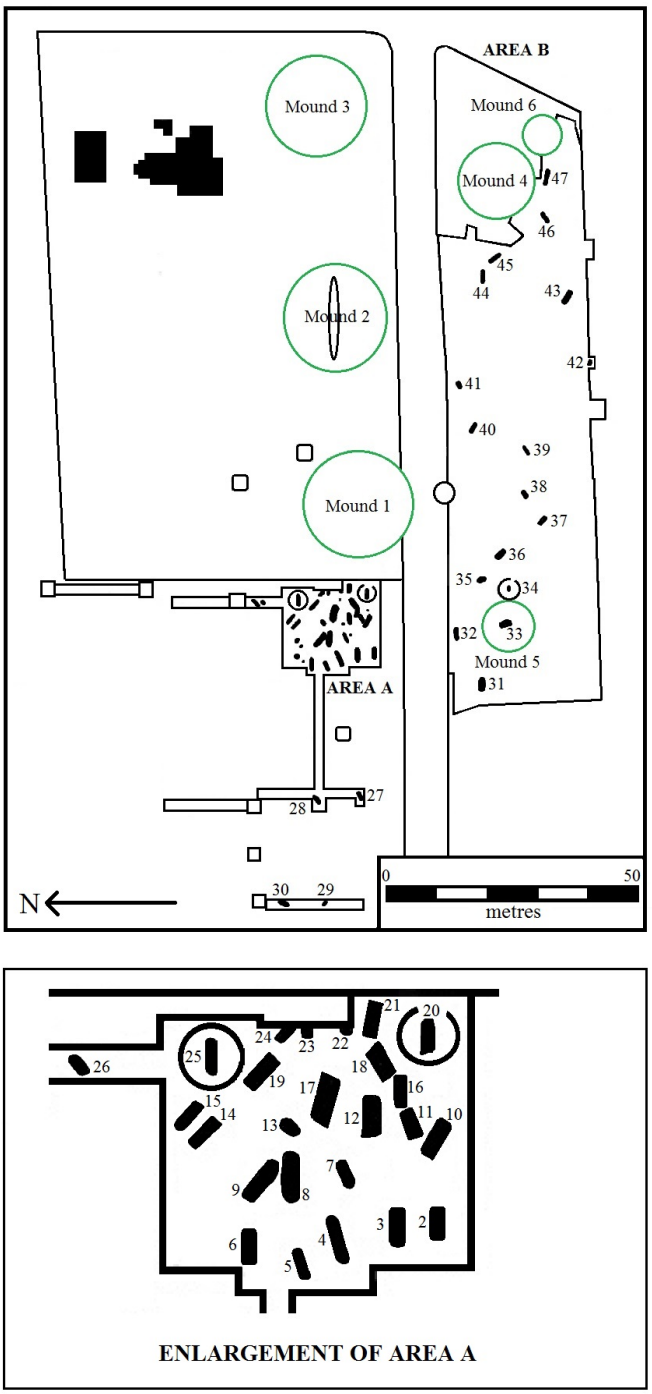
Snape cemetery lies seven kilometres from the Suffolk coast, north-east of Sutton Hoo, in the parish of its namesake. The cemetery also sits within the 'Sandling' area of Suffolk and features the same acidic, sandy gravel conditions as Bloodmoor Hill (Filmer-Sankey and Pestell 2001). Consequently, the skeletal remains were very badly preserved with only body stains remaining in many of the graves. However, in contrast to the limited survival of human bone, other organic material such as textiles and wood were recovered in an unusually good condition (Filmer-Sankey and Pestell 2001: 204).

Archaeological finds were recorded here from as early as 1827 and in 1862 the first ship burial identified in England was discovered here (as seen in Figure 1.6 below). This was found to contain high-status grave goods, potentially suggesting an individual of rank and importance (Carver 2005b). The main excavation of the cemetery took place between 1986 and 1992 in an effort to protect the site from further plough damage. This was an attempt to provide a more detailed insight into the kingdom of East Anglia during the early Anglo-Saxon period. This was largely funded by English Heritage as a rescue operation and organised by Suffolk Archaeological Unit. The evidence collected during the excavation was added to previous finds in order 'to assemble all the available evidence for the cemetery into a coherent whole' (Filmer-Sankey and Pestell 2001: 1).

47 inhumation graves, containing 48 individuals, were excavated. Six graves were left unexcavated and one had been robbed of its contents (these are highlighted in the database). Although the preservation of skeletal remains was very poor overall, the better preserved grave goods presented 'were within the normal range of material

to be expected in an Anglo-Saxon cemetery [with] more exotic finds including a lyre… and a horse's head with tack'. The grave goods have dated the site 'from the mid 6th to 7th centuries' (Filmer-Sankey and Pestell 2001: xii).

Figure 1.6 – Plan of Snape (After Filmer-Sankey and Pestell 2001: 10 & 13)



Spong Hill Cemetery

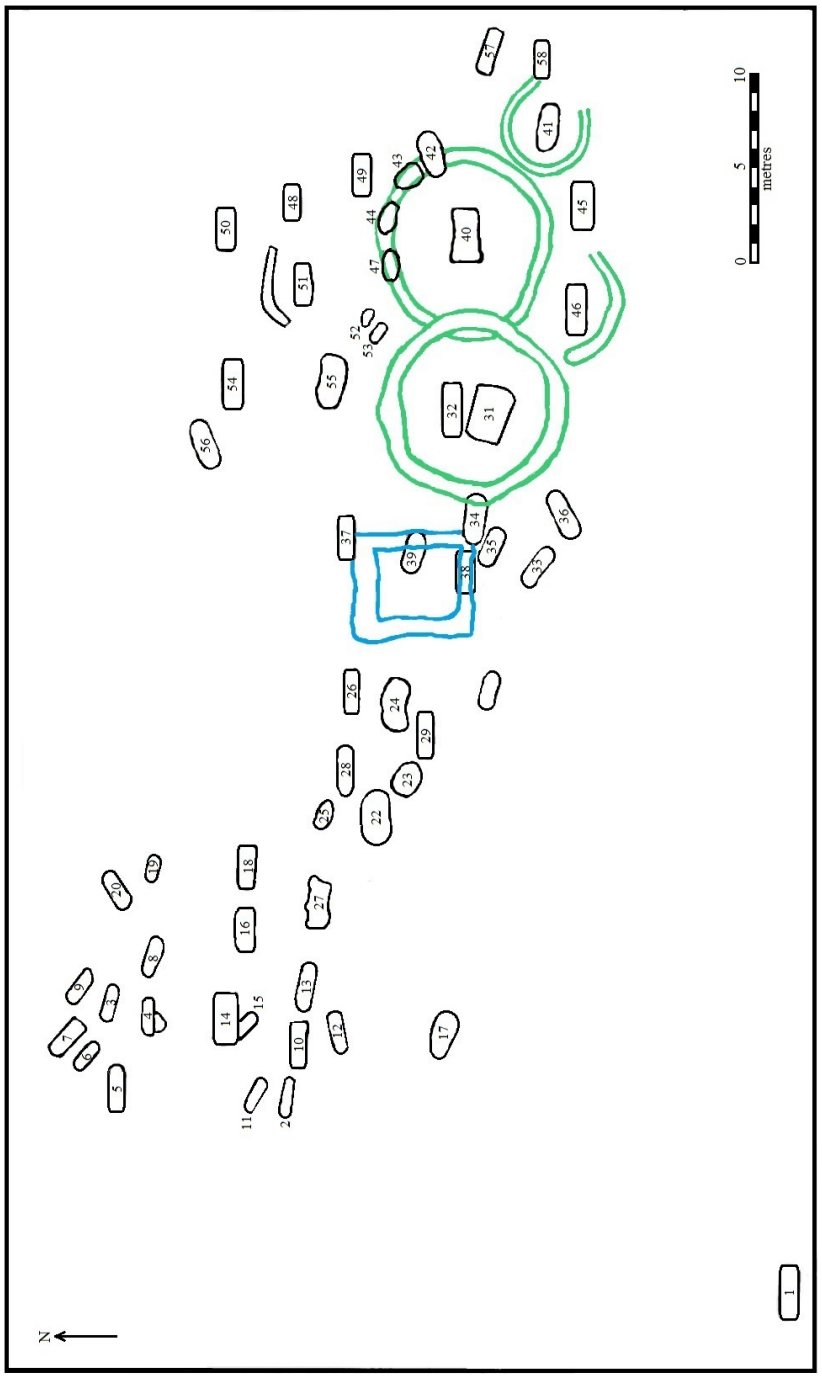
Spong Hill is located in the village of North Elmham in Norfolk, approximately 25 kilometres northwest of Norwich. There are records from 'as early as 1711' (Penn and Brugmann 2007: 8) that indicate the site's use as an Anglo-Saxon cemetery. The cemetery was excavated by Norfolk Archaeological Unit between 1974 and 1978, with funding provided by the Department of the Environment (Hills *et al.* 1984: viii). The excavation was originally intended to be of the entire site and it has been accepted that the south and east boundaries seemed to have been reached. However, it has been suggested by Penn and Brugmann (2007: 8) that the north and west limits of the excavation did not encompass the entirety of the cemetery area.

Spong Hill is a renowned Anglo-Saxon cremation cemetery with over 2000 cremations being found on the site. However, it is the 57 inhumations recovered from the site, including one double grave, which are of interest to this study and are shown without their accompanying cremations in Figure 1.7 below. The inhumations at Spong Hill have been dated from c. AD 450-550 (Penn and Brugmann 2007: ix). As with most early medieval cemeteries in East Anglia, the site suffered high soil acidity and very poor preservation of skeletal and material remains. 19 of the 57 graves within the cemetery were found to contain no human bone at all and no complete skeleton was found in any of the inhumations. There was however, improved skeletal preservation for the individuals being identified as 'female', 'the bone having been preserved by copper in the bronze brooches' on the upper torso and chest (Hills *et al.* 1984: 15).

At Spong Hill, for inhumed individuals, 'the 'normal' ritual was… burial in a coffin, orientated approximately west to east, the body extended' (Hills *et al.* 1984:

2). This is typically seen at early Anglo-Saxon cemeteries and sits well with similar sites although there are individuals (sexed as female or unsexed) who present alternative 'rituals' such as atypical orientation (Hills *et al.* 1984: 2).

Figure 1.7 – Plan of Spong Hill (After Hills *et al.* 1984: 3)



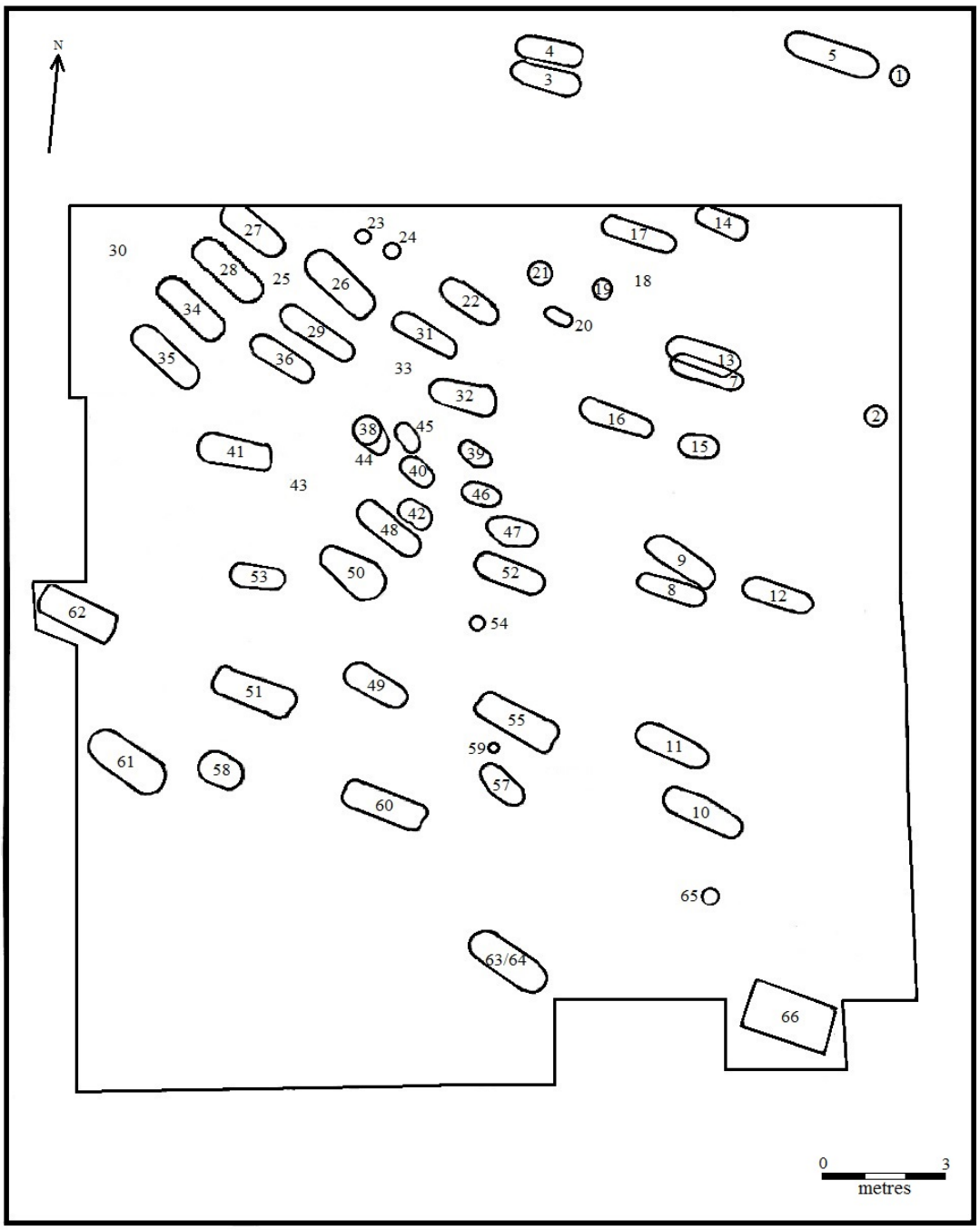
Westgarth Gardens Cemetery

Westgarth Gardens cemetery is situated two kilometres to the west of Bury St Edmunds in Suffolk. Westgarth Gardens is one of the several cemeteries found in the vicinity of Bury St Edmunds, with the River Lark to the east. The cemetery was originally discovered during the digging of a gas main trench in 1972 (West 1988). The excavation was, in part, a rescue operation and was carried out with speed. This is reflected in the cemetery report which has limited detail and certain grave plans missing, especially those associated with non-adult graves. The excavation was undertaken by Suffolk Archaeological Unit and volunteers, and helped financially by private backers.

The limits of the cemetery seem to have been reached near the south and north-east edges as empty spaces were recorded. However, 'the building works had clearly cut through the north-western and probably also south-eastern part of the plot' (Penn and Brugmann 2007: 11). A total of 66 buried individuals were discovered, which included one double grave and 64 single inhumations (seen in Figure 1.8). An additional four individuals were recovered from cremation graves but these were excluded from the database given the nature of the study. Preservation of human and material remains was extremely variable, from very poor to good. This variable preservation is evident from the range of human bone and artefactual remains recovered. This may indicate differing post-mortem practices but can also be attributed to the combination of gravel and sand creating a mixed but highly acidic burial environment (West 1988). The remains recovered did provide an estimated period of use however, suggested to be from the middle of the 5th century to the 7th century. The grave goods found mainly consisted of weapons (including two

swords), tools, dress accessories and utensils, as expected from early Anglo-Saxon assemblages from this region.

Figure 1.8 – Plan of Westgarth Gardens (After West 1988: 3)



Overall, the eight sites provide a diverse collection of individuals that can be analysed within the context of this study. Together, they provide a broad sample of the material available to scholars engaged in the study of early Anglo-Saxon cemetery archaeology in eastern England. Nominally, the site reports and associated data reflect the general trends seen in early Anglo-Saxon burial traditions between the 5th and 8th centuries, as they are currently understood by archaeologists. However, even when taken at face value, it is clear that numerous aspects of the cemeteries vary in terms of the local rites and traditions employed. While it must be recognised that at least some of these differences may derive from the geographical and chronological scope of the sites analysed, they may also be influenced by cultural and ideological factors that are not immediately apparent from an initial reading of the cemetery reports.

As will be demonstrated in the following section, our understanding of these sites may also be influenced by the variation in the recording and analytical methods used in each of the cemetery reports. In order to overcome this potential issue, it was necessary to outline a standardised vocabulary and methodology that could be used to compare and contrast the data across sites.

Terminology

There are several terms and categories that will be used throughout this thesis to describe the data. The main definitions needed include, 'grave'; as a term for any inhumation burial. 'Burial attributes' as a phrase that may describe any detail of the inhumation that can be quantified or identified such as orientation. 'Grave assemblage' will be used in reference to the complete set of grave goods found with the inhumation. 'Female' and 'male' as categories of anatomical sex but will in no way reflect the gender of the individual. 'Probable female/male' and 'possible female/male' will be used when it is likely that an individual is of that particular sex. 'Unknown' will be used as a term for skeletons with inconclusive sexual identity or age. 'Adult' will refer to any individual who has reached skeletal maturity and 'non-adult' will be used to describe remains that do not show complete skeletal development. 'Orientation' is taken as indicating the alignment of the individual both in terms of cardinal direction and angle of direction. 'Body placement' is the term used to define how the body is laid; on its front, back or side, whereas 'flexure' will be used as a description of the way the limbs have been laid out; straight or flexed. 'Deviant' will refer to any individual or burial attribute that is atypical when compared to others within the database or other existing data.

As the terminology, aims and context of this thesis have been explained above, it is now necessary to examine the methods used throughout this study. This will include the stages of research, database construction and analysis which facilitated the study.

CHAPTER 2: METHOD

This chapter outlines the methods employed in this thesis. Each component of the study will be summarised in terms of its design and function as well as the reasons behind the choices made. The discussion will first cover the production of the database, the construction of the burial categories used and the limitations of the original data.

Database Creation

The database was constructed using cemetery reports and unpublished documents from the eight sites. The data was then entered into a Microsoft Access 2007 database which can be found on the accompanying disk. This programme was selected as it provides a platform from which to conduct data analyses, searches, filters and queries. The choice to construct a database was designed to make the data accessible for future researchers. This study, and to a certain extent the associated database, can be used as a standalone piece of work. Nevertheless, as one of the main aims of this thesis is to highlight the need for recording standardisation within archaeological publications, the database can also be used alongside the original cemetery reports in order to examine the differences between them all. Given that each site was excavated at different times, using varying recording protocols, excavation recording standards and osteological analyses, the records were homogenised to allow cross-cemetery analysis. This process involved using terms and definitions that were applicable to all sites (discussed later in this chapter). Where information was lacking or misleading, the original records were obtained and the original authors contacted for verification.

The standard of recording inevitably varied between each site as did the extent of the excavations, with only Bloodmoor Hill and Spong Hill being completely excavated. Observations were made from the data available and a collection of universal burial attributes was compiled which enabled a breakdown of individual characteristics for each inhumation. The buried individuals were catalogued in terms of age, biological sex, assemblage contents, orientation, body position and pathology. These attributes were recorded where available, but due to the condition of many of the human remains, many individuals did not hold information for all of the categories. As outlined above, 1016 individuals from 980 graves were included within the database. These individuals were then analysed in order to investigate variation in burial rites and features, osteological information, and accompanying grave goods. It should be noted here that, although they were included within the database total and subsequent statistics, no information on any of these attributes could be provided for 65 of the 1016 individuals (see Figure 2.1 below). This means that although the database presents the most comprehensive account of these sites that could be established within the remit of the study, some data could not be recorded due to various factors. These may include, for example, the burial environment and preservation at any particular cemetery, or restrictions placed on the excavation process.

Figure 2.1 – Table showing individuals with no attribute information

Cemetery	Grave Number	Orientation	Sex	Age Category	Body Placement	Flexure	Grave Goods	Pathological Conditions
Cleatham	**2**	UNK	UNK	UNK	UNK	UNK	NONE	NONE
Lakenheath	**56**	UNK	UNK	UNK	UNK	UNK	NONE	NONE
Morning Thorpe	**31**	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	39	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	41	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	49	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	81	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	101	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	102	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	104	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	105	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	111	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	113	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	120	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	130	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	155	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	159	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	162	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	166	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	171	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	180	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	201	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	224	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	232	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	237	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	263	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	264	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	267	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	270	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	271	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	277	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	279	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	292	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	300	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	305	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	307	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	308	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	324	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	329	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	345	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	348	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	377	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	394	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	399	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	401	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	406	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	408	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	413	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	417	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	419	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	436	UNK	UNK	UNK	UNK	UNK	NONE	NONE
Snape	**13**	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	22	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	23	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	24	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	26	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	29	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	30	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	33	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	35	UNK	UNK	UNK	UNK	UNK	NONE	NONE
Spong Hill	**6**	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	15	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	20	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	25	UNK	UNK	UNK	UNK	UNK	NONE	NONE
	35	UNK	UNK	UNK	UNK	UNK	NONE	NONE

The database includes a range of information that starts with cemetery name and grave number. Grave numbers within the database can be matched to those recorded in the cemetery reports except for the individuals found at Lakenheath. As this cemetery report has not yet been published, the grave numbers assigned to the burials were taken from the site recording lists. For ease of understanding and assimilation, all individuals from Lakenheath were allocated a number from '1' onwards that matched the order of recording on site. If required, the database can display the original grave numbers at Lakenheath that were assigned to each of the individuals during excavation. The numbering system used in the database is based on the format used by many of the cemetery reports. Each number is attributed to a grave but each individual is represented by their own record. For example, Grave 95 at Great Chesterford represents one grave but is associated with two records; 95a and 95b, for two different individuals. The method chosen when inputting the inhumation data was designed to allow individuals to be assessed independently of each other. Graves containing more than one individual were classified as 'multiple burials' and this was highlighted in one of the database columns. Individuals from multiple burials were given a letter following the grave number (e.g. 7a or 7b). This enables easy identification of multiple burials. Where available, the details of the nature of the multiple grave and the associated stratigraphy were noted in the 'additional details' column. This approach has been encouraged in previous studies (e.g. Lucy 1998, Stoodley 1999 and Hines 2002). This approach is used to avoid marginalising individuals by respecting their separation from each other even when sharing the same grave.

In many of the cemetery reports, in addition to the numbering format, each grave was assessed for the certainty of its cut regardless of the condition of the associated human remains. The definition of grave cuts were added into the database using the terms 'definite', 'probable' and 'possible' as indicators of the condition of the burial especially where graves have been damaged, robbed or found incomplete. These classifications refer only to the physical grave cut and not to the condition of human remains within the burial. Although the majority of graves within the database were classified as 'definite', it is important to outline the difference between these grave types. For instance, Grave 39 from Morning Thorpe cemetery held no skeletal remains or grave goods but was deemed to be a definite grave cut, and is therefore included here as a 'definite' grave (Green *et al.* 1987: 46). These classifications are therefore associated with the level of grave preservation, rather than the survival of skeletal evidence. As will be discussed later, the levels of preservation within many of the cemeteries were very poor, and in some instances an absence of human remains or grave goods was not an unusual occurrence. However, where the graves have been deemed 'definite' within the cemetery reports, they were accepted as that. 'Probable' graves have been classified as such where they do not have enough relevant features or contents to deem them 'definite' graves. In instances of 'probable' graves the benefit of the doubt is accorded to the excavator because poor preservation of contents is a more likely scenario than a vacant grave (although un-used graves are possible, of course). Alternatively, a 'possible' grave is one which is only archaeologically suggestive: for example, Grave 5 at Morning Thorpe was classified as 'possible' because it was a 'findspot' with associated human adult bone but with no associated grave cut (Green *et al.* 1987: 7).

Osteological Classifications

The cemetery reports and associated excavation records were used to gather all osteological information available for each of the individuals in the database. It was also necessary to contact the appropriate archaeological units, HER (Historic Environment Record) offices and archives to understand conflicting sets of data or instances where osteological information was lacking or stored elsewhere. However, the age estimations and sexual determinations found within these sources were not always adhered to. This is because it was necessary to judge if enough skeletal evidence remained within the grave to substantiate this data. This judgment was made to avoid inputting sexual determinations from the cemetery reports that were made from material evidence and not osteological data, especially in cases where both types of evidence were recovered but were poorly preserved. For instance, where no human bone was discovered within a grave, the age and sex estimations were inputted as 'unknown' into the database. This follows the recommendations of many researchers from a variety of disciplines including; gender studies, osteology and sociology (for a detailed summary, see Chapter 3 [Literature Review] and Knüsel and Ripley 2000). This approach helped to maintain a high level of accuracy and reliability in terms of osteological evidence which, in turn, will increase the validity and reliability of later analyses.

The variation in the completeness of recording across the eight cemeteries inevitably caused issues when inputting information, as the reliability of each entry reflects the level of accuracy in the original report. The database, for the most part, has stayed true to the cemetery reports. Only where the information offered is in contention or where, for instance, osteological evidence is absent but sexual divisions

have been accorded, has the data been altered for inclusion in the database. Accordingly, although an element of uncertainty will always exist in a study such as this, there must also be allowances made for any errors in the recording, reporting and dissemination stages all completed before this research began.

The osteological information gathered on each individual comprised details of age, sex, body position and placement. Each category has been discussed below to explain the variations, determinations and specificities used within the database and subsequent analyses.

Age

Age estimation is one of the fundamental tasks involved in osteological examination and is necessary for constructing a demographic profile of a society. 'Classifying samples by age and sex is essential when determining which segments of communities were hardest hit by diseases or injuries, and when assessing the biological costs of different ways of life' (Milner and Boldsen 2012: 268). There are, however, several difficulties when assessing the age of skeletal remains. These can be affected by the condition or completeness of the individual. Certain areas of the skeleton are more useful for ascertaining age. There exists a reverse of preference for age determination compared with sex assessment, where adult skeletons are more difficult to age accurately than non-adults (Milner and Boldsen 2012: 269).This is due to the level of development during certain stages of life. For instance, the extent of skeletal modification between birth and skeletal maturity is much more definitive than the time period between skeletal maturity and death. Once the skeleton has fully developed, the main source for age assessment is the degeneration of bone. This is understandably subjective, as not all individuals age at the same rate or engage in

activities that produce the same level of wear and degeneration on the skeleton (Gowland 2006). This is essentially the issue with age estimation, as human variability is a key consideration when assessing age at death as skeletal development, to an extent, is individual to each person. 'All children crawl before they walk, and walk before they run, but not all children do this at the same time... The same sort of variability also exists in the formation of teeth and bones' (Bass 2005: 12). It is then reasonable to suggest that although age categorisation was essential for the statistical analysis of the data, it must be taken with a degree of subjectivity. This is especially relevant when determining the age classifications of a society that may have had very different perceptions of age that we have today. This is examined in detail by Crawford (1991) who maintains that our contemporary assessment of the social characteristics which we use to define an 'adult' may vary substantially from those operating in the Anglo-Saxon world. Therefore, the age classifications within the database have only been used to define the osteologically determined divisions of age in terms of skeletal maturity. It must be remembered that there exists a variety of ways to define age that do not reflect the development of the body and are therefore not represented in the osteological examination of inhumed remains (see Chapter 4 for more detail).

In reference to the osteological assessment of age, a variety of terms and ranges were used to divide levels of skeletal development and maturity. Age categories were divided carefully to allow standardisation across the eight cemeteries. For instance, all cemeteries included the label of 'adult' for remains that showed evidence of full development post-adolescence with completed dental eruption and epiphyseal fusion. However, as the eight cemetery reports all differ with

methods of recording and osteological approaches, the age divisions have been applied broadly, especially when considering adult remains. The age limits by which categories were defined within the cemetery reports have been respected but also opened to accommodate the decisions made by the other osteologists and authors. For example, where one cemetery report has only used ‘adult’ as a label for fully developed individuals, others have been more specific in terms of age ranges. The category of ‘adult’ has been broken down into several subcategories including; ‘young adult’, ‘adult’ and ‘mature adult’. In certain instances these supplementary age boundaries have been added to the database in the column titled ‘Age Details’ should they be required.

The analysis of 1016 individuals resulted in 19 divisions of age being made. Some were clearly defined such as ‘foetus’ and ‘unknown’ but others such as ‘possible older infant or younger juvenile’ were more difficult to ascertain. In order to maintain high levels of cohesion and standardisation between the cemetery reports and in the resultant database, clearer divisions were developed in order to make more appropriate conclusions from the data. For instance, where ‘adult’ and ‘unknown’ age categories are used, it is easy to follow the connotation that the skeletal remains were either fully developed or not suitable for age estimation, either through degradation or loss. Therefore when assessing age for use in the analysis portion of the study, it was appropriate to devise three categories to divide those individuals which had reached adult maturity, those which had not, and those which had an unidentifiable age; ‘adult’, ‘non-adult’ and ‘unknown’. Similar strategies have been employed in comparable studies such as Lucy (1998) and Stoodley (1999). These terms have also been used within the database except for the category of ‘non-adult’

as the cemetery reports provided more accurate divisions within this category. These can be found in Figure 2.2 below and were added to ‘adult’ and ‘unknown’ to make the complete list of age categories.

Additional modifications to the original data have also been made which differ from the cemetery reports. This includes the reassessment of age estimations made using alternative information such as grave size instead of human remains. For example, in cemetery reports where a grave has been recorded as holding an adult but has only small fragments of human bone, the age inputted is ‘unknown’. Also, where skeletal remains are absent but the grave dimensions are much smaller than expected for an adult, many of the cemetery reports use this as an indicator of a child or infant burial. Although this process actually diminishes the sample size, it maintains integrity of the analysis. The use of grave size as a method of age determination has not been accepted within the database as it cannot be substantiated with osteological evidence, thereby making the label of a child or infant burial no more than an assumption. Grave size is, in many ways, a very confusing feature of burial as it cannot be assumed to indicate the stature of the person buried. This will be discussed in detail later in the chapter, but body placement and positioning is not always a homogenous practice and can alter the perception of a burial layout. For example, it is very possible that an adult human cadaver may be manipulated and positioned within a space designed for a supine child burial. Space is, to a certain degree, irrelevant in the realms of alternative burial positioning. Although this approach limits the chance of error in terms of an estimation of stature and therefore age, it does restrict the amount of data for this category. An increased number of data entries in this category are, however, deemed less important to the overall aims of

this study than providing a database and analysis that is based only on archaeological evidence.

Figure 2.2 – Table showing the age categories used within the database and the cemetery reports

Age Estimation Categories	
Used in the database	**Used in cemetery reports**
Adult	**Adolescent**
Non-adult	**Adult**
Unknown	**Child**
	Infant
	Infant or child
	Juvenile
	Juvenile or sub-adult
	Older juvenile or young sub-adult
	Possible child
	Possible child, juvenile or young sub-adult
	Possible infant
	Possible infant or child
	Possible older infant or younger juvenile
	Possible sub-adult
	Probable Juvenile
	Sub-adult
	Unknown

In light of these issues, it was necessary to keep the categorisation of 'age' clear and consistent in this thesis. Certain classifications were easier to ascertain than others; the label of 'infant' for example cannot be tied to remains that are osteologically mature. As discussed in Gowland (2006), difficulty can arise when attempting to define and homogenise the different age classifications used at different sites. This was especially evident when determining the age boundaries of each category for the eight cemeteries. Ultimately the age categories of 'adult', 'non-adult' and 'unknown' provided the most useful means of analysing all individuals in

the database and provided enough detail to evaluate patterns and anomalies in terms of age. Similar modifications and contingencies were also made for the classifications of sex in the database as in many instances the method of sex determination in the original records was not clear from the outset.

Sex

Along with age determinations, the sexual classifications used in the database also reflect the results of the initial osteological examination on the human remains recovered. Every effort was made to ensure that the sex inputted for individuals derived from osteological analyses rather than from the analysis of the grave assemblages. As several of the cemetery reports did not differentiate between individuals sexed by osteological analysis and by material culture, a judgment was made for each grave to determine whether enough skeletal evidence remained to identify a biological sex. In some instances this was a straightforward process; for example, where the author of a cemetery report had entered a sex for an individual but where no bones actually remained. In cases such as these, the individual in question has been classified as of 'unknown sex' (Bass 2005) and the phrase 'no bones remaining' was entered into the column labelled 'Additional Information'. There were many instances during the construction of the database where 'unknown sex' was entered into the 'sex' column but the individual had been accorded sex in the cemetery report (see Figure 5.2.10). The sexual determinations of these individuals were deemed to be unreliable as they were based on nothing more than the grave assemblage. To reflect this, the original sexual classification used in the cemetery report was entered into the column labelled 'sex by grave goods' as the evidence used to sexually identify these individuals was the grave assemblage found

alongside them (as declared in the cemetery reports). When this occurred in the database the column titled ‘sex concordance’ was left unchecked to show the two assessments did not match. The database can be used to display a filter of several of these characteristics, for example at a basic level, all individuals of a particular sex can be listed, but also all individuals that were sexed differently from the analysis of their grave assemblage compared to the osteological assessment. This provides a greater level of accuracy for the subsequent analyses and demographics as only osteological assessment can provide a reliable estimate for sex.

In contrast to the subjective practice of assigning sex by grave goods, many of the cemetery reports indicated the extent to which each individual was likely belong to a certain sex. To present this the terms ‘definite’, ‘probable’ and ‘possible’ were used to describe male and females. These terms reflected the degree to which an individual would appear male or female from osteological analyses through the assessment of differing levels of skeletal signifiers present. For example, a prominent cranial brow ridge and ‘V’ shaped pelvis are both very ‘male’ features of a skeleton and so would produce a determination of ‘definite male’ (Bass 2005). The remaining two terms indicate only suggestive features of a particular sex on the skeleton. For instance, where no pelvis has been recovered and only cranial fragments with more delicate facial features were remaining, the individual would be classified as ‘possible female’. A ‘probable’ sexual classification would be accorded individuals who had traits that suggested a particular sex but could not definitively categorise the remains. Overall, there was considerable variation in the classifications used both within the database and when compared to the original records. This was in order to

produce reliable information on sex that was detached from the analysis of engendered grave goods and to also present this in the database.

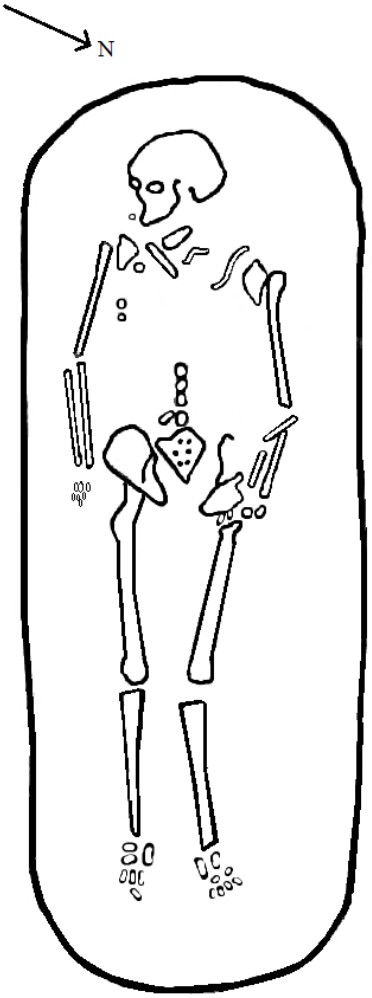
Body position

In addition to age and sex classifications, the individuals within the database were analysed in terms of body position. This involves an examination of body placement; how the body was laid out in the grave, and flexure; the degree to which the body was flexed. In terms of body position, an analysis can only be made from the arrangement of the surviving skeletal material. Therefore, when assessing a set of skeletal remains, the position within the grave of each bone must be recorded and analysed to gain an overall idea of the original placement of the body. This is then normally separated into a classification of body placement (supine, prone and on one side) or body flexure (flexed, extended, crouched and one leg flexed).Within the database, the classifications for each individual's body placement and flexure have been taken directly from the cemetery reports. However, in the Cleatham cemetery report (Leahy 2007a) the grave record did not include this information but did provide accurate representations of the body placement within the grave diagrams (Leahy *pers comm.* 2013). As in the case of the other cemeteries, this data was then analysed and the appropriate labels attached to each of the individuals within the database.

The combination of these two elements of body position can (depending upon preservation) provide an intimate picture of how an individual was placed within a grave at burial. This may, in certain instances, be a straightforward undertaking which is made obvious by the arrangement of the skeletal remains within the burial. An example of this can be seen in Figure 2.3 below, which shows the individual in

Grave 108 at Great Chesterford as clearly lying supine (on their back) with both legs extended.

Figure 2.3 – Plan of Great Chesterford Grave 108: an individual with supine body placement and extended flexure (After Evison 1994: 199)



SCALE NOT AVAILABLE

In other cases, body placement and flexure may not always be as clear. As with any information taken from burial evidence, the accuracy of this assessment is completely contingent upon the preservation level of remains and the skill and experience of the excavator and recorder. Help is offered periodically by the positioning of grave goods which can help to make sense of a particular layout of

skeletal remains. For example, where the remaining bone found within the grave is ambiguous and badly degraded, the accompanying grave goods and their associated functions may provide an insight into the placement of the body. This is especially true where dress accessories such as brooches are recovered with scraps of textiles below what has been identified as a skull. Traditionally, in the Anglo-Saxon period, brooches were worn on the shoulder to secure clothing, giving an expected layout within the grave having the body laid supine with a possible extended position (Owen-Crocker 2010). Although the analysis of body position may seem complicated, some graves offer a very identifiable tableau where the individual has been manipulated into an obvious attitude such as crouched or prone. This particular burial feature is complemented by another attribute of grave construction: orientation.

Orientation

Grave orientation is a measurement or observation taken of the alignment of the grave. The traditional method used to assign grave orientation would firstly involve noting which end of the grave the head lies in and then marking the cardinal point the grave lies between using 16 different directions, as seen in Figure 2.4 below, with a category of 'unknown' also made for those individuals with an indiscernible grave orientation. Within the database, all graves have been accorded a cardinal direction and angle of direction where possible, even though in four of the cemetery reports (Cleatham, Great Chesterford, Lakenheath and Snape) they were originally only given an angle of alignment. As with many of the attributes within the database, homogeneity was required, and so all orientation fields needed to be to the same specifications to enable a comparison and a statistical analysis to be carried out. For

the four above-mentioned cemeteries, the orientations were translated into cardinal directions and the remaining four sites were also modified to give degrees of alignment. In addition, the orientation data from Great Chesterford and Cleatham had to be altered because the angles given for each individual were indicating the alignment of the feet and not the head (Evison 1994 and Leahy 2007a). For example, although at the remaining sites an individual classified in a west orientation would have their head in the west end of the grave and an angle measurement of approximately 270º, Grave 22 at Cleatham cemetery has a skull recovered at the east end of the grave but the alignment given in the cemetery report was 268°. In order to correspond with the rest of the database, this alignment was therefore changed to 88° and the orientation entered into the database was 'east'. Therefore, for all degree orientations recorded at these two sites the values were altered to correspond with the rest of the database by entering the direction of the head and not the feet of the buried individuals.

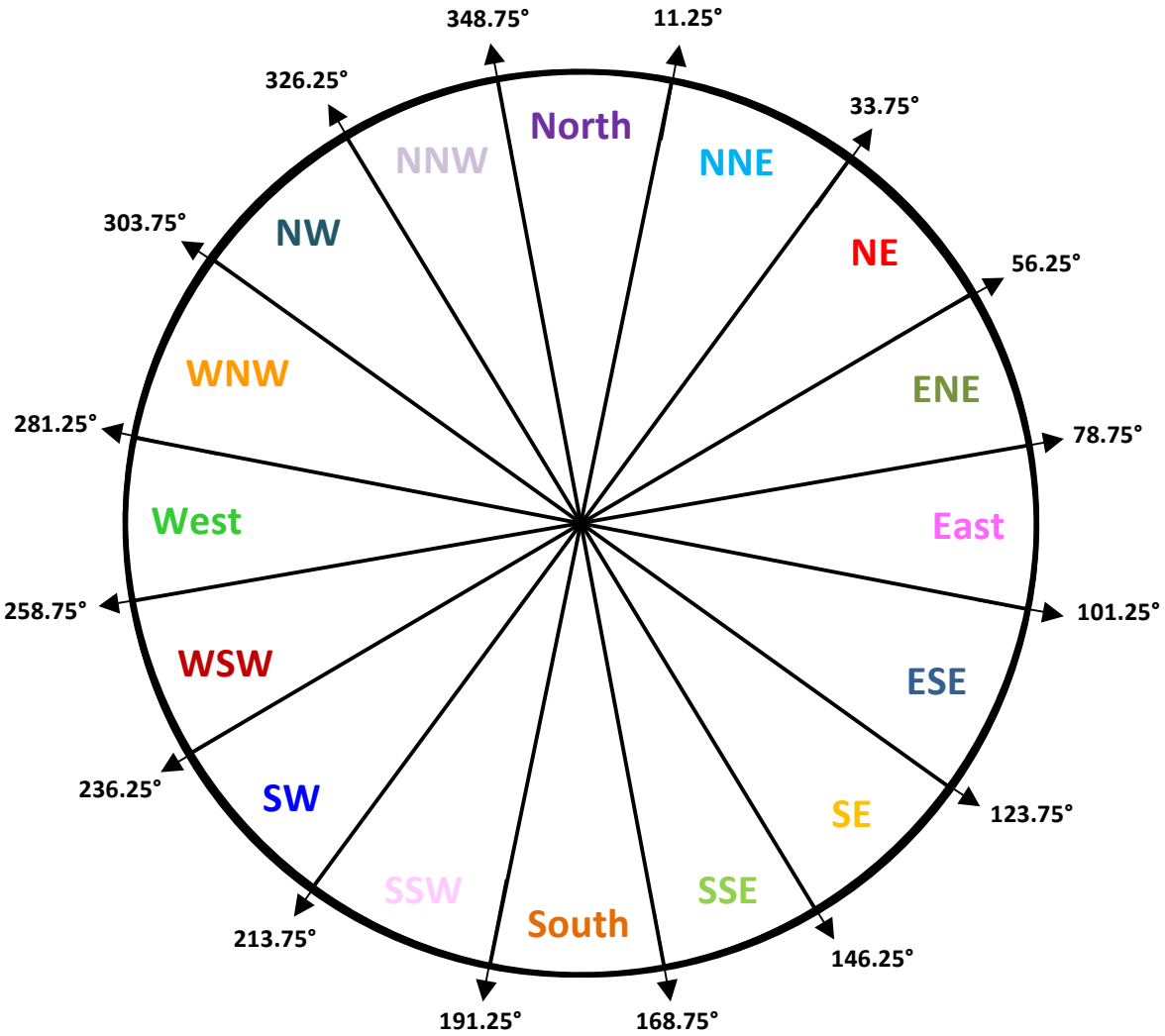


Figure 2.4 – Diagram of orientation conversions used

Osteological categories and orientation information was accompanied by the analysis of grave goods within the database. This analysis was undertaken to determine if any patterns existed between individuals who were accorded similar grave goods.

Grave good Categories

In order to classify the grave goods within the database, the first task was to compile a comprehensive list of each individual item. From this, the grave goods were grouped in terms of use or purpose, for example; bowls were classified as 'utensils' and combs as 'personal equipment', similar to the approach used in Crummy (1983). From this list, 11 types of grave goods were identified from the cemetery reports and grave catalogues. These included: dress accessories, jewellery, personal equipment, recreational items, tools, utensils, weapons, textiles, mystical items, coins and unidentified objects (all partial and associated objects were also included and catalogued). Figure 2.5 below shows the divisions of grave goods and the items included in each group. The grave good categories within the study were chosen as they best represent the entire collection within the database. A distinction was made between some grave good types that may have traditionally been grouped together, such as jewellery and dress accessories, to avoid restricting the outcome of results by pigeonholing individuals using the few grave goods that can be classified neatly. These usually include gender-based classifications of grave goods; jewellery for females, weapons for males and a gender-neutral group including personal items and tools. Despite the fact that using 11 categories of grave goods may seem exhaustive and overly analytical in comparison to other similar studies (Härke 1989, Stoodley 1999 and Penn and Brugmann 2007) the aim here was to avoid over-simplifying the analysis of assemblages by categorising them too narrowly. This decision was inspired by a collection of very detailed works, such as Crummy (1983), Philpott (1991), Lucy (1998) and Gowland (2002). As one of the overarching themes of this thesis is archaeological individualism it seemed futile here to homogenise the data.

Instead it was felt that the database and grave good analysis would benefit from a broader, more conscientious approach.

Figure 2.5 – Table showing grave good category items

Grave Good Category	Items included		
Dress Accessories	Bag rings Belt fittings/mounts/plates Brooches Buckles Buttons	Chatelaine Girdle items Keys Lace-tags Latch-lifters	Pins Purse-mounts Strap-ends Tag-ends Wrist/sleeve clasps
Jewellery	Beads Bracelets Bracteates	Coin pendants Finger rings Necklaces	Pendants Silver chains Spangles
Personal Equipment	Combs Mirrors Orthopaedic fittings	Razors Scrapers Shears	Toilet sets Tweezers
Recreational Items	Instruments	Toys	
Tools	Awls Fire-steels Flints Knives	Mattocks Saddle fittings Sharpening steels Spatulate objects	Strike-a-lights Thread pickers/needles Weaving equipment Whetstones
Utensils	Actual utensils Any container Balance	Bowls Buckets Plates	Pots/potsherds Urns and plugs Vessels
Weapons	Arrowheads Axes Bows Seaxes	Shield Shield bosses/mounts/studs Spear ferrules Spearheads	Spears Sword
Mystical Items	Amulets Animal bones Bags with glass/amulets	Boxes with amulets etc. Cauldrons Cremated animals	Crystal balls Fossils Shells
Textiles	Cloth Clothing	Textile fragments Leather	
Coins	All coins		
Unidentified Objects	Iron slag Iron studs Loop fittings	Metallic fragments Nails Rivets	Roves Sheets

Once this method was defined, the contents of each grave assemblage were examined and each grave good was classified in terms of the 11 predetermined groups. Each classification was noted in the database as well as occurrences where no grave goods were found. Certain allowances and modifications were made to the categories in order to acknowledge the wide spectrum of grave goods recorded. It was also important not to focus on the traditional correlations between certain social groups and grave good types. For instance, the two main stereotyped grave good categories for males and females were broken down into smaller components; jewellery has been differentiated from dress accessories and weapons have been detached from other stereotyped 'male' goods such as tools. This process produced a substantial amount of data which could then be analysed in reference to any burial attribute, cemetery or specific trait. This approach was then implemented in the succeeding stage in order to produce analyses from which to form the interpretations.

Method of analysis

The first stage of analysis involved the production of statistics that could help to better understand the database population. These initial results included totals for the age and sex groups, body placements, flexures, orientations and each of the grave good categories. From this it was possible to produce statistics that analysed several different attributes simultaneously, for instance totals and percentages could be calculated for the frequency of grave goods found amongst the age groups. Several sets of results were subjected to Chi Square tests and multivariate analyses to examine their statistical significance and underpin the frequency-based analyses. These calculations can be found in Chapter 5 along with tables and graphs designed

to present and compare the data clearly. The results from these statistics were used to determine if any patterns or anomalies could be identified across the database, between cemeteries and within any demographic groups. These results indicated the most popular burial attributes within the population and also highlighted which traits were more unusual and therefore could be classified as non-normative and atypical.

The next stage of analysis was designed to use the information collected on the characteristics of 'deviant' and 'atypical' burial and compare them to the results generated by the database. In the literature it was possible to identify non-normative burial rites as those with 'atypical' orientation, multiple burials, unusual burial location, unusual treatment of remains, prone body placement, crouched flexure and 'mystic' grave goods. These traits were used to filter individuals within the database who could be classified as 'atypical' and were added to the list generated from the initial statistical analysis that was conducted to indicate non-normative traits. The 'atypical' individuals highlighted during both stages were then subject to analysis and discussion according to the study's aims to determine if any patterns existed between the groups accorded the same unusual practice. For each individual classified as 'atypical', this feature was added as a column within the database, along with the indicator of atypicality to make them easily identifiable in any analysis.

Once all 'atypical' burials had been identified, the graves were examined to determine if any patterns or relationships could be established between these groups of individuals or attributes and the accordance of non-normative burial. This data was used to create statistical analyses of these 'atypical' characteristics in order to highlight whether a certain group of people had an increased chance of being 'accorded different treatment in burial relative to other members of their society'

(Murphy 2008: xii). The data were then discussed and interpreted in order to present likely conditions which may have prompted any of the unusual treatment accorded in the database.

CHAPTER 3: LITERATURE REVIEW

This section will provide a comprehensive review of the relevant literature; both past and present, to help situate the study within current research frameworks. The discussion will focus primarily on burial archaeology, the interpretation of identity and the atypical treatment of individuals after death. The relevant literature derives from numerous disciplines which include archaeology, osteology (see the next chapter for more detail), sociology and anthropology. Therefore, this work is the outcome of an amalgamation of research topics that have been fused together in order to better categorise and interpret atypical burial. It is important here to reiterate that although the early Anglo-Saxon period was chosen as the time frame for the data collection, the method was designed to be applicable to any society or community requiring burial analysis. There is, therefore, an appreciation for the intricacies of Anglo-Saxon archaeology but the literature and interpretative tools used in later sections of this text are not confined chronologically or thematically. Burial archaeology will be discussed first in order to provide a context for the evidence examined in this study.

Burial archaeology

In basic terms, burial archaeology refers to the study of the mortuary disposal of human and animal remains. This includes all ante, peri and/or post mortem activity involved with preparing a particular area for the deposition of whole or partial remains (Manchester 1989). Burials have been used as a rich source of archaeological evidence since the establishment of the discipline in the 19th century, and many researchers have since studied death and its associated practices in order to

better understand humans as a whole (Chapman *et al.* 1981). The act of disinterring funerary remains did not, however, arise from such honourable intentions. Instead it seems grave robbery and unbridled curiosities were responsible for some of the first recorded burial excavations (especially in Britain), with barrow grave-goods being recovered from as early as the 17th century (Stout 2013). An example of this can be seen in the records of John Aubrey (not published until 1980) who detailed the barrow excavations undertaken by James Boevey in Exmoor around 1670 (Aubrey 1980). This approach to death and burial continued on through until the establishment of historical archaeology and the work of the antiquarians during the 18th century which precipitated a new focus on elite burial and rich grave furnishings (Sweet 2004). As discussed below, many of these excavations uncovered Anglo-Saxon grave goods (Douglas 1793 and Faussett 1856). Although early in the development of archaeology, many of these efforts were recorded meticulously, as seen in William Stukeley's excavations of Wiltshire barrows (Stukeley 1740).

This approach and preoccupation with grave goods remained until archaeology was formally established as a discipline with antiquarian models being used as templates for burial analyses (Chapman 2003a). This involved the interpretation of burial evidence at face value with comparatively little attention being paid to the accompanying human remains. This attitude was a reflection of the mentality of culture-historians who sought to identify peoples of the past through the typologies and categorisations of their material remains (Stout 2013). An extreme case of this can be seen in the identification of the Woodbury Culture from the British Iron Age which involved only three common artefacts for the typology to be made in excavation contexts (Hodson 1964). This approach remained unchallenged

until the second half of the 20th century when processualist approaches were used in attempts to interpret socio-cultural identity from grave goods (for examples see Saxe 1970 and Binford 1972). Processual archaeology used the analysis of material culture to detail 'the socio-political status or role of the deceased in a very direct way' (Ekengren 2013: 174). However, over time, criticisms of these analyses emerged that questioned the reliability and feasibility of identities made purely on the content of grave assemblages (see, among others, Härke 1990, Parker Pearson 1999 and Sofaer 2006).

In the past 50 years, burial archaeology has been subject to interdisciplinary debate and moved away from the presupposition of social identity from material remains (evident in works such as Brown 1971 and 1995) as it became influenced by post-processual archaeology. Post-processualist approaches focused on material culture as an 'active' component of burial that could be used as a tool to interpret the funerary process as well as individual identity (e.g. Parker Pearson 1999, Williams 2003, 2004, 2015, and Sayer and Williams 2009). The development of post-processual archaeology involved a key realisation that 'the dead do not bury themselves', and therefore the interpretations made of burial evidence may not be restricted to the identity of the deceased (Sofaer and Sørensen 2013: 529). This was spurred by the contemporaneous development of social archaeology, which focused more on establishing the 'social contexts of the disposal of the dead… to reconstruct the structure and organization of past societies' (Chapman 2013: 50). The increased popularity of social archaeology also added to the re-evaluation of cemetery reports and burial data to develop more ways to determine clear palaeodemographies (Meindl and Russell 1998 and Meskell and Preucel 2004). The reassessment of burial

data has enabled details of past lives to be examined in the place of more traditionalist archaeologies that have, for instance, focused on the classification of material culture (Manchester 1989). The development of more defined research foci, such as gender and ethnicity, has also provided a new dimension in the interpretation of ancient societies (Jones 1997 and Díaz-Andreu *et al.* 2005). For example, burial data has been used as a signifier for past trade and economic situations, dress, gender, ethnicity and social matrices (Meindl and Russell 1998). This approach has not only had merit when determining these characteristics but has exposed much more potential, especially when teamed with the scientific techniques of skeletal identification and palaeopathological research (Baker 1992, Alekshin *et al.* 1983 and Roberts 2013).

Anglo-Saxon burial archaeology

The discussion of burial archaeology in the above section has demonstrated the main developments in the discipline which can also be reflected in the study of the Anglo-Saxon period. The roots of Anglo-Saxon burial archaeology are set in antiquarianism with some records going back over 300 years. Initially these burials were looted by treasure-hunters and grave robbers before knowledge of these first discoveries spread and many, more focused, efforts began (Dickinson 2011). For example, Bryan Faussett recorded over 600 furnished and unfurnished graves between 1757 and 1773 in search of England's ancestral heritage (his notes later being published as *Inventorium Sepulchrale* by Charles Roach Smith in 1856). These graves in particular were interpreted at the time as evidence for Briton or Roman occupation. It was James Douglas (1793) who made the first suggestion that these individuals could be Anglo-Saxons, although this revelation was not substantiated until the middle of

the 19th century with the discovery of similar finds and the use of historical texts such as The *Anglo-Saxon Chronicle*. These theories were developed by individuals such as John Kemble and Charles Roach Smith, who identified links between the evidence recovered in England and archaeology of Germanic tribes (Niles 2015).

Little advancement was noted in the field until the beginning of the 20th century, when artefact typologies and cross-cultural comparisons were being made across Europe to produce a much more comprehensive look at the diffusion of Anglo-Saxon goods (Åberg 1926, Baldwin Brown 1909-1937, and Dickinson 2011). These culture-historical approaches underpinned much of the early research on Anglo-Saxon sites in England. As the discovery and recording of Anglo-Saxon sites became much more widespread, these investigations were undertaken with greater levels of accuracy and organisation (e.g. Meaney 1964 and Evison 1965). However, as in the broader development of archaeology, grave goods were seen as unquestionable indicators of social roles and culture, a viewpoint perpetuated by the analysis of the supposed 'royal' burials from Sutton Hoo (Bruce-Mitford 1975). These approaches were criticised by subsequent processualist researchers as too simplistic, as the interpretations made of artefacts could not be reinforced by additional burial or literary evidence (Rahtz *et al.* 1980). Instead, the processualist archaeologists offered theories that burial was intrinsically linked to social position and power through grave goods and burial wealth. This can be seen clearly in the analysis of Anglo-Saxon burial assemblages undertaken by Alcock (1981) which sought to assign social class using a three-tier system of grave good categorisation. These approaches proved hard-to-swallow for many archaeological theorists, especially those advocating post-processualism, who saw burial as a much more

complex ritual. Pader (1982) provides a well-known and relevant example of this thought process as she advocates the importance of context in the analysis of Anglo-Saxon burials as they represent more than repeated tradition and typecast material culture. The post-processualists integrated the developments being made in social archaeology into the interpretation of burial to create theories that related individual identity to burial traits (Dickinson 2011).

More recently, the interpretation of Anglo-Saxon cemetery evidence has grown to incorporate a range of analyses and include a variety of new theories on the meaning behind burial. Studies have been produced to reanalyse cemetery data from multiple sites to test whether certain burial attributes can be linked to other characteristics such as sex, ethnicity or age (Härke 1989, 1992, 2004 and 2007, Geake 1992, Lucy 1997 and Stoodley 1999). Many of these works are very relevant to the development of this study through the similarities in method and application. In particular, the advancements made by individuals such as Lucy (1998), Effros (2000) and Knüsel and Ripley (2000) have highlighted burials with alternative rites that remain unexplained and understudied.

The development of Anglo-Saxon burial archaeology has now reached a point where evidence is analysed within multi-disciplinary contexts and by a wide range of specialists who have helped provide insights into new avenues of research (Hull and O'Connell 2011, Sayer and Wienhold 2013 and Inskip *et al.* 2015). This is especially true of impressive works such as Hines and Bayliss (2013), which featured sophisticated Baynesian analysis and chronological modelling of burial evidence from the 6th to 8th centuries. Similarly impressive, as discussed above, was the comprehensive study of 'deviant burial' in the Anglo-Saxon period conducted by

Andrew Reynolds (2009), which has shed new light on the post-mortem treatment of criminals and social outcasts. This publication in particular has proven very useful to this thesis in the analysis of non-normative burial and demonstrates how far the discipline has come. The development of analytical and interpretive techniques can also be witnessed in the development of cemetery reports, the focus of which have shifted from grave good analyses (e.g. Green *et al.* 1987 and West 1988) to incorporate multidisciplinary and more holistic approaches (Annable *et al.* 2010 and Boyle 2011). The analysis of burial evidence in general has benefitted from advances in scientific techniques and technology (Dickinson 2002). A rich collection of cemetery reports and practice guidance has been produced with the intention of systematising and refining the examination of human remains (McKinley and Roberts 1993 and Brickley and McKinley 2004). This guidance has since been used to influence working practices, as can be seen in comprehensive and well-organised publications of Anglo-Saxon cemetery sites (e.g. Richardson 2005, Chadwick Hawkes and Grainger 2006, Penn and Brugmann 2007 and Carver *et al.* 2009). These recent reports, in particular, serve to demonstrate developments in burial archaeology, such as more accurate recording techniques and the presence of an osteological specialist on site (Richardson 2005). This has resulted in much more credible skeletal analyses (Reichs 1998 and Cox and Hunter 2005). As Evison (1994) has noted, osteological observation and techniques are vital for inclusion in an accurate cemetery analysis. These advances have made it possible to identify skeletal details and abnormalities, which were hitherto invisible, and to better understand the demographics represented in the archaeological record (Geller 2005). It is also worth noting that graves found damaged or degraded in the past, in such a way that sex and

age identification was not possible or very difficult, might now be subject to more reliable identification with techniques such as DNA extraction (Matisoo-Smith and Horsburgh 2013).

The modern analysis of human skeletal remains has enabled us to see not only the difficulties of addressing such material in past studies, but also the exciting possibilities of reconstructing social relations, including gender, from this type of often neglected evidence. The advancement of skeletal analysis has also enabled a more accurate recording of burial data which has in turn produced more reliable interpretations of this data (Evison 1987, Evison 1994 and Lucy 1998). As we have seen, this is especially significant where graves are found damaged or degraded to the extent that the sex and age identification process very difficult (Henderson 1989). The advancements in recording, analysis and interpretation of burial archaeology are particularly relevant to the Anglo-Saxon period given that such a large proportion of archaeological information has been derived from burial data (Lucy 2000). There is however, a considerable difference in the specification for every cemetery report. This may be due to author preference (Evison 1987), the state of the discipline at the time of publication or excavation (Hollingworth and O'Reilly 1925) or ease of recording (Richardson 2005). This can produce variable reliability. For instance, a report which promotes the use of grave assemblages in lieu of definitive sexual identification will cast doubt on the other sex determinations within the study. An example of this can be seen in West (1988) which does not clarify between individuals sexed by grave goods and by osteological analysis. In the future a standardised set of recording and analysis techniques should in theory produce a more reliable collection of cemetery reports (Dickinson 2002). A higher calibre of

report will provide a more accurate description of actual burial evidence, especially from a palaeodemographic standpoint (Nelson 2003).

The interpretation of identity

The development of burial archaeology away from its antiquarian origins and the widening scope of the discipline to include numerous aspects of identity (Dickinson 2002), has seen that grave goods are no longer assumed to straight-forwardly indicate traits such as the age or gender of the buried individual without the consideration of alternative interpretations (Weglian 2001 and Díaz-Andreu 2005). For example, King (2004) convincingly proposes a whole new approach to the understanding of burial, advocating an approach to grave goods that considers them as gifts rather than symbols of identity. This opens a large interpretative chasm which can be used to question many of the assumptions made of burial in the past such as the assumption that wealth can be measured from the size of the grave assemblage. This can now be reasonably challenged with the suggestion that a larger number of deposited items could indicate a larger funerary party and not wealth. Furthermore, in reference to grave goods, recent studies have adopted an 'active material culture' approach whereby the relationship between grave good assemblages, the dead person and the participants and observers in and of the funerary process itself are also considered (Parker Pearson 1999). In this instance, where an object may have once been accepted as indicative of a particular gender role in previous analyses, the same object may now be seen as displaying family status or community identity. The interpretation of deposited objects has broadened to permit a much wider analysis which can project outside of the identity of the dead person (Barrett 1990, Crass 2001 and Williams 2010). This multi-layered approach to the interpretation of burial

still considers traditional attributes such as gender and sex, but accepts that these are only two aspects of burials, among many others, that may be investigated. Nonetheless, these remain two hotly debated aspects of burial archaeology and it is necessary to outline the advancement of this theory within archaeology.

Gender archaeology

The use of gender as an analytical tool emerged in the 1960s within psychoanalytical literature and was applied to the study of differential behaviours between men and women (e.g. Stoller 1968 and Oakley 1972). This analytical tool was gradually adopted in the social sciences as well as the cognitive sciences and subsequently by anthropologists in the 1970s (Cranny-Francis *et al.* 2003). Gender theory was used from an anthropological standpoint to analyse sociocultural characteristics such as appearance and mannerisms associated with gender roles (Moore 1994). By the 1980s, some archaeologists were using gender theory in their work (e.g. Gibbs 1987 and Lamphere 1987). Díaz-Andreu (2005: 13) has discussed the reasons why gender theory was only then taken up within archaeology, arguing that 'the reason for the late arrival [of gender theory] in archaeology has been related to large extent to archaeology's reluctance to knock down the bastion of archaeological objectivity and the emphasis on macroscale analyses'. This means that because processual archaeology's focus was on larger-scale concerns, such as past politics, men were usually the only individuals observed in the archaeological record. Gender theory's late arrival within archaeology relates to the way that archaeology itself was changing in the 1970s and 1980s. The focus of the discipline as a whole was on the adoption of processual perspectives, asking questions relating to large-scale social and political change and using functionalist methodologies to find answers to these

(Whitley 1998). Such an epistemological and methodological change allowed very little scope for the insights brought by gender theory: for example, analysis of the family did not play a role in conventional studies of peer-polity interaction. This pushed gender theorists to the fringe of the discipline as the focus of their work was not applicable to the current state of archaeology as there was no attention paid to the subject at an individual level.

Since early studies of gender were from a feminist archaeological perspective, their main aim was to 'restore the presence of women' in the archaeological record. Conventional feminist perspectives derived from the feminist movement, a movement which pushed for sexual equality in all aspects of a woman's life: economically, culturally and politically (Ramazanoğlu and Holland 2002). This has since remained an important aim for many scholars but as archaeologists began to adopt gender theory more widely in the 1980s, they themselves began to respond and to perceive changes in a European and North American social context; that is to say, feminism and feminist agendas had both become more acknowledged in mainstream society but were fragmented at the same time (Engelstad 1991). For instance, feminists could not necessarily agree on their overall political and social aims or the methods by which to achieve them. Conkey and Spector (1984), for example, pushed to establish gender archaeology as a viable area of study. They argued that the discipline had neglected the study of gender roles to its own detriment. In addition, they set an archaeological precedent for gender studies to follow by opening up the discipline to other like-minded scholars such as Gibbs (1987) and Lamphere (1987). Several scholars quickly began to address the way that women and children were under-represented in the archaeological literature: an

example can be seen in Moore and Scott (1997). This publication contains a collection of works which briefly highlight the progression of gender archaeology to a focus on the individual as an archaeological entity, especially women and children and their role throughout history and prehistory. This coincided with a realisation that the under-representation of women in the archaeological literature might be directly related to the under-representation of women in the archaeological workplace (Hamilton *et al.* 2007). The last two decades of the 20th century produced a considerable amount of literature protesting against this gender inequality. Scholars such as Conkey and Spector (1984), Butler (1990), Conkey and Gero (1991, 1997) and Kehoe (1992) began to challenge the androcentric bias within the practice of archaeology and furthermore to seek to better understand gender relations in the past. This androcentric bias was not only seen in the interpretation of the archaeological record but throughout the structure of the profession (Hamilton *et al.* 2007). Although post-processualism allowed gender theory to become mainstream, the simultaneous development of new theoretical perspectives, such as those relating to the archaeology of ethnicity, meant that no one theoretical perspective dominated the discipline (Engelstad 1991). This remains the case today (Graves-Brown *et al.* 2012). The questions asked by gender archaeologists have also changed over time. Early gender archaeology produced theories and interpretations devoted to the more social aspects of archaeology (Gilchrist 1997). This included themes such as family roles and social expectations, which to some extent were fuelled by post-processual goals of better understanding the social matrices of past peoples (Engelstad 1991, Wylie 1992 and Dyson 1993). Post-processual archaeologists pushed for re-evaluations of archaeological evidence to discover more about the social and cultural lives of past

populations (Allison 2006). Scholars pursuing these new avenues of research sought what they believed to be a more complete 'archaeological picture', one which took account of the intricacies of everyday life, such as the complex and interconnecting roles of gender, age, ethnicity and wealth (Shennan 1994 and Meskell and Preucel 2004). Within this analysis it became even more apparent that an androcentric bias existed in both archaeological data collections and the subsequent interpretations of them (Conkey and Gero 1991). As, for example, Fell's (1984) work on Anglo-Saxon Women, Lucy's (1997) study on Anglo-Saxon women and Nelson's (2003) text on ancient queens all showed that in order to highlight or elucidate female roles in the past it was necessary to both reanalyse existing evidence and to open new avenues of research. Before focusing on the women and children of the past, it was believed that a complex process of opposing past androcentrism, present workplace inequalities and inadequacies in the data needed to be undertaken (Reiter 1975, Lamphere 1987, Engelstad 1991 and Nixon 1994). At this stage, scholars began to give a more active role to women in studies of past societies (Hamilton *et al.* 2007). In many publications women were no longer simply supplementary actors in male-dominated analyses. At the same time, works were produced solely on the role of ancient females (e.g. Arnold 1991, Lucy 1997, Arnold and Wicker 2001, Nelson 2003, Hamilton *et al.* 2007 and Semple and Williams 2007). Scholars set about examining the roles of women in the past whilst critically re-evaluating the sexual and gender divisions of ancient societies. These approaches were criticised in some quarters for focusing too closely on women instead of the gender roles and relations of past societies (Sofaer and Sørensen 2013) but regardless, gender archaeology had offered a new vista for the role of females in the past.

The broadening of gender archaeology and its incorporation into burial archaeology spurred a general increase in the awareness of past sexuality and its relevance to past societies (Arnold and Wicker 2001). In direct contrast to the criticisms made of 'gender archaeology' for its preoccupation with feminist agendas, the by-product was the development of complementary studies associated with gender. These included theories of masculinism (e.g. Knapp 1998) and queer theory (e.g. Voss 2000). Works such as Taylor (1996), Voss (2000), Voss and Schmidt (2000) and Joyce (2008) are recent examples of how wide-ranging gender archaeology has become, demonstrating, for instance, how the archaeological record has been used to understand primal needs in the past such as sexual gratification and fetishism. The underlying assumption in all of these works is that the literature failed to discuss sex and sexuality, and that this led to a fundamental failing to understand past societies more fully. As Samson (2001: xii-xiii) comments, 'probably nothing shows how disconnected to the everyday world the academy [was] than the topic of sex'. This has changed considerably, however, with many works having been produced on queer archaeology and the archaeology of sex (see Voss 2006 for a detailed summary). Topics such as past sexuality and sexual roles have been examined in reference to various locations and periods. This research into sexuality and the sometimes blurred division between and across sex and gender roles was key to the development of this study's aims.

Naturally, the examination of sex and gender using the analysis of material evidence opened questions of representation and associated stereotypes (Arnold 2006 and Harrington 2007). This was especially relevant in cases where the osteological sex did not match the engendered assemblage ('confused' burial), both within the

research and within the associated database. This was found in a small collection of graves both from this study and a previous undergraduate dissertation by the author (Whitehouse 2008). This confusion between biological sex and perceived gender unlocked discussions of 'confused' sexuality and gender roles, of which the literature is vast and wide-ranging (see Nelson 2004 for a thorough account). This was complemented by the research already undertaken for gender and burial archaeology, and meshed very well with ideas about the use of engendered assemblages and osteology.

In contrast to the gender variants associated with 'confused' burial, discussions of past societies have traditionally involved binary divisions of sex and gender without the exploration of alternative versions (Díaz-Andreu 2005). Publications such as those by Herdt (1993), Ajootian (1997) and Voss and Schmidt (2000) are in the minority in opening up discussions on transexuality and transgenderism in archaeology. It is slowly becoming clear, however, that the evidence for transgendered individuals in archaeology is not as invisible as it might first be assumed. The interpretation of archaeological evidence has now been used to understand alternative past gender and sex divisions. For example, the Native American 'two-spirit' culture, where individuals 'appear to adopt the gender of their biological opposites' has been better understood by a gendered perspective of their archaeology (Stoodley 1999: 3). This culture included genders in addition to man and woman/boy and girl which were seen as alternative to the traditional binary set (Callender and Kochems 1983). Studies of the 'two-spirit' culture have focused on 'confused' burials; as we have seen, these occur where skeletal remains discovered do not 'match' the grave assemblage (Voss 2006). Suggestions of the existence of a

third gender/sex in ancient societies mainly rely on material evidence. This is because identifying sexual characteristics of transgendered individuals is sometimes very difficult from skeletal remains alone (Geller 2005). Thus, the analysis (and re-analysis) of burial assemblages becomes all the more important. Documented and photographic evidence of the 'two-spirit' culture exists, where males and females have fully taken on the role of their sex opposite, and their clothing, behaviour and activities all correspond with the lifestyle of their alternative gender (Jensen 2007). This practice extends to all areas of their life, including burial (Roscoe 1998 and Knüsel and Ripley 2000). These practices can be associated with the theories behind 'confused' burial and the discovery of individuals who are classed as 'deviants' from the interpretation of their graves. 'Confused' burials have, in the past, been analysed under the broader term of 'deviant burial' (Murphy 2008). This is taken here to mean any burial which is atypical, one which has not been accorded the same burial rites as its archaeological counterparts within the same time period and/or geographical region (Parker Pearson 1999). A 'confused' burial may also be classified as 'deviant' because this refers not necessarily to material culture evidence but to burial rite more generally and is used to denote a trait (for instance, body position) which 'deviates' from the 'norm' for that period/region (Murphy 2008). It goes without saying, however, that not all 'deviant' burials are 'confused' burials because not all markers of 'deviance' relate to sex or gender.

Differential treatment at death

The concept of 'deviant burial' has been part of archaeological vocabulary since the 1980s (Shay 1985), but is still often used too casually to be meaningful. The term 'deviant' has been used in past archaeological interpretations to describe any individual who has been accorded atypical burial practices when compared to associate group or community but is usually accompanied by a negative connotation (for a detailed account see Shay 1985). This may be due to a condition that affected their social identity or a circumstance of their death but may not necessarily be within an iniquitous context. It is the nature of this phenomenon that makes a definition difficult to determine since the term 'deviant' is an interpretation of behaviour and not the actual act itself. The identification of 'deviant burial' firstly involves recognition that the individual was treated differently in death relative to others within the same society (Taylor 2002). The difference can be seen in body positioning, location of deposition or treatment of the corpse (at and after the time of death; Shay 1985). Thus a 'confused' burial might also be a 'deviant' burial but this does not always have to be the case. The reasons for 'deviant' burial behaviour might be wide-ranging, including punishment, fear, and disability/deformity (Murphy 2008).

The indicators of 'deviant burial' may include the unusual post-mortem treatment of the body, atypical alignment or positioning of the burial and non-standard assemblage components or an absence of these attributes (Geake 1992). In many archaeological cases sex, age, occupation, health, social status and ethnicity may all affect the deposition of the body and produce features of 'deviant burial'. As Murphy has suggested, examples of 'deviant' burials include graves containing

possible ‘criminals, women who died during childbirth, unbaptised infants, people with disabilities, and supposed revenants’ (Murphy 2008: xii). Burials of this type can include individuals laid prone, with restraints, or accompanied by ‘non-normative’ grave goods. By definition, these burials can only be identified in comparison to other graves and within the context of that specific society (Gregoricka *et al.* 2014). Due to the material focus of this process of identification, the existence of ‘deviant burial’ can be made very apparent in the archaeological record across locations or periods. This partly explains why the theories behind the cause of ‘deviant’ burials are so varied. Although the reasons for this ‘deviant’ burial behaviour may be wide-ranging, the archaeological evidence and contemporary literature suggest themes such as punishment, fear, disability and deformity that may go a long way towards explaining the phenomenon (Murphy 2008). Social conditions and circumstances which have directly affected the type of burial have all been open to discussion as well as the definitions of the terms themselves.

There is a differentiation that has been made between the terms ‘deviance’ and ‘atypicality’ in burial. The latter of the two classifications is much broader and incorporates any individual who has been accorded burial rites that differ from normative graves. ‘Deviance’, as adopted in more recent studies (see Reynolds 2009 for a detailed summary), has a much more specific typology which only involves the negative connotation of unusual burial treatment such as punishment or animosity. It is important to acknowledge that the classification of ‘deviance’ or ‘atypicality’ is made purely on the burial evidence. There may have been a differentiation between expressing atypical lives and atypical treatment at death. For example, an individual could have been treated as an outsider in life for a number of reasons but still

accorded normal burial rites by their family. The substantive point is that the interpretation of unusual burial may not be the only indicator of 'deviance' or 'atypicality', but it is this evidence that remains accessible to archaeologists. It is very possible that not all 'deviants' may have been accorded 'deviant burial' and not all individuals accorded normative rites may have been accepted into the general population. Simply put, there is a subjective element to burial evidence that must be appreciated before interpretations are made from only what is recovered in the grave. Therefore 'deviant' or atypical burial is just that, an indication of unusual treatment in death but not necessarily in life. Assumptions cannot be made of an individual's life from this atypical treatment unless the theory is substantiated by other evidence, such as the osteological evidence of a disability or mistreatment.

Conversely, atypicality or 'deviance' may just as well be indicated by an absence of specific burial rites (Reynolds 2009). For instance, where an individual has been deposited within a grave without grave goods or without attention paid to placement of the body, it may indicate 'deviance' through the absence of care shown (Geake 1992). As with most post-mortem human practices, whether involving burial, cremation, excarnation or another variant, an active decision is made to dispose of the body (O'Shea 1984). This decision is made with a range of motivations in mind, whether to aid the grieving process, adhere to religious or spiritual rituals, avoid unpleasant elements of decomposition, hide a killing or celebrate life. This conscious decision is therefore made with particular outcomes in mind. It goes without saying that the disposal of a body without the need for haste or disguise will inevitably entail elements of ritualised practice. Peri-mortem and post-mortem treatment of the body must also be taken into account as the ritualised practice involved may affect

elements of the burial that are not archaeologically visible (Buikstra *et al.* 2011). For instance, post-mortem mutilation of the soft tissue would go unnoticed unless it was extensive enough to damage underlying bone. Even if bone were damaged during the practice, this would also be hard to identify if preservation levels were not satisfactory. An example of this type of activity could be the practice of blood-letting which would indicate a post-mortem effort but would not necessarily be visible from the archaeological evidence (Buckberry 2008).

Differential treatment at death has been examined in a collection of works that have both classified types of unusual treatment and possible reasons behind this (e.g. Shay 1985, Murphy 2008, Aspöck 2009, Reynolds 2009, Kaznakov 2013 and Gregoricka *et al.* 2014). The publications produced on 'deviant' burial and behaviour have several similar components, one of these being the importance placed on punishment and also on ritualised elements of burial (Murphy 2008 and Reynolds 2009). Punishment is most commonly used as an explanation for evidence that suggests an individual has been treated in a non-normative manner with visible signs of mistreatment and disrespect. It is therefore an automatic response to suggest the individual had performed an unacceptable offence and been accorded rites in death that kept them separate from the rest of the community (Reynolds 2009). There are, however, multiple indicators of 'deviance' and atypicality that can be used to separate normative rites from unusual burials.

Although punishment is a commonly discussed explanation for the differential treatment of remains, many alternatives may exist that do not necessarily suggest negative treatment. Indeed, it is very possible that those individuals labelled as 'deviants' display as much variation in burial attributes as the individuals buried in

a ‘normative’ manner. For instance, in terms of this study, traditional Anglo-Saxon burial rites have been researched and discussed by many (Stoodley 1999 and Lucy and Reynolds 2002) to give an anticipated list of attributes that a typical Anglo-Saxon inhumation grave should have. This list will have been fortified by the countless number of studies on Anglo-Saxon cemeteries and funerary practices, therefore providing indications of normality from repeated findings within these studies. In essence, the most popular characteristics from early Anglo-Saxon inhumations have been taken as ‘typical’ burial rites, and within reason, indicate the standards from which others may deviate. There are, however, cases and attributes which may be associated with a particular locality or type of person, but that may not display the same attributes that the literature has suggested are typical of Anglo-Saxon burial. The selection of East Anglia and Lindsey as study areas for this thesis is reflective of this given that cremation, not inhumation, was the dominant early Anglo-Saxon burial rite in these areas (especially in the early 5th to late 6th centuries (Hines and Bayliss 2013)). Furthermore, although inhumation was increasingly practised into the 7th century, this rite too was subject to change, as demonstrated in declining frequency of furnished burials at this time (see discussion on pages 11-12). As such, the furnished burials discussed in this study that date from this period might still be seen as somehow atypical, given the wider trends that are visible in the archaeological record at this time. Therefore, the ‘normative’ burial rites typically expected from individuals buried in this time period and region would be cremations. This would then indicate that inhumations are, in a sense, already atypical within the study remit and suggest a differentiated treatment at death for all of the individuals within the database. Although purposely excessive, this point does highlight the

subjective nature of ‘deviance’ and ‘atypicality’. There is a considerable amount of subjectivity surrounding these concepts as there is no clear specification to guide the use of these terms (Aspöck 2008). As discussed above, ‘deviant’ and ‘atypical’ are used to classify graves with unusual burial attributes, but can they still be applied when an unusual trait is found in over half of the cemetery population? In order to classify a burial as ‘deviant’ or ‘atypical’ must the signalling trait be rare across the burial population? Are specific statistics required in order to label a particular practice as unusual or have some practices been interpreted as such by archaeologists because of their personal perspectives and conditioned expectations of the burial process? This is somewhat of a moot point, as personal perspective cannot be removed from observation and the extent of its influence on interpretation either actively or subconsciously cannot be known. Therefore, the point here is not to challenge the notion of ‘deviant’ or ‘atypical’ burial but instead serve as a reminder that non-normative burial can only be identified when a norm is known. Therefore, if the norm has been formulated from partial and fragmented evidence, the concept of atypicality cannot be astringently adhered to. It is also important to note what the ‘norm’ is in terms of burial rites, what it actually consists of, and the applicability of the comparisons made. For instance, although many authors have provided a list of stereotyped ‘traditional’ Anglo-Saxon burial attributes, respect must be paid to local differences and regional preferences that may alter what is deemed as normative behaviour at particular sites (Lucy 1998).

It is important here to reinforce the context of this thesis and discuss Anglo-Saxon burial archaeology in respect to the analysis of atypical graves.

Anglo-Saxon normative, atypical and 'deviant' burial

Burial in the early Anglo-Saxon period involved both cremation and inhumation rites until the latter took precedence in the 6th century (Hines and Bayliss 2013). Early Anglo-Saxon burial is usually typified by the inclusion of grave goods alongside human remains in contrast to the largely unfurnished graves of the preceding Late Roman period. Inhumation graves in particular have been categorised by the generalisation of many burial records. For instance, Wilson (1992) has suggested that the majority of early Anglo-Saxon inhumation burials contained an individual laid supine within an earth-dug grave. It has also been estimated that even before the influence of Christianity, roughly a third of individuals buried during this period were laid with their heads to the west (Reynolds 2009). This figure increased to approximately half during the 7th century alongside the decline of cremation burial, which have both been related to the diffusion of Christian practices (Hills and Lucy 2013). Both prior to and following the conversion, atypical burials can be found interred in community cemeteries. It is only after the integration of Christianity that individuals began to be physically isolated and excluded from these sites (Lucy and Reynolds 2002). The 7th century witnessed an increase in the establishment of execution cemeteries. Interestingly, it is also at this time that small numbers of the dead began to be interred within settlements themselves (Sofield 2015). This may imply a greater diversification of burial rites, which in itself could be interpreted as atypical. However, Reynolds (2009) has postulated that the non-normative treatment of individuals in the early Anglo-Saxon period predated the onset of religious change with the accordance of differentiated burial rites. Unlike the burial archaeology of the later Anglo-Saxon period, however, earlier sites have indicated that a collection of

individuals were afforded atypical burial rites within the same cemetery as the general population. Until relatively recently, these atypical burials were mainly discussed within cemetery reports (Murphy 2008, Aspöck 2009 and Reynolds 2009). These graves have been typified by certain stereotyped 'deviant' burial classifications, such as 'prone' or 'decapitation,' and then compared to the individuals within the same site and similar cases in other cemeteries. Several well publicised examples for atypical burial in this period exist, such as the possible 'live' burial from Sewerby (Hirst 1985), the Southwell 'vampire' grave (Beresford 2012) and the amputee found at Devil's Dyke in Cambridgeshire (Reynolds 2009). These individuals highlight the somewhat narrow present definition of 'deviant' or atypical burial, in that such individuals are interpreted as criminals and outcasts who have been marked differently in death. This fails to recognise that variations in the treatment of human remains during the early Anglo-Saxon period are considerable and may have been affected by a range of factors, including regional traditions and local rituals.

Categories of atypical burial

The non-normative features of early Anglo-Saxon burial can be categorised into several groups. The classifications used within this thesis have been formulated with reference to a selection of the key texts. A broad summary of atypical burial types are listed and discussed below.

1.) Atypical orientation

One of the basic details recorded when excavating any burial is the orientation of the grave. There is, however, much debate over the value of grave orientation in the analysis of burial as uncertainty surrounds its interpretation (Reynolds 2009). The most popular orientation observed during the early Anglo-Saxon period involves the head being placed in the west end of the grave on a roughly west-east alignment, with some earlier graves tending towards the northern cardinal points (Faull 1977). Many theories have been proposed to explain the choice of grave alignment. Some include the observance of celestial cycles and the rising and setting of the sun whereas others suggest that cemetery-specific topography and pre-existing archaeology such as surrounding burials, earthworks and funerary constructs are involved (Rahtz 1978). There are incidences where current theories have not been applicable, as the orientations recorded at certain sites show no apparent correlations except for demographic conditions. At Sewerby, Yorkshire, for example, only females were buried on a west-east orientation (Hirst 1985). Alternative orientations have also been associated with considerations of religion and spirituality (Chadwick Hawkes 1982) as well as the influence of sacred places (Parfitt and Anderson 2012) along with the complete dismissal of any defined purpose behind the alignment of a

grave (for a brief summary see Zugaiar 2012 and for additional detail see Rahtz 1978). Alternatively, the assignation of orientation may itself be a subjective process. It is possible that both the decision to align a grave and the recording of the orientation during the excavation process are not as accurate as they could be. It may be due to variation in the seasonal placement of the sun on the horizon which would affect the projected cardinal directions for the construction of grave. A roughly general homogenous orientation may have been the only specification for the burying community and this may then have been over-scrutinised and over-emphasised by interpreters.

There are arguments that suggest the variance within orientation records is too wide to confidently attribute popularity and overall pattern (Reynolds 2009). There are also suggestions that as orientation has been linked to celestial movements there is considerable room for interpretation (Rahtz 1978). In addition, other factors such as topography, cemetery layout and local practice may have affected the alignment of graves which may not be as visible upon excavation. This in turn, renders the application of terms such as 'deviant' and 'atypical' as situation-specific. As seen above, the literature discussing orientation as a marker for atypicality does not provide any firm conclusions. There are certain interpretations which are relevant to specific examples but which may not be applicable to the culture or period as a whole. Instead it may be more useful to approach atypical orientation as any other act that has been used to differentiate particular individuals in death. In some instances there may be plausible reasons behind the choice of unusual orientation such as alternative spiritual beliefs. However, in other cases, especially when found with

additional markers for ‘deviance’ (such as prone placement) there may have been more complex motivations at work.

2.) Unusual burial location

In addition to the orientation of a grave, there may also be instances where atypicality can be seen in the location of burial. This is in reference to individuals buried within the main cemetery site but who have been positioned away from the rest of the population (Meaney 1964). This is a rare but not unheard of practice during the early Anglo-Saxon period, and may have been used before the establishment of alternative burial sites such as execution cemeteries from around the start of the 7th century (Reynolds 2009). Understandably, the decision to place certain inhumations at a distance from the main burial areas must have involved a conscious decision. This may have entailed an intentional act of segregation or the rites of an alternative burying group, yet the time of burial was recorded as contemporaneous with the other graves at the site. Placing burials in unusual locations can be seen as a visual portrayal of ‘deviance’ with the isolation of particular individuals (Farrell 2012). There is a visual separation between the main cemetery population and the deposition of these individuals and although there may be practical considerations involved, there is a clear representation of the isolation or exclusion of certain members of the community. It may be the case that groups or single individuals found at ‘unusual’ locations were deposited as such because of an earlier or later phase of use for the cemetery compared to the rest of the buried community or indeed due to the incomplete excavation of a site (Sofield 2015). Individuals found at distance may have been the first or last phase of burial at the site or may have a weaker relationship with the remainder of the cemetery population than expected and

therefore be deemed ‘deviant’ only by default. Differences in chronology may indeed reflect the discovery of individuals outside of the general cemetery population. However, it seems more likely that a decision to alienate or exclude these individuals was made for less simple reasons. It may be a purposeful exclusion made by the burying society to ostracise certain individuals who were different or not welcome in close proximity to the rest of the population.

There is a well-defined psychology that exists around the exclusion and isolation of certain individuals by a larger party (Hubert 2000) and this may incorporate elements of criminal punishment and the need to assemble a boundary between the accepted majority and the rejected minority. Interestingly, an argument can be made that these individuals must not have been completely ostracised however, as they were still included at the site (Sofield 2015). The burials found on the outskirts of a site could have easily been located outside of the cemetery boundary thereby completely segregating them from the general population. This may be due to funerary customs which dictated that all individuals regardless of character were buried in the same cemetery, or alternatively could indicate a complete misinterpretation of the evidence and these isolated individuals were treated no differently regardless of their location of burial. In a sense, the assessment of burial location and grave orientation can both provide false positives for atypicality as they can both be misconstrued by interpreters looking for ‘deviants’.

3.) Unusual body position

In contrast to the above indicators of atypicality, certain body positions have been seen as much more indicative of difference. A typical example of this would be prone burials, which are easily distinguishable from the more common supine inhumations. Many publications have discussed the concept of prone burial and the subtext that this placement can have in terms of interpretation (Hirst 1985, Arcini 2009, Reynolds 2009, Farrell 2012 and Gardela and Kajkowski 2013). There is, however, such a vast difference in the individuals and graves which include this type of burial that the motivation behind it is usually unclear (Wilson 1992). Reynolds (2009) has argued that it represents the treatment of wrongdoers and criminals, whereas others have seen prone burial simply as an alternative to supine placement (Lucy 2000 and Walker 2009). It has also been postulated that prone burial was reserved for slaves or sacrifices (Hirst 1985). There is, as with many of the indicators of atypicality, a broad spectrum of burials that include prone placement. Any additional information can help frame the context for the prone burial making an explanation more feasible (Williams 2006). This is especially relevant where an individual is found face-down with alternative evidence of differential treatment. An example of this can be seen where individuals have been found prone with possible restraints or with stones placed on top of the body (Gilchrist 2008). This treatment has been noted in several high profile burials, possible the most well-known is the suspected 'live-burial' from Sewerby early Anglo-Saxon cemetery, which held a female who had possibly been buried alive with stones placed on her back (Hirst 1985). It is believed that this type of treatment was accorded to wrongdoers to prevent the corpse reanimating, leading to the individual being 'immobilised' with

large stones and sometimes restraints (Blair 2009). This behaviour has been witnessed in a variety of cross-cultural contexts, such as in the case of possible witch or vampire burials in which the deceased were pinned to the ground by stakes (Blair 2009 and Gardeła and Kajkowski 2013).

Whether this placement type indicates a criminal or supernatural affiliation or not, the act suggests a very distinct treatment accorded to certain individual. As argued by Wilson (1992), if popular supine burial is indicative of intentional placement then prone burial must also be interpreted thus. This is especially relevant as it has been suggested that prone burial may be the result of the lazy or careless deposition of the body, perhaps by rolling the individual into the grave (Genrich 1981). There have been alternative theories offered to explain this phenomenon from many different cultural and chronological contexts. For example, there are prone burials from first dynasty Egypt which were thought to represent the court of a deceased king (Arcini 2009). In place of disrespect or punishment, it is possible that a portion of prone burials were representing the subordinate nature of the deceased's social status. A similar theory may be applicable to this study's period using the results from a recent dietary isotope analysis of early Anglo-Saxon cemetery remains conducted by Hull and O'Connell (2011). The authors found that individuals recovered in a prone or decapitated state could often be differentiated from the cemetery majority on the results of their isotope analysis. 'This indicates that their unusual treatment in death reflected differing dietary practice during life' possibly from lower social or cultural status (Hull and O'Connell 2011: 678). If conducted over a larger area and scale this approach may prove very useful for future research

on prone burial but for now its application is restricted by access to funds and study area.

Regardless of the range of theories that define this type of 'deviant' behaviour, it is reasonable to suggest that the act of burying an individual face down with additional evidence of mistreatment shows a possible dislike and fear from the burial community (Geake 1992). The single act of placing a body face-down may not automatically indicate atypical treatment or 'deviance' but may accompany alternative traits which signal a differentiation between individuals buried at the same site. Prone burial is, however, a universal phenomenon that is not restricted to cases of suspected criminals or superstition. Arcini (2009: 33) has conducted a study of over 600 prone burials worldwide and found examples over 5000 years old with varying interpretations of face-down placement. Interestingly, Arcini (2009) found no correlation between prone burial and any demographic or burial characteristic which may suggest the motivation for the rite may be as individual as the person it was accorded to.

4.) Crouched Burial

In regard to 'deviance', crouched burials have been interpreted differently in many publications (Faull 1977, Higham 1992, Crawford 1997, Reynolds 2009 and O'Sullivan *et al.* 2014). The ambiguous nature of this type of flexure makes the interpretation of these burials little more than speculative without further information. Many interpretations of this rite exist and can be associated with a variety of motivations. One of the main theories that has been offered to explain this phenomenon is the continuation of a 'native' tradition that involved individuals being place in the foetal position within graves possibly as a sign of a spiritual belief

(Austin 2013). From a purely visual standpoint, this theory holds considerable weight, not only due to the characteristic subtext of the body placement but also the very determined act to position a body in this way even though it may require much more time and energy than an extended pose. The intimation that this rite may be affiliated with traditional burial practices both answers the question of rarity and of occurrence within early Anglo-Saxon cemeteries (Reynolds 2009). This point may also be reinforced by recent isotopic analysis conducted on data from this period (Hull and O'Connell 2011), which may have revealed similarities between crouched individuals that were previously undetected. The results from their study of dietary isotopes from all over early Anglo-Saxon England revealed 'all individuals who had been buried in a crouched or flexed position on their right side (twenty-two cases) had almost identical $\delta^{13}C$ values' (-20.5‰), and similar $\delta^{15}N$ ranges, irrespective of geographical location' (Hull and O'Connell 2011: 678). This is some ways reinforces one of the main hypotheses for crouched burial as being the perpetuation of a Romano-British mortuary tradition which consists of the crouched or foetal pose of the body in a grave without accompaniments (Austin 2013). The continuation of this practice as an indicator of alternative social or cultural mores would then also be linked to traditional diets and food intakes. It is possible that past burial rites were adopted by certain individuals who wished to perpetuate the traditions of past generations.

When compared to the other 'deviant' attributes, it is possible to determine that although the crouched burial rite is rare across the cemeteries, it may not necessarily indicate 'deviance' as clearly as prone placement for instance. Instead of being the result of an intentional act to identify an individual as unworthy of respect

or unwelcome within the cemetery population, crouched rite could simply highlight individuals with alternative ethnicities or cultural affiliations. Regardless, however, as with any burial characteristic, the intensity and treatment of individuals may indicate more than the rite itself. For example, where a skeleton is recovered in a tightly crouched position this may indicate the mentality of the burying party as a representation of anger or grief. This may be seen through the sheer energy taken to manoeuvre an individual into a tight flexure or cramped grave, an exhaustive practice when compared to more moderate versions of the same body position. Alternatively, this type of burial could suggest a practical consideration made at the time of burial to dig a smaller grave and essentially 'squash' the individual into it by raising the knees to the chest. Conversely, crouched individuals may be placed in a longer grave showing a possible burial pre-preparation, as all graves may have been dug to a roughly standard length regardless of cadaver position. As numerous variations of this rite can be found it is possible to formulate a collection of motivations for crouched burial, from efficiency to deviancy, but with few certain explanations.

5.) Multiple burial

Multiple burials within the early Anglo-Saxon period have been analysed with limited success (Stoodley 2002). The classification of 'multiple burial' requires more than one individual to be interred in the same grave and can indicate a variety of scenarios (Lucy 2000). For instance, in practical terms a multiple burial can be time-saving and cost effective, especially for child and infant burial. However, the existence of multiple burials may just as likely indicate a family tie, social relationship or contemporaneous death. Double graves are the most common type of multiple burial and usually involve an adult and child (Lucy 2000). This has been

discussed by Crawford (2007: 90) as a representation of 'the liminality of children as social actors, and to the possibility that their presence within the multiple burial ritual is as a result of objectification and association', as the most valuable of their parent's depositions. Consequently, the only pattern which has been encountered in the analysis of multiple burial has been the deposition of infants and children (Hines 2003). Although the presence of non-adults is common in multiple interments, there are alternatives to this practice which involve only adults within the interment. Reynolds (2009) differentiates between the two main classifications of multiple burial for all age groups; vertical and horizontal, and presents this as a means of separating ritual from necessity. The former occurs where individuals are buried on top of one another, possibly in order to save time and space within the cemetery or to reflect a relationship. Horizontal burial involves individuals who have been laid alongside each other, potentially with a spatial relationship between their remains. With each of these categories the chronology of burial must be considered, whether the individuals are contemporaneous (thereby suggesting a reason for simultaneous burial) or represent a later deposition which may for instance indicate burial for necessity, calling into doubt a relationship with the burial below (Reynolds 2009). Determining the motivation behind multiple burial may not always be clear, especially where individuals are recovered in indistinguishable positions with an uncertain relationship between them and where grave cuts are not apparent. These cases are usually associated with poor burial preservation that can sometimes completely distort the interpretation of the grave beyond the identification of two separate sets of remains. This may result in the classification of 'multiple burial' being applied to the grave but may, in fact, represent two or more separate

depositions (Stoodley 2002). To confuse this issue further, it is possible that certain individuals may appear to fit the scenario just discussed and although they were inhumed at different times, their burials were intended to be combined.

The practice of depositing two or more individuals within the same grave in a cemetery dominated by single inhumations is a curious act. Whether associated with 'deviant' behaviour or not, there must have existed a reason or preference for those individuals to be buried together. The process by which they become categorised as a minority within their cemetery and across early Anglo-Saxon England therefore justifies the inclusion of multiple burial as a type of atypical treatment within this thesis. Although Reynolds (2009) dismisses the idea that multiple burial can indicate 'deviant' practice, the process does involve a purposeful accordance of alternative rites. In that instance, multiple burial does present non-normative burial and therefore must be considered in this study.

6.) Unusual grave goods

In terms of grave goods, certain items, such as knives and brooches, are more likely to be encountered when excavating Anglo-Saxon burials (Hines and Bayliss 2013). There are also those objects which are unusual and recorded in very few instances, such as amulets and semi-precious stones which were thought to have mystical associations (Meaney 1981). Modern-day assessments of these types of grave goods associate the latter with ritual activity but it is very possible that the associations of these items may be far detached from these assumptions (Gilchrist 2008). The term 'mystic' has been used in this thesis to classify such items, but it has been accepted that interpreters may differ considerably with their definition. Although the interpretation of these items may prove more uncertain than those for more typical

Anglo-Saxon grave goods, they still require attention (Meaney 1981). The main issue with associating these unusual finds with 'deviance' is the ambivalence surrounding the role of 'ritual' within archaeological interpretation. Thus, caution must be exercised when using terms such as 'mystic' and 'spiritual', as the definition is not only vague but the application is open to criticism. As Hamerow (2006: 27) wisely concludes 'there are very few surviving Anglo-Saxon texts that preserve elements of pagan practices' therefore it is very difficult to determine what, if any, archaeological evidence is indicative of ritual or religious practices. There is little information on the beliefs held by early Anglo-Saxon communities before the infiltration of Christianity and so the intricacies of each burial that may have been encouraged by a particular belief may be invisible to the archaeologist and unreadable by the interpreter (Carver *et al.* 2010).

In addition to amulets and semi-precious stones, depositions of animal bone, crystal balls, spindle whorls, 'medicine' bags and cauldrons have all been used as signifiers for ritual actions during the early Anglo-Saxon period (Meaney 1981, Davies 1989, Dickinson 1993, Wickham-Crowley 1996, Griffiths 2003 and Hall 2007). The deposition of food and drink has also been included within this group of grave goods as it may have indicated an offering or feasting ritual by the burying party (Lee 2007). These provisions may signify a belief that the individual required sustenance during the journey or destination in the afterlife or may represent a gift for a deity (Thompson 2012).

The discovery of unusual items has also been linked to the hypothesis that certain Anglo-Saxon women were connected with ritual acts (Knüsel and Ripley 2000). These so-called 'cunning women' are believed to have been healers and

mystics in a very similar capacity to the role of shamans (Meaney 1981). A range of grave goods have been associated with these women (including those listed above) as indicative of 'magical' practice and are particularly convincing in certain cases due to the peculiarity of their grave assemblages (Geake 2003: 263). One such example can be seen in Grave 48 at Westgarth Gardens cemetery (West 1988: 32) where an adult female was recovered with a collection of beads at her neck and waist with a fossil echinoid in her right hand (see Figures 6.15 and 6.16). The individual was also recovered with an open bowl pot positioned at mouth level and both arms bent at the elbows below it. Regardless of the possible 'mystical' aspects of this burial, the grave is noticeable in its non-normative traits and the complexity of its interpretation. It is these characteristics that render a burial as 'atypical' as unusual grave goods, whether 'mystic' or not, present another means of differentiation between individuals in death.

7.) Alternative non-normative treatment of remains

There are alternative types of atypical treatment that do not fall into categories outlined above. These rites can be clustered into groups which broadly involve the intentional inclusions of stones and stakes, the deposition of animals, offerings and cremations, the unusual positioning of remains and grave goods (including possible decapitations) as well as any other characteristic that differentiates particular individuals from burials interpreted as 'normative'.

Intentional inclusion of stones and stakes

As noted above, this category of 'atypical' burial has been associated with apotropaic rituals designed to prevent the dead from rising again (Gilchrist 2008). As the deposition of stones within early Anglo-Saxon graves is a relatively common practice, it is only taken here as indicative of non-normative burial where stones restrict or weigh down the body (Tsaliki 2008) or where inclusions have been conspicuously placed within the grave. For instance, stones have been considered as a signal for non-normative burial treatment where they have been used as headrests or placed on, or in place of specific body parts (Reynolds 2009). More obviously, the use of stakes to pin down the body has also indicated atypical treatment and been associated with 'vampire' folklore by most interpreters (Blair 2009, Barber 2010 and Gardela and Kajkowski 2013).

Deposition of animals, offerings or cremations

In addition to stone and stake inclusions, alternative grave deposits have also been linked to atypical burial practice. This has involved the deposition of animals within inhumations which unlike cremation burial is not a common occurrence (Williams 2005). Poole (2013: 68) offers an insight into the phenomenon of animal deposition and suggests that the meanings can vary with each burial 'depending on the species represented and the way in which they were present in the burial, whether as whole animals, as body parts, or in the form of items fashioned from their bones and skin'. Along with the possible deposition of animal companions or cremations and the use of animals in food offerings, there are also indications from burials such as Great Chesterford Graves 31 and 37 that included perforated animal bone and teeth as possible items of spiritual belief (Meaney 1981).

Alternative positioning within the grave

In addition to prone and crouched burials, certain individuals have been uncovered in attitudes which suggest atypical treatment when compared to other similar burials. For instance, alternative positioning can be seen in the displacement of skulls within burials, sometimes referred to as 'decapitation' graves. In many cases it is unclear if the skull was detached from the body peri- or post-mortem or associated with a method of punishment (Reynolds 2009). There is little argument at the peculiarity of many of these graves as with the inhumed individual in Grave 8 at Westgarth Gardens cemetery who was found with the skull placed on the chest (West 1988). Even in cases where the skull is not recovered, the accordance of this type of treatment indicates a differentiation between individuals in death thus classifying it as non-normative. In a sense, the individuals within this category share a common condition which distinguishes them because of their unusual treatment and not because of their shared characteristics.

Conclusion: Early Anglo-Saxon atypical burial

Walker (2009) has argued that archaeologists have invested too much time and energy on the interpretation of 'deviants' as they may simply represent variations in 'normative' burial and not differential treatment. However, in simplest terms, 'deviance' suggests a deviation from the norm and where a rite is less popular than another there will always be grounds for questioning its accordance, especially in cases where more than one 'atypical' trait is recorded. It may be that an indeterminable factor influenced the use of this less common trait but at one point a decision was made to perform this rite and therefore distinguish this individual from their contemporaries (whether intentionally or unknowingly). The categorisation of atypical burial above is purely a demonstration of the least commonly reported rites in the early Anglo-Saxon period. There should be no misunderstanding in regards to the ambiguity of atypical burial as every case should be analysed independently. Even though there may be instances where unusual graves display similar rites, this does not automatically indicate a correlation between the motivations behind this accordance or indeed suggest a likeness between these individuals.

CHAPTER 4: SKELETAL ANALYSIS

To facilitate an understanding of burial interpretation and fully appreciate the database content, it is necessary to explain the basic components of skeletal analysis. This includes the techniques used to examine human remains and the approaches used to interpret the recorded data. A discussion of the key issues within this field as well as the limitations faced in certain circumstances, such as poorly preserved remains, will also be included. The determination of sex will be the first process discussed as it affects the way other skeletal attributes are interpreted.

Determining sex: Adult skeletons

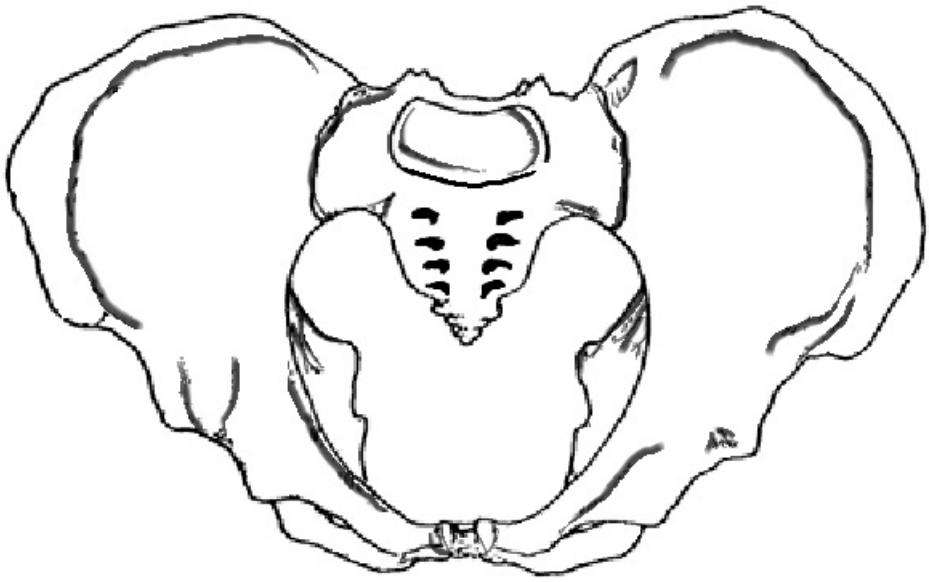
The pelvis and the cranium are widely accepted as the most useful body parts when attributing sex to skeletal remains. This relies on the observation of sexual dimorphism between males and females in order to establish a difference between the two on a skeletal level (White and Folkens 2005). The differences between male and female skeletons have been analysed both morphologically and metrically to determine a scale of sexual identification whereby the most 'male-typical' traits will exist at one end and most 'female-typical' traits will be at the other (Cabo *et al.* 2012).

The pelvis

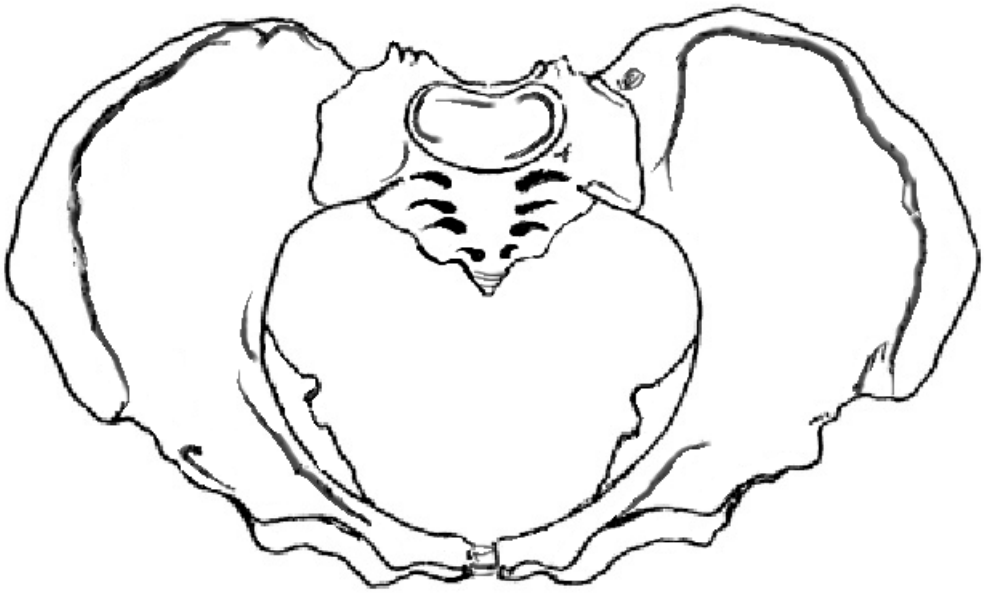
The analysis of the pelvis is deemed the most definitive means of sexual identification and can be divided into observed and measured approaches (Byers 2005). The key features examined when trying to determine sex are the size and shape of the overall bone, the shape of the ilium, pelvic inlet and sacrum, along with the subpubic angle, existence of preauricular sulcus and the shape of the obturator

foramen and greater sciatic notch (Krogman 1962). Each of these features has a spectrum of sexual determination, for instance the most female-typical characteristics would be: a wider pelvic shape, a circular pelvic inlet, a low and flat ilium, presence of a ventral arc, a U-shaped subpubic angle, a smaller and triangular obturator foramen, a broader sacrum, a wider greater sciatic notch and a distinctive preauricular sulcus (Rogers and Saunders 1994). Most of these characteristics are due to the childbearing facility of the female pelvis (Figure 4.1). However, although this extensive collection of observed features suggests sexual identification can be made from the pelvis, this is only when these features are preserved. It is also unfortunate that if an individual has been buried supine the main pelvic regions used for sexual identification are usually the areas which protrude vertically and therefore are those which are most often destroyed during excavation (White and Folkens 2005). In order to avoid some of the issues associated with observing the morphological features of the pelvis, it can also be measured to determine sex anthropometrically. Byers (2005: 189) believes the only pelvic measurement which has, and deserves 'wide acceptance is the ischium-pubic index'. These measurements, although proven to be accurate, can be difficult to take and so a well-preserved and intact pelvis is ideal. Conversely, Washburn (1948) believed the most accurate determination of sex can be obtained by measuring the length of the anterior pubic bone, giving a percentage of correct sexual identification of around 90%, with a 75% chance for correct sex determination when observing the shape of the sciatic notch. Washburn (1948) calculated that where an adult pelvis of known ancestry is both anthroposcopically and anthropometrically analysed, the likelihood of producing a correct classification of sex is around 95%.

Figure 4.1 – Diagram of male and female pelves (After Bass 2005: 213)



MALE PELVIS



FEMALE PELVIS

The cranium

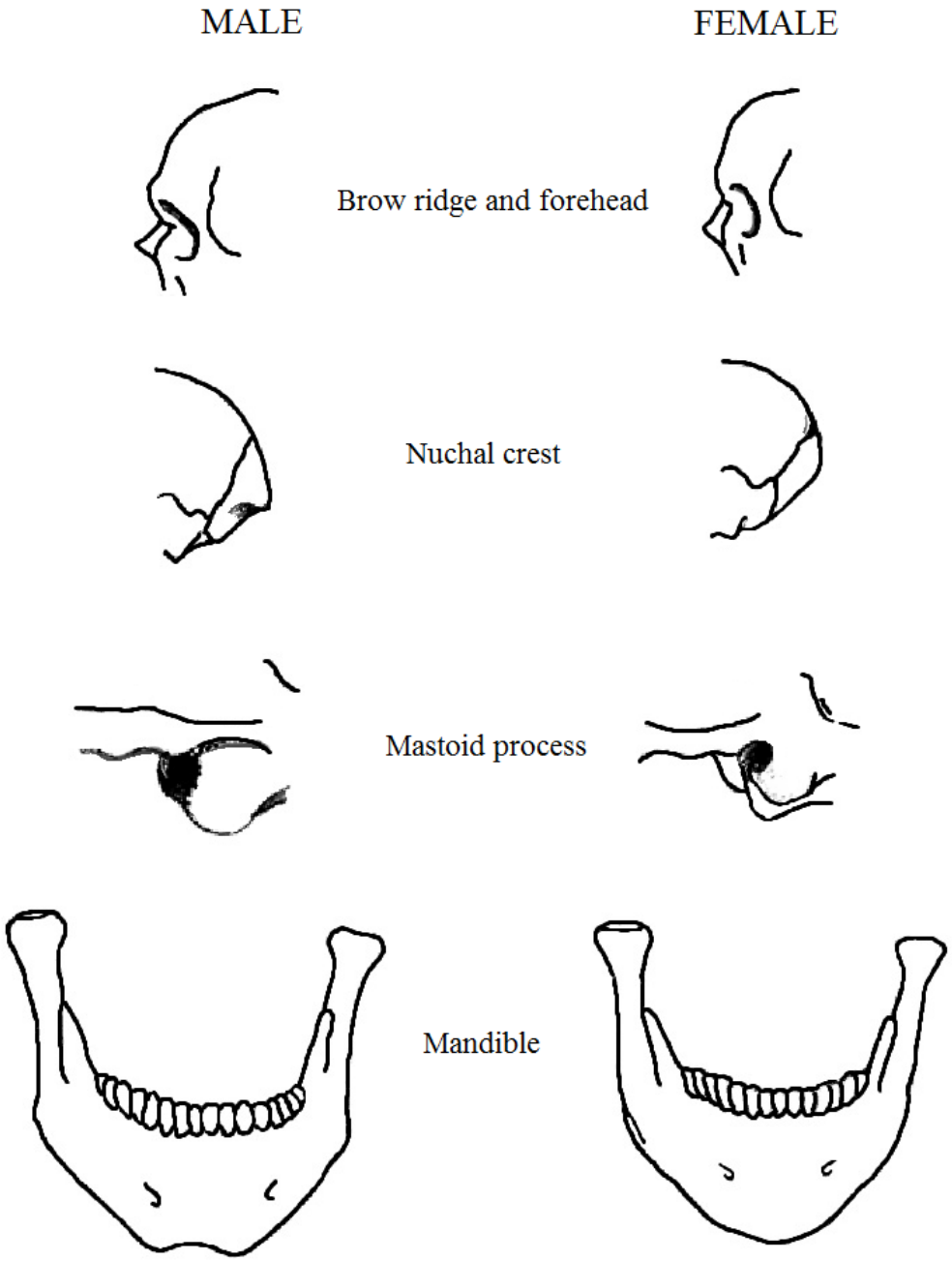
In addition to the examination of the pelvis, the cranium can also be used to differentiate between male and female skeletal remains (as shown in Figure 4.2 below). France (1998) gives a typical and widely accepted review of cranial features indicative of sex; the main attributes of a male skull include: a larger and more robust overall size, more pronounced brow ridges and mastoid processes, a rounder mandible and supraorbital margin, a more slanted frontal plate and a sharper hooked nuchal crest. These can be supplemented by markings from muscle attachments which are usually more defined in male adult skulls. It is believed that where the cranium is used for sexual determination, the chance of obtaining a correct sexual diagnosis is around 70% (Stewart 1979).

Additional sexual identifiers

In addition to the examination of the cranium and pelvis there is a set of alternative skeletal indicators which can be used for the determination of sex. This includes the overall size and robusticity of the skeleton, dental comparisons, long bone measurements and sternal rib end assessments. The use of these additional sexual identifiers alone are, however, much less reliable than the assessment of the pelvis and cranium but can be used to reinforce other methods of determination. The concept of sexual dimorphism permits a degree of difference between males and females in terms of bone dimensions (Hamilton 1982). These differences have allowed a set of comparisons to be made between the sexes that are subject to ancestry and age specificities. The femur, humerus and scapula have all been used to sexually identify individual sets of skeletal remains in cases where the cranium and pelvis are both missing or are poorly preserved. Although it is possible to use these

alternative bones to assign sex to an individual, many osteologists stress the limited accuracy of these measurements as they are not as sexually diagnostic as the pelvis or cranium (Brues 1958, Stewart 1979, France 1998, Reichs 1998, Cattaneo 2007).

Figure 4.2 – Diagram of female and male cranial differences (After Bass 2005: 82)



Non-adult skeletons

Assigning sex to non-adult skeletons is a much less reliable practice than the same process for adults. This is due to the limited sexual dimorphism between male and female non-adults who have yet to develop the diagnostic sexual attributes that occur from puberty onwards (Geller 2005). Nonetheless, there are several skeletal indicators which have been used to sexually identify non-adult remains with varying levels of success; these include several markers on the pelvis and variations in the rate of dental development (as detailed in Figure 4.3 below).

Figure 4.3 – Table showing skeletal differences in male and female non-adults (After Byers 2005: 203-205)

Females		Males	
Auricular surface			
Raised along entire edge of auricular surface		Auricular surface only raised above the plane of the bone at the anterior end	
Percentages of elevated versus non-elevated auricular surfaces			
Female elevated	76.4%	Male elevated	23.6%
Female non-elevated	29.6%	Male non-elevated	70.4%
Greater sciatic notch			
Shallower		Deeper	
Dental development			
Smaller difference between age estimations from skeletal markers and dental development		Larger difference between age estimations from skeletal markers and dental development	

Limitations associated with sexual determination

In most archaeological situations, definitive sexual diagnosis is difficult to determine due to the condition and absence of skeletal components recovered (Meindl and Russell 1998). Logically the better preserved and more complete skeleton has a much greater chance of being sexually identified, especially if the pelvis and/or cranium are recovered (Garvin 2012). However, as sexual indicators on skeletal remains are more visible once the development of the skeleton is complete; this makes age a very influential factor in sexual identification. Therefore, assigning a sexual category to an adult is usually a much easier undertaking than trying to sexually identify a child or infant. Nevertheless, the process of assigning a sexual division to skeletal remains is a complicated one. No osteological technique provides a 100% success rate of sexual determination (Bass 2005, Byers 2005, France 1998, Reichs 1998). This point will be highlighted in this study, especially concerning the attribution of sex in Anglo-Saxon cemetery reports. This uncertainty surrounding sexual determination of skeletal remains is reinforced when acknowledging the many factors that can influence the survival of osteological material and the accuracy of subsequent examination, thus consequently affecting the reliability of interpretation. These factors can include; soil acidity, taphonomic conditions, depositional practices, burial environment and ante-mortem trauma, to name but a few. Moreover, ancestry can alter the specific characteristics used to differentiate between male and female remains especially when using anthropometric figures (Bass 2005). If ancestry is unknown the statistics used to sex the individual may be unsuitable and therefore decrease the accuracy of sexual determination as the ranges of sexual dimorphism differ between groupings. Ancestry and age are intrinsic factors which may hinder the sexual identification of

skeletal remains, similar to ante and peri-mortem circumstances, health and trauma. Extrinsic factors come from environmental stimuli post-mortem, such as taphonomic processes and burial conditions (Haglund and Sorg 2002). Each of these conditions can affect the preservation of human remains and material evidence, which then emphasises why only osteological evidence was used in the database for the assignation of sex, as the subtext of material objects cannot always be determined.

Determining age: adult skeletons

The aging process of the skeleton involves stages of bone formation, epiphyseal development and fusion, metamorphosis and degeneration (White and Folkens 2005). Therefore, age is accorded using a scale of skeletal development and maturation which is based on previous populations of known age (Beall 1984). This enables an age range to be set for a particular attribute which may then be narrowed by the assessment of an additional skeletal feature. In respect to adult skeletons, age is usually established by analysing the level of degradation present on the remains (Garvin *et al.* 2012). This becomes the most viable method of determining age once the individual has completed the growth cycle and all teeth have erupted (Bass 2005). The degeneration of certain areas of the skeleton can also be used as several aspects of the adult skeleton change during the aging process, the shape and density of sternal rib ends, morphology of the pubic symphysis, the closure of cranial sutures and the modification of the auricular surface (Lovejoy *et al.* 1985). Of these, the examination of the pubic symphysis has proven to be the most accurate and has been developed by analysing the extent to which the ridges and furrows on the bone fade before degradation then begins (Brooks and Suchey 1990). There are alternative methods for establishing age in skeletal analysis, such as the observation of

histological markers from bone slides or the examination of bone density (Byers 2005). There is also a method designed to estimate age from the degree of dental erosion and wear but this relies on specific parameters to be known such as sex, ancestry and pathology (Maples 1978 and Brothwell 1981).

Non-adult skeletons

The level of skeletal development in juveniles can be determined from the measurements made of the long bones, the degree of epiphyseal fusion and the extent of dental development. Of these, dental development and eruption have been found to be the most accurate method of aging non-adults. This is due to the limited influence of malnutrition or stress on dental development as well as the little variance shown throughout populations (Garvin *et al.* 2012). Although more difficult for adults, observations made solely on the extent of dental development can indicate a rough estimate of age for young adult individuals (Moorree *et al.* 1963a, b). These observations relate to the degree of calcification identified and the associated age range attached (Gowland 2006). Alternatively, the long bones can be measured in order to estimate age. The use of these methods are restricted to individuals who have not reached skeletal maturity and is more accurate for those under 10 years of age, especially for pre-natal remains (Byers 2005). In pre-natal remains the length of long bones (namely the femur) can be used to calculate total body length and therefore indicate time since conception. Infants and children up to approximately 10 years old can be assigned an age range directly from the length of long bones as they indicate the extent of skeletal development and a corresponding age in relation to an established growth rate (Gowland 2006). This is assuming the growth of the non-

adult individual has not been affected by alternative factors such as pathological conditions or malnutrition (Mays 2010).

Limitations associated with age estimation

It is generally agreed that individuals who have yet to reach skeletal maturity can be aged more accurately, however, other problems exist that complicate the process. There has been considerable interest in recent years over the discussion of what 'age' really means (Sofaer 2006). On the surface it seems to be a literal indication of the time since birth; what is known as 'chronological age'. However, there are also non-numeral indicators that have been used as markers for entering a particular age category, such as starting menstruation as a symbol of entering womanhood (Ginn and Arber 1995). In this sense, age at death is classified as biological or physiological as it is based on the development and growth of a specific individual and may occur at different chronological ages within groups (Gowland 2006). There is a third element to the definition of age that is socially determined, whereby particular events or interactions are associated with a particular age category, such as entering a marital relationship. This is also independently determined as chronological age may not necessary affect the time at which the social or cultural event is undertaken (Halcrow and Tayles 2008). It is important to note here that as age is determined differently by different societies, there may be considerable variation in the categories of age used to classify individuals from archaeological contexts. There is currently debate over whether the biological determination of age at death for sub-adults is as accurate as once assumed and the extent to which it is affected by external factors (Sofaer 2006). There is also the argument that the appropriation of social age is detached from skeletal analysis and cannot be related to

the development of the skeleton without a consideration of environmental variables (Gowland 2006). The issues that surround this divide are imbedded in burial data as it is very difficult to identify clearly defined age groups for non-adults because there is limited standardisation in terminology and chronological sequencing (Halcrow and Tayles 2008). This problem is echoed in the associated database and methodology where the term 'non-adult' was introduced to mitigate the problems of interpreting age ranges from the primary data. Therefore, although the debate incorporates a much larger sphere of analysis, its intensity can be felt in many specific areas of archaeology.

In addition to these issues, there are practical considerations that may affect the ability to determine the age of skeletal remains. For instance, İşcan (1991) discovered that when using sternal rib ends as indicators of age, there must be an acceptance of the difference across populations, especially regarding sex and ancestry. This is especially relevant when using sample comparisons to attribute age when other traits are not known. To avoid the difficulties associated with this, it is best practice (although sometimes not possible) to use studies with large samples for reference (Konigsberg *et al.* 2008). It is also necessary to highlight the fact that the age of the individual at the time of death may indeed affect the likelihood of assigning age, since the accuracy of the methods are directly proportional to the degeneration of the remains (Franklin 2010). This relationship between the success of an osteological assessment and the degeneration of remains can also be felt when attempting to sex an individual, as age too becomes a factor in this process.

Determining ancestry

As discussed above, the determination of age and sex can be aided considerably by details of ancestry. This is due to the variation in skeletal morphology that can be seen across ancestral groups (Byers 2005). Ancestry was, however, not included in the accompanying database as the relevant information was not provided in the cemetery reports. Where it is possible to obtain this data as part of osteological analyses, the examination of ancestry can provide more accurate demographic assessment of cemetery populations, and as such this subject demands a brief summary here.

Identifying the ancestry of an individual can enable the reference samples for other attributes such as sex to be narrowed down (White and Folkens 2005). The methods used to establish the ancestry of a set of skeletal remains include both visual observations of morphological features and the measurement of certain aspects of the skeleton. There are limitations with the anthroposcopic approaches however, as certain features cannot be quantified and can only be subjectively analysed dependent on observer experience and skills (Bass 2005). Regardless, there are well recognised attributes of the skeleton, namely the cranium, that are influenced by genetic background (i.e. ancestry) that can be identified through observation and measurement. They may not be definitive in every case but they do provide a foundation from which to work. In order to determine ancestry from the assessment of the cranium, certain characteristics of physiognomy are observed. Overall face shape, nasal structure, dentition and cranial vault shape can all be used to identify possible ancestral backgrounds. For example, Caucasian individuals are more likely to have a narrow nasal opening whereas Black individuals are associated with a more

projected facial profile (Byers 2005). Figure 4.4 provides a list of the cranial characteristics that can be used to differentiate between individuals of different ancestries. The postcranial skeleton, specifically the femur and the pelvis, has also been used to provide associations of ancestry (İşcan and Cotton 1985 and Gill 2001). These approaches are linked to the morphology of the bones but the reliability of this method for determining ancestry is still in contention due to the considerable variance within different ancestral groups (Yurka 2014).

Figure 4.4 – Table showing the cranial differences associated with ancestry (After Byers 2005: 163)

Structure	Caucasian individuals	Black individuals	Asian individuals
Nose			
Root	High, narrow	Low, rounded	Low, ridged
Bridge	High	Low	Low
Spine	Pronounced	Small	Small
Lower border	Sharp (sill)	Guttered	Flat, sharp
Width	Narrow	Wide	Medium
Face			
Profile	Straight	Projecting	Intermediate
Shape	Narrow	Narrow	Wide
Eye orbits	Angular	Rectangular	Rounded
Lower eye border	Receding	Receding	Projecting
Vault			
Browridges	Heavy	Small	Small
Muscle marks	Rugged	Smooth	Smooth
Vault sutures	Simple	Simple	Complex
Postbregma	Straight	Depressed	Straight
Jaws and teeth			
Jaws	Small	Large	Large
Palatal shape	Parabolic	Hyperbolic	Elliptical
Upper incisors	Spatulate	Spatulate	Shovelled

Determining stature

Stature can also be calculated from skeletal remains by using measurements taken from various parts of the skeleton and comparison models taken from recorded populations (Gowland 2006). There are three main methods used to estimate stature (Mays 2010). The first approach involves measuring the full height of the bone lengths and adding the dimensions for simulated apertures of soft tissue (Petersen 2005). This can be a very simple process if the complete skeleton is recovered. Two alternative approaches can be used to produce stature estimates in the absence of a complete skeleton by using the long bones. Both of these methods incorporate measurements of postcranial bones; the anatomical approach involves the correlating these measurements with past stature records (Raxter *et al.* 2006), whereas the mathematical method uses formulae to produce stature estimates from fewer measurements (Trotter and Gleser 1952, 1958). Any long bone can be used, however, those of the lower limb, especially the femur, are considered to provide the most accurate estimation of stature. For example, the length of the femur is measured and entered into an equation to calculate an estimate for stature. The reliability and accuracy of this estimation can be improved upon by including measurements of other long bones, including the humerus, ulna, radius and fibula (Trotter 1970). The estimation of stature is an objective measurement, making it more reliable and accurate than the assignation of age or sex. As with any area of skeletal analysis however, there are variables to consider that influence human variation such as sex, age, pathology and ancestry, and therefore may affect the outcomes of these measurements. To account for these variables, different variations of the equation have been developed. As with living populations, the calculation of stature is

intrinsically linked to the health and growth of the individual. Details of age, ancestry and cause of death, along with pathology may all affect the development of long bones and consequently impact stature.

Determining health and pathology

The analysis of skeletal remains can reveal information on the diet, health and lifestyle of past individuals. There are a variety of pathologies which can leave evidence on the bone; these include infection, trauma, congenital disorders, neoplasms and degenerative conditions as well as other chronic ailments (Waldron 2009). The type of pathology can usually be determined from the specific changes made to the bone. In archaeological specimens, the most common pathologies identified are dental caries and degenerative conditions, such as osteoarthritis (Ortner 2003). Pathological conditions can often be diagnosed by the observation of macroscopic changes on the bone and/or histologically. There are also aspects of pathology that can reveal very specific information about past individuals and populations. For example, enamel hypoplasia can be indicative of periods of poor health and/or malnutrition (Roberts and Manchester 2005). Pathology can be identified in a variety of ways both observationally and histologically but the original aetiology of each indicator may not always be clear. For example, the development of the 'long bones during the first six to eight months of life' can leave similar markings on the bone surface as periostitis (Marks *et al.* 2009: 209). Nonetheless, there are techniques such as radiography that may help to classify particular pathologies.

Alternative methods

Overall, skeletal analyses can benefit from the use of a variety of different analytic methods. Anthroposcopic and anthropometric approaches can be supplemented using certain clinical techniques developed for use with the living population. Along with the microscopic assessment of bone density and composition, it may also be possible for archaeological remains to have a DNA profile generated to establish their genetic makeup (Matisoo-Smith and Horsburgh 2012). This can also be conducted alongside chemical investigations such as stable isotope testing to confirm the area of origin or diet of an individual (Tykot 2006). The success of these techniques, as with any area of skeletal analysis, is completely dependent upon the condition of the remains. In respect to the collection of individuals within the current database, these alternative techniques would have been very useful. Unfortunately, the limited funding for post excavation analysis and the inconsistent preservation in many archaeological samples has resulted in very few such sophisticated tests being used (Cox and Mays 2000). In essence, skeletal analysis can provide a window into the lives of individuals of the past. It has a multitude of applications that can enrich both our understanding of the living and the dead. Osteological assessments can allow palaeodemographics to be formulated, determine cause of death in forensics cases and reveal answers to archaeological questions that cannot be answered by material culture alone.

Overall, the study of human bone is an invaluable resource, one that has as much potential as it does breadth and one that is central to the integrity and applicability of this thesis. This is especially relevant considering one of the main aims of this study is to reiterate the importance of transparency in the methods of burial analysis. This mainly refers to the accordance of attributes that are inherently

associated with the physical human remains such as age or sex. In cases where these attributes have been recorded, it is necessary to understand the techniques used to obtain these findings but also the limitations that are related to these processes. It is also important here to illustrate how biological traits such as age and sex have been accorded to individuals either using alternative burial evidence or in burials which have no remaining skeletal remains. As seen in the database, there have even been biological profiles generated for individuals which contradict the findings of the osteological analysis. Many of these examples involve an individual who has been accorded sex from an assessment of the osteological evidence which is overturned by an opposing result from an engendered burial assemblage. Therefore, the integrity and accuracy of many burial records in the past may have benefitted from a greater appreciation of the value of osteological analyses.

Overall, the success of osteological analyses rests on the state of the remains, the skill of the professional and the post-excavation funds available. As seen above and in Chapter 3, the examination of human bone can add considerably to the scope of archaeological perspectives and demographic models. This can be seen most clearly in the following chapter which is designed to present and correlate the osteological and burial information to produce a statistical analysis of the database.

CHAPTER 5: STATISTICAL ANALYSIS AND THE DISCUSSION OF RESULTS

Introduction

This chapter is designed to present, analyse and discuss the data collected from the 1016 individuals within the database. As all information is taken from the burial environment, it is important to consider the amount of crossover between archaeological interpretation and past reality. This caution is a reminder of the subjective nature of certain types of evidence and the potential distortion of archaeological perspectives (Scott 1997). This is especially true of grave good analyses, which have in the past sometimes tended to use material culture to produce unconvincing interpretations (Joyce 2008). Díaz-Andreu (2005: 22) best describes the problematical reliance we have on material culture: 'objects provide meanings that are inserted into a net of identities linked together by codes'. Although obscure, this complicated explanation offers an example of how varied the interpretation of material culture can be. It is for this reason that the first overarching aim of this section is to provide statistical baselines for any areas of similarity and difference within the database. This will be attempted using demographic, artefactual, osteological and cemetery-specific parameters. Demographic data such as sex and age groups will be analysed first in order to establish a base from which to break down the secondary statistics such as the prevalence of certain grave attributes. For example, frequency-based statistical analyses will be performed in order to determine whether patterns exist across the cemetery sites and/or between osteologically determined categories and burial variables of body position, grave orientation, assemblage content, multiple burial and pathology. This should identify any

anomalies or caveats in the cemetery data that need to be accepted before further analysis and discussion is conducted.

In order to produce a well-rounded dataset, the initial statistical analyses will consider all 1016 individuals. These analyses will then be adapted for certain tests in order to determine if patterns exist in sub-groups, for instance, the prevalence of male adults with grave goods within the male population. Modified groups will also be used to increase the reliability of the results in reference to grave preservation levels. A clear example would be the production of statistics on sex differentials that only incorporate sets of skeletal remains that have been sexed on osteological grounds alone. This should give a more complete and reliable dataset from which to test the demographic results as all individuals included would have been preserved well enough to be sexually identified.

As the burial information for sexed individuals should be richer and more indicative of general patterns within the database (refer to Chapter 4 for relevant osteological theory), this method will be used to test the integrity of the preliminary results. The final phase of the statistical analysis involves the identification and examination of any atypical or anomalous results from the data. This will consider majorities and minorities within the sample across all burial traits both within the database and from other early Anglo-Saxon studies. All individuals will be analysed using a standardised set of parameters in order to establish whether a given burial really can be identified as having 'uncharacteristic' traits. These traits might be any burial characteristic that is unusual in comparison to similar cases: for example, atypical grave orientation within the particular cemetery or within a specific sex or age group. Comparisons will be drawn across the total database population, within

the cemeteries, between categories such as age and sex, against similar early Anglo-Saxon graves and on an individual basis. An interpretation and discussion will be offered for the most pronounced statistical anomalies as well as the results generated for the atypical burial traits. This will also include those traits traditionally indicative of 'deviant burial', such as prone body placement and decapitation (Reynolds 2009).

The accuracy and applicability of the interpretations made are directly proportional to the levels of preservation recorded. This is especially important when an attempt is being made to analyse and interpret reasons behind the statistical anomalies within a dataset. The potential impact that preservation may have on statistical analysis must be acknowledged in order to determine alternative scenarios that may have caused particular anomalies. For example, poor preservation may disguise the quantity of grave goods recorded, as there may be no trace evidence remaining in the burial. It is for this reason that the state of preservation within each case must be acknowledged and accounted for.

Chapter Structure

This chapter is designed to build a demographic profile of the individuals included within the database. The profile has been built on a variety of levels, in order to discern areas of statistical significance or patterns of repetition. The core data lends itself well to a manageable profile of the population studied, yet in order to deliver a comprehensive outline of the relevant statistics it was necessary to develop an effective means of presenting the information. Thus, two chapter sections follow: demographic statistics and grave attribute figures. The former includes all data used to produce primary statistics such as cemetery totals, age and sex figures. In addition to this, a portion analysing the interconnection of age and sex is also included here.

To maintain this study's focus on the value of osteological evidence, age and sex have been used as principal statistical filters throughout the statistical analysis and discussion. The second section presents the analysis of grave attributes with reference to the primary statistics outlined in the previous section, and incorporates grave good analysis and an examination of atypical burial results (Chapter 6).

Before the primary and secondary data results can be analysed, certain variables must be acknowledged. The eight cemetery sites included in this study had different excavating teams, recording standards, specialists, preservation issues, funding allowances and research aims, to name but the most important variables. There are also considerable differences in the dates of excavation and publication, especially, for example, between Spong Hill (Hills *et al.* 1984) and unpublished Lakenheath. Therefore, when attempting to compare and contrast these sets of data it is essential that these fundamental differences are recognised. It is also important to summarise inconsistencies such as the variations in age categories used. These may be the result of anomalous information or may have been identified through statistical significance tests. Each of these variables and inconsistencies are presented under separate headings and, if applicable, reference is made to their statistical significance. The findings are set out not only in reference to complementary statistics, but also to make comparisons between cemeteries. The chapter is, therefore, designed to make explicit interlinking anomalies and to discuss them as a way of enabling a clearer picture of the results to form.

Cemetery comparisons

All 1016 individual records were examined fully and catalogued in the database. The database was then used to create the tables and graphs that follow using a PivotTable application within Microsoft Access and Microsoft Excel. These tables and graphs have been designed to illustrate primary findings and basic statistics, and to help the reader better follow the frequency-based analysis and discussion.

All individuals were classified in terms of osteological assessment, which included sex, age and pathology (where available), as well as in terms of assemblage data, grave orientation, body placement and flexure (as seen in Figure 5.1 below). As cemetery totals will be used as a filter for certain datasets, it must be highlighted here that individuals recovered from any cemetery excavation may not represent the complete population. This assumption may affect the validity and reliability of results as the totals presented may not always reflect the actual population at the site. This is especially true of the early Anglo-Saxon period as there is always uncertainty as to whether all individuals of the burying community have been buried on the same site, in the same way or even inhumed at all (including cremations). Instances of this have been found at various sites across England, such as execution sites for rule breakers and criminals (Reynolds 2009) or alternative burial grounds for elite groups, such as those found at Sutton Hoo (Carver 2005a). This will obviously affect the applicability of the statistics calculated for each of the cemetery sites as it may distort the overall figures for a site, but once it is acknowledged that the analysis produced is working from the most complete and accurate data available, the conclusions made will incorporate these various issues and caveats accordingly. There also needs to be an acknowledgement that although cemetery reports and records were used to create

the accompanying database, due to the osteological nature of this study many of the records may not match the original information perfectly. This is the result of a judgement the author made to try and only incorporate burial data into the study that was made from osteological means and not the result of grave good analysis or excavator hypotheses. In addition, it is important to recognise that although the statistics produced from the analysis of the database are as accurate as possible, there needs to be an acceptance of the missing evidence from each site. It is very unlikely, for instance, that the total number recorded for one burial attribute represents all individuals originally buried with that particular trait. The extent of the excavation area, the levels of preservation and the standards of recording all affect the thoroughness and reliability of each of the statistics. Though the whole picture may not be pieced together from this analysis, an insight can be offered into the range and potential distribution of burial attributes.

Figure 5.1 – Table showing all basic statistics from the database

Group	Count	Percentage of total database
Database population	1016	100.00%
Number of graves	980	n/a
Population at Bloodmoor Hill	29	2.85%
Population at Cleatham	62	6.10%
Population at Great Chesterford	171	16.83%
Population at Lakenheath	220	21.65%
Population at Morning Thorpe	325	31.99%
Population at Snape	41	4.04%
Population at Spong Hill	58	5.71%
Population at Westgarth Gardens	64	6.30%
Individuals in single inhumations	952	93.70%
Individuals in multiple burials	64	6.30%
Sexed individuals	373	36.71%
Aged individuals	625	60.83%
Males	169	16.63%
Females	204	20.08%
Adults	409	39.57%
Non-adults	216	21.26%
Male adults	145	13.98%
Female adults	167	16.34%
Individuals with grave goods	824	82.09%
Individuals with bones remaining	731	71.95%

One of the main issues that affected the standardisation of the database was the variation in classifications used to categorise the skeletal remains. This is especially relevant to the divisions of age used across the eight cemeteries, hence why the database uses a streamlined version of age ranges with adult, non-adult and unknown age. There have also been alterations made to the original data in terms of the accepted methods used to make determinations of sex and age. Age estimations have only been included within the database when they have been made from the assessment of skeletal, odontological and body stain evidence. Similarly, sexual determinations have only been used from the examination of skeletal and odontological material (see Chapter 4 for background).

There are points of difference for several of the cemeteries included within this study which relate specifically to their datasets. For example, as the data from Lakenheath is in an unpublished format and is therefore not as complete as the other cemeteries, the pathological data for Lakenheath could not be released and thus the details within the osteological assessments could not be made available. The cemetery does however hold enough evidence to be compared alongside the other seven sites regardless of the restrictions on any additional details that can be provided for each of the graves.

In addition, Great Chesterford also presented a very visible difference from the other cemeteries in the database in respect to its uncharacteristically high population of foetuses, infants and children. This is unusual not only in respect to the selection of sites analysed here, but indeed to the majority of early Anglo-Saxon cemeteries found across England. As Crawford (2007: 83) suggests, a reason must have existed to include some infants and children in these cemeteries and not others

and they ‘must be considered to have been a deliberately selected proportion of the total’. There is much discussion that surrounds Great Chesterford’s abnormally high non-adult population, and it has been speculated whether this is due to relatively higher levels of preservation at the site, alternative burial customs of the burying community or a completely original reason. There is, however, no reason to question the reliability of the data taken from the cemetery as many post-excavation discussions have taken place (Evison 1994, Buckberry 2000, Crawford 2000 and Inskip 2008). Issues with the data from Great Chesterford only become relevant when the divergent statistics for the non-adult population serve to artificially distort the overall analyses of the complete database. For example, the average proportion of non-adults within the total database population needed to be examined both including and excluding Great Chesterford data. This provided an opportunity to verify if the statistical significance test results were distorted by the atypical results from Great Chesterford or if they reflected the data as a whole. Nonetheless, this cemetery was included in this study because of the unusual demographic profile it presents which makes it increasingly pertinent to a discussion of ‘deviant’ burial behaviour.

Cemetery analysis

Comparisons between the cemeteries produced a large number of anomalies in the process of statistical analysis. It was possible to generate a considerable number of category combinations that could differentiate between cemetery groups which included age, sex, grave goods, orientation etc. There was considerable variance across the cemeteries and across the categories, which did not remain constant across the database. For instance, although one cemetery could be distinguished from the remaining sites because of one particular anomalous result, the same site may be

analogous for a different characteristic. It is important to note, however, that although the population size varies substantially between the eight sites, the results have been presented to reflect this using percentage figures. This has enabled any abnormal results from larger cemeteries to be acknowledged fairly without an increased impact of the unusual statistic affecting the overall analyses. This can be seen in the case of Morning Thorpe as the site contains a much larger number of individuals than the other cemeteries. Although the cemetery population is considerably higher, it cannot automatically be presumed to provide a more representative overview of Anglo-Saxon society and burial behaviour. This point aptly highlights one of the previously discussed aims of this study –the need to assess individuality and 'deviance' from the norm regardless of disproportion between minority and majority group sizes. It is reasonable to suggest that where statistical anomalies exist there must be a general pattern from which to deviate. Essentially, the discovery of a 'deviant' minority is dependent upon the establishment of a popular majority. In this case, the database produced several characteristics which can be used to identify the most likely style of burial. These templates are, however, subject to certain variables of their own, such as the association of a particular age or sex group. It is possible to deliver a set of broad burial rites that were applicable to the bulk of the database population – these are outlined below. This is a necessary step in the construction of this analysis, as without defining the majority it is very difficult to identify the minority, especially where variables such as age and sex have been associated with specific burial rites. When considering all 1016 individuals and where the evidence was recoverable, the 'burial profile' that appears most popular involves a furnished single inhumation, with an individual buried in a supine

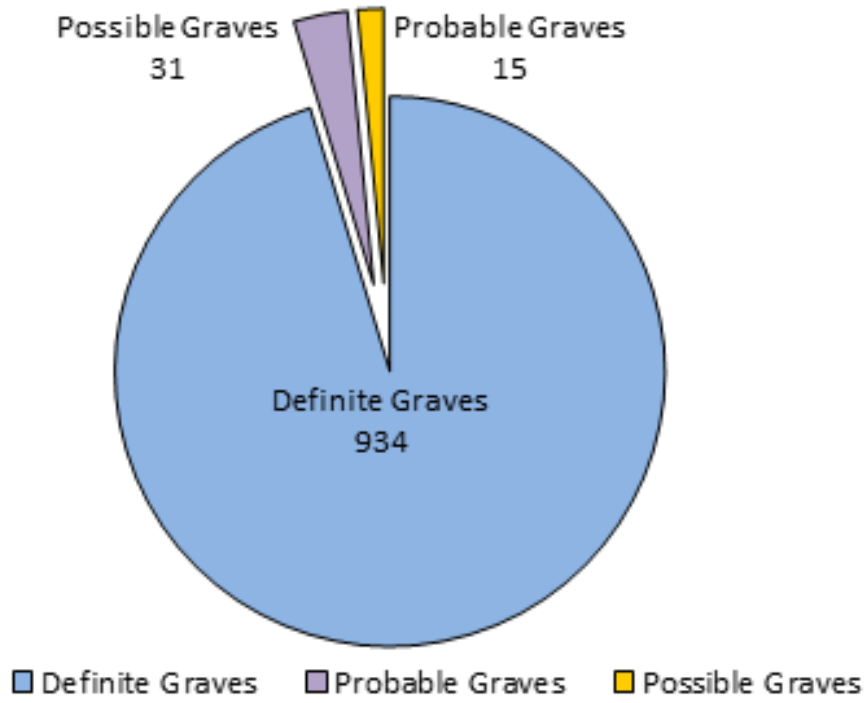
extended position with their head at the west end of the grave. This profile is a composite of all the most popular burial traits within the database but cannot be assumed to reflect the most common profile within all of the cemeteries or within the demographic groups. Even though this produces a very narrow profile when used as a filter for all individuals within the database, especially considering the level of preservation involved, almost 10% of the complete population have all of these most popular attributes. These 95 individuals were recovered in a supine extended position in a furnished, single inhumation and on an east-west alignment.

In spite of this popular burial profile, a considerable amount of burial variation was recorded in the database and it may be useful here to outline the initial totals identified during the statistical analysis to provide a firm base for the later analyses and discussions of atypical rites. Therefore the following sections are structured in the form of a presentation of the primary findings with associated figures embedded within the text. This will be followed by a breakdown of the demographic statistics and results from the burial attribute analyses before the atypical data are discussed in Chapter 6.

Demographic totals

1016 individuals were analysed from 980 graves. As each of the individuals were recovered from graves of differing condition they have been categorised accordingly to account for any uncertainty on the part of the excavator and indeed under later scrutiny. The terms used to illustrate this variation in preservation include ‘definite’, ‘probable’ and ‘possible’. ‘Definite’ graves were taken as any burial that was indisputably that. From the total 980 graves examined, 934 were deemed as ‘definite’ graves, accounting for 95.31%. The remaining 46 graves within the total of 980, were divided into 31 possible graves (3.16%) and 15 probable graves (1.53%).

Figure 5.2.1 – Graph showing grave types within the database



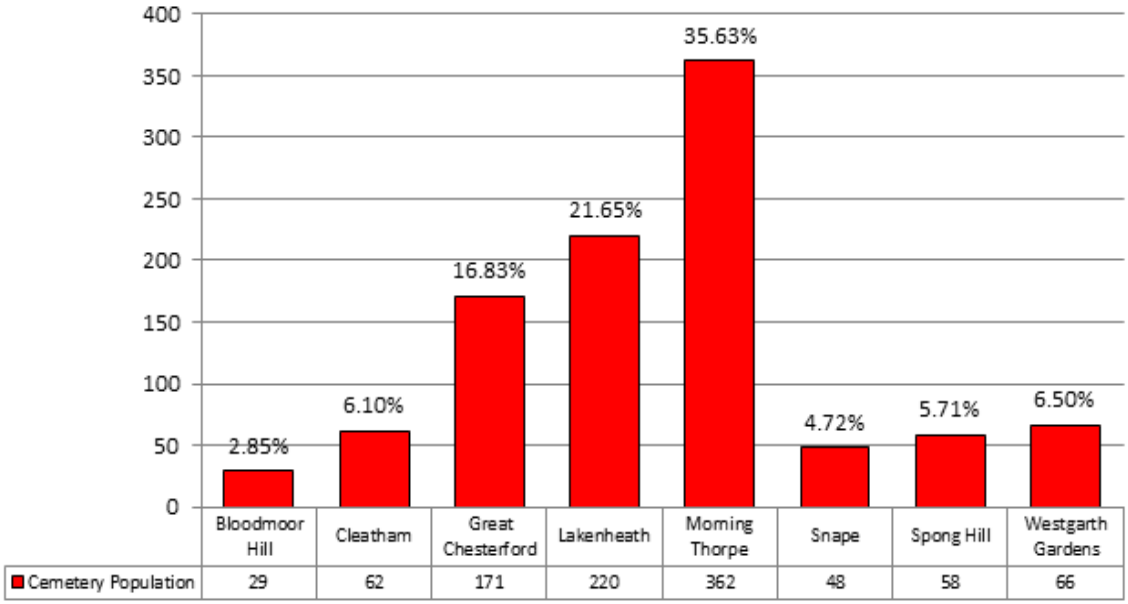
Single/multiple inhumations

A total of 64 individuals were found in multiple graves. This group were recovered from 28 double, triple and multiple burials. Instances of more than one set of skeletal remains being discovered within the same grave accounts for 6.30% of the total population. Whether the practice was used out of necessity or as a customised rite, it is an uncommon feature within the database as, overall, 93.70% of the individuals within the database were buried in single graves (952 individuals). The 28 multiple graves analysed represent 2.86% of the total 980 graves within the study. The diverse meanings behind multiple burial in the early Anglo-Saxon period have been analysed by Stoodley (2002) and will be discussed later in the chapter.

Cemetery totals

The database contains information from eight different cemetery sites; seven from East Anglia and one from Lindsey. They vary greatly in their population numbers as well as their preservation levels, as can be seen in the graphs and charts below. Morning Thorpe holds by far the most graves and individuals, a 35.63% proportion of the total database (362 out of a total of 1016). Bloodmoor Hill has the smallest cemetery population at 29 individuals and represents only 2.85% of the complete sample.

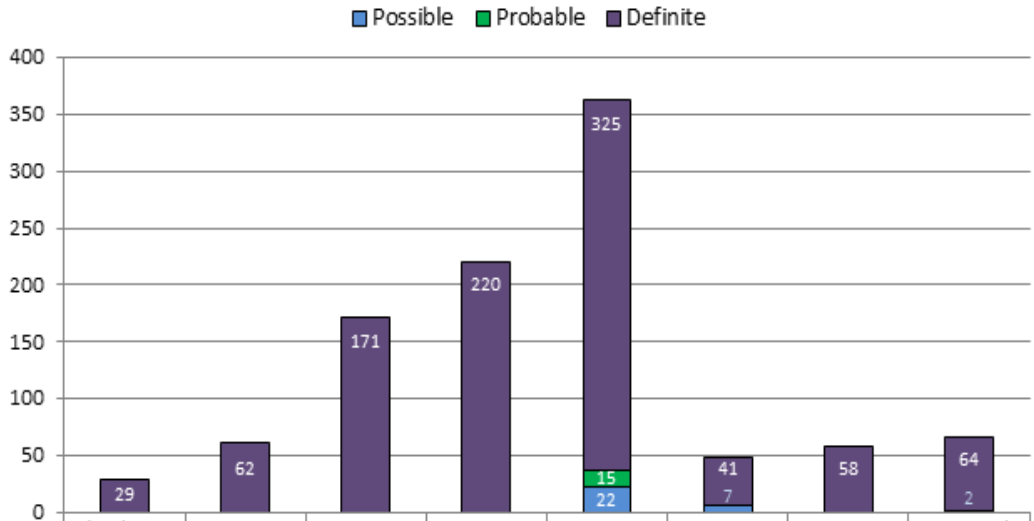
Figure 5.2.2 – Graph showing cemetery population totals and percentages



The cemetery with the largest population, Morning Thorpe was also the only site to hold 'probable' graves. 'Probable' burials are those which have attributes usually associated with graves, such as fragments of human bone and grave goods but do not have a definite grave cut or structure or vice versa (e.g. Morning Thorpe Grave 66). Of the 362 individuals studied from Morning Thorpe, 15 (4.14%) were found in 'probable' graves. Although this sets the site apart from the others within the database, it is very possible that this anomaly is purely the result of variation in terminology and difference between excavators. There was also difference identified in the frequencies of multiple burial at the sites (discovered at all cemeteries except for Cleatham). Three of the four cemeteries with the largest populations understandably had the highest numbers of multiple burials when compared across the database. Morning Thorpe, Lakenheath and Great Chesterford hold the three largest populations, of which multiple burials comprise 8.29%, 5.00% and 8.77% respectively. Bloodmoor Hill also represents a high proportion of the population to

be buried in multiple burials at 6.90% when compared to the larger cemeteries with similar high numbers. In contrast, Westgarth Gardens (3.03%) and Spong Hill (3.45%) had low numbers of multiple burials and Cleatham was the only cemetery to include no multiple interments. It may initially be tempting to suggest that this attribute relates to the site's location in Lindsey, rather than East Anglia. However, regional difference cannot automatically be used as a reason for difference, as there are additional cemeteries from Lindsey that include multiple burials (such as Castledyke South [Drinkall *et al.* 1998]). The absence of this type of burial at Cleatham may therefore indicate a cemetery-specific phenomenon rather than reflecting a pattern in cemeteries across the region as a whole (Drinkall *et al.* 1998). This suggestion is reinforced by similar demographic variation among the East Anglian cemeteries. For instance, there is considerable variation in the demography of Great Chesterford and Spong Hill, despite both cemeteries being situated within East Anglia – the former contains a high percentage of non-adults relative to the cemetery population size (47.95%), while the latter contains significantly fewer (5.17%).

Figure 5.2.3 – Graph showing grave types within the cemeteries



	Bloodmoor Hill	Cleatham	Great Chesterford	Lakenheath	Morning Thorpe	Snape	Spong Hill	Westgarth Gardens
Definite	29	62	171	220	325	41	58	64
Probable	0	0	0	0	15	0	0	0
Possible	0	0	0	0	22	7	0	2

Age totals

Overall, 625 individuals could be aged within the database. The analysis of 1016 individuals included 19 age divisions and as the cemetery reports all differed in their categorisation of age, it was necessary to divide age categories into three broad groups for analysis (see Figure 5.2.6 below). These groups comprised individuals who had completed their skeletal development (adults), those who had not (non-adults) and individuals who could not be aged definitively (unknown age). 409 adults were identified, along with 216 non-adults and 391 individuals of unknown age. In percentage terms, of the total number of individuals in the database, 40.26% were aged as adults, 21.26% as non-adults and 38.48% of the population could not be aged.

Figure 5.2.4 – Graph showing the success of ageing within the database

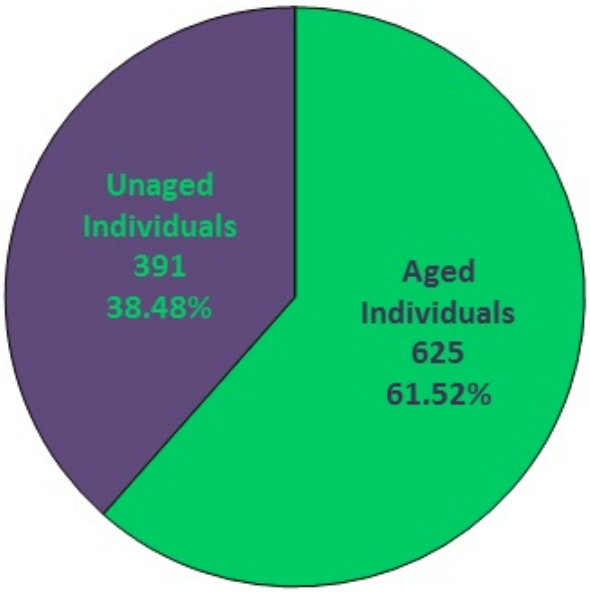
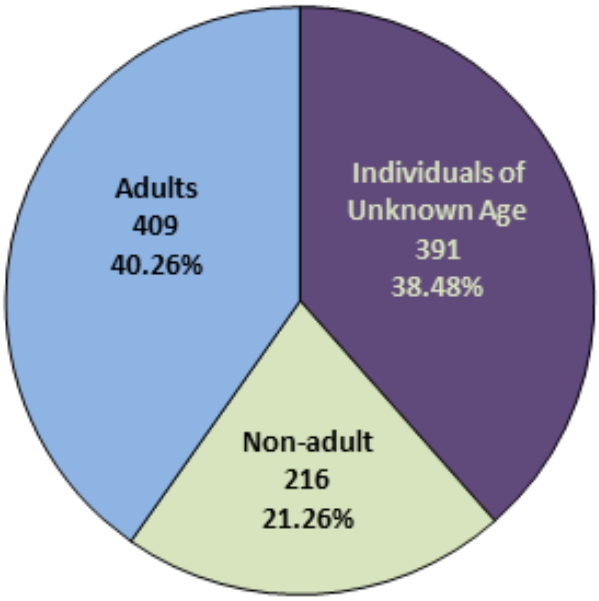


Figure 5.2.5 – Graph showing age categories within the database



One of the clearest observations made from the dataset was the preponderance of adults when compared to the non-adult population. Overall and unsurprisingly, adults provided the most comprehensive information across the database. It is very possible that the higher quality of the information obtained from adults could be linked to the higher levels of survival within the burial environment. Nonetheless, in terms of general observations, adults were much more likely to be assigned certain burial traits such as orientation (97.56% of adults, 82.41% of non-adults and 51.66% of the unaged population) and flexure which will be examined later in the chapter (51.34% of adults found with identifiable flexure compared to 28.24% of non-adults). This increased preservation may have derived from the more robust nature of adult skeletons when compared to skeletally immature remains (Buckberry 2000). There are, however, alternative theories to explain this set of results. For instance, the absence of non-adults has been attributed to a variety of circumstances. These range from the possibility that prevailing cultural traits among past societies led to the use of alternative burial locations for children, to the possibility that archaeologists have simply failed to identify immature skeletal remains during excavation (Sayer 2014). As the frequencies of non-adults are variable across the cemetery sites and as age is a filter in many of the statistics generated here, this point will be discussed in considerable detail later in the section.

As discussed above, the generalised age category of ‘non-adult’ was created to make the evaluation of statistical information clearer. However, when examining the database it became necessary to detail the component sub-divisions that make up the ‘age’ of non-adult. The category includes age bands determined by osteological data for ‘foetus’, ‘infant’, ’older infant’, ‘child’, ‘younger juvenile’, ‘juvenile’, ‘older

juvenile', 'adolescent', 'young sub-adult' and 'sub-adult'. The variations of these subdivisions also include possible, probable and amalgamations, such as 'possible older infant or younger juvenile'. What must also be considered is the age difference and range each of the cemetery reports used to classify each sub-division. These differences, however small, equate to variation within age determination. Although this highlights an area of potential inadequacy within the primary data, it reinforces the need for the age re-classification and the commingling of age groups other than adult and unknown.

Figure 5.2.6 – Table showing age subcategories for non-adults

Adolescent	Sub-adult
Child	Possible child
Child or adolescent	Possible child, juvenile or young sub-adult
Foetus	Possible infant
Infant	Possible infant or child
Infant or child	Possible older infant or younger juvenile
Juvenile	Possible sub-adult
Juvenile or sub-adult	Probable juvenile
Older juvenile or young sub-adult	

Sex totals

As discussed previously, this study primarily seeks to utilise data gained from the osteological analyses of skeletal material. Therefore, the statistics considered within this chapter are all formulated from osteological evidence rather than from the interpretation of material remains. If an individual has been sexed only using material remains, they will be classified in the database as 'unknown sex', as they have been assigned a gender based only upon their assemblage. Where possible, a note was made of those individuals sexed purely by the contents of their assemblages. Instances of conflicting sex determinations between osteological and cultural evidence will be noted in the database to provide statistics for concordance. However, due to the relatively low levels of preservation and recovery across the eight sites, individuals who were sexed by odontological methods were also considered.

Within the database, it is possible to divide the total 1016 individuals into sexual classifications. Overall, only 373 of the 1016 individuals (36.71%) within the database could be sexed. Over half of the total population – 643 of 1016 individuals (63.29%) – remained unsexed.

Figure 5.2.7 – Graph showing the success of sexing within the database

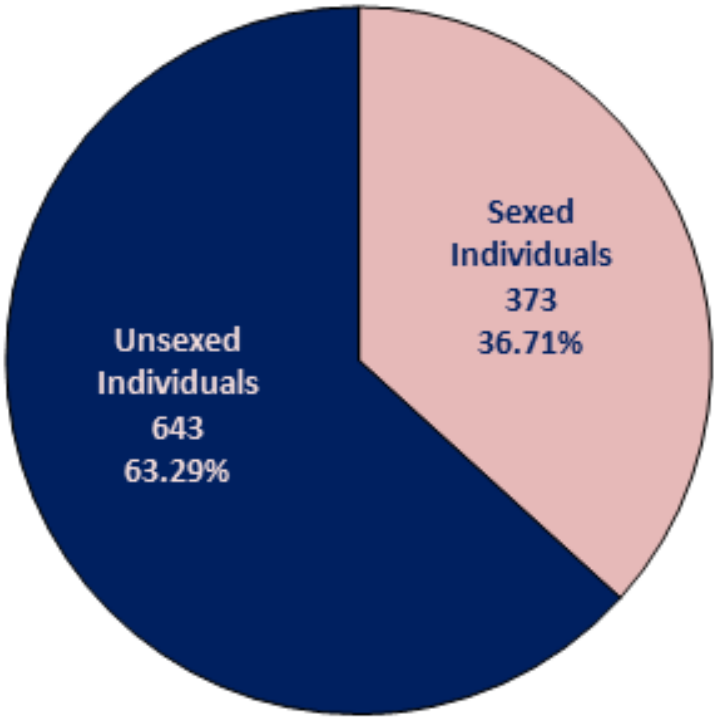
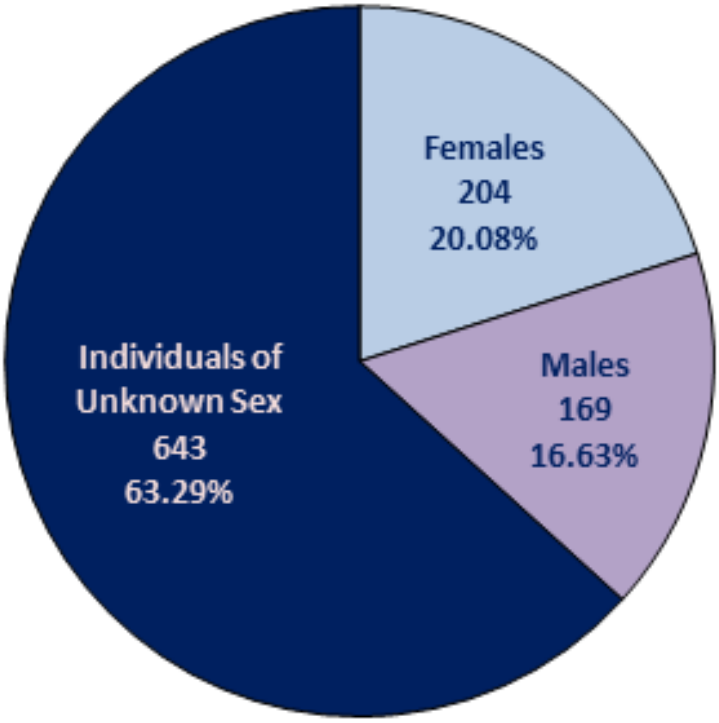
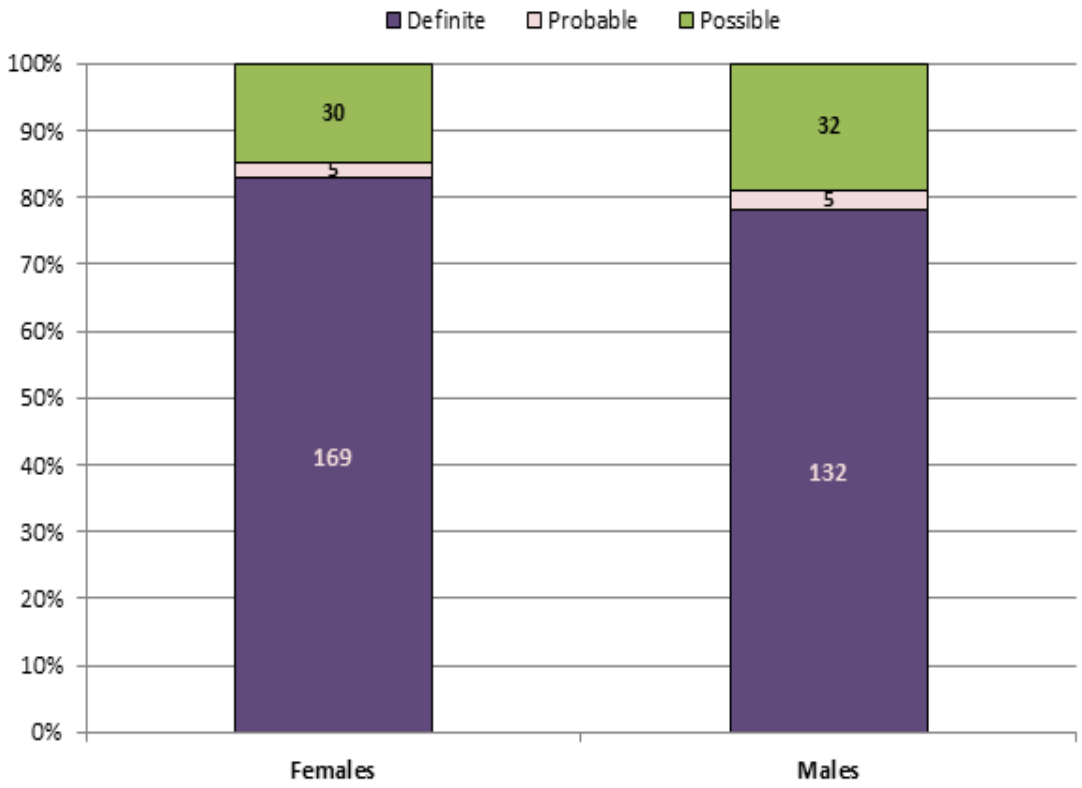


Figure 5.2.8 – Graph showing sex categories within the database



The remaining 373 individuals can be distributed between three female and three male categories. Definite, probable and possible females represented 54.69% of the sexed population and 20.08% of the total database. The 204 individuals classified as ‘female’ comprised of 169 ‘definite females’ (16.63% of the total population), five ‘probable females’ (0.49% of the total population) and 30 ‘possible females’ (2.95% of the total population). The male total accounted for the outstanding 45.31% of the sexed population and 16.63% of the total database. The breakdown of the 169 males shows a similar set of figures; 132 definite males (12.99% of the total population), five probable males and 32 possible males (0.49% and 3.15% of the total population respectively.)

Figure 5.2.9 – Graph showing the divisions of certainty within the sexes



In general, the split between definite, probable and possible within both sexes can be described as balanced. Individuals may have been less likely to be labelled as 'probable' males and females if the term was not used by certain excavators. However, this was not altered by the author as the terms 'probable' and 'possible' were too vague for differentiation and too disparate to be merged across cemetery reports. 'Possible' and 'definite' sexed males and females occupy similar percentage proportions within the total database population.

There has been a considerable amount of work produced in the past which examines the male bias in the sexual determination of skeletal remains (for brief summaries see Chapter 4, Walker *et al.* 1988, Eisner 1991, Arnold and Wicker 2001, Bass 2005, Byers 2005 and Jackes 2011). Examples of this bias, along with the use of grave goods to sexually identify remains, were found throughout the cemetery reports. In order to neutralise the effects of these methods, the osteological assessment of each set of remains was used as the primary means for age and sex identification. This likely goes some way towards explaining the lower male totals and higher numbers of individuals of unknown sex than found in the primary statistical analyses.

Methods of sexual determination and sex concordance

During the compilation of the database it was important to examine the method of sexual determination for each of the individuals. In some instances, such as at Lakenheath cemetery, the attribution of sex was conducted by an osteologist and made independently of material culture (Caruth *pers comm.* 2008). This process was not made as clear in some of the cemetery reports and most of the inhumation catalogues did not include information on how the sex was accorded for each

individual. In order to maintain the integrity of the database, it became clear that it was necessary to examine all available grave diagrams, photographs and any additional information to determine cases where the accordance of sex was made by means other than osteological. For example, in graves where only body stain evidence was recovered (namely from Snape) and where, by definition, osteological evidence was not available, the sex accorded to the individual has not been entered into the database. Instead, the individual has been labelled as of 'unknown sex' and a note included within the database to alert the reader to the sexual classification accorded by the analysis of grave goods (see Figure 5.2.10 below). This necessary caution led to a large proportion of individuals being accorded sexual classifications different to those recorded in the cemetery reports simply because the excavators had assigned sex on the basis of grave goods. There were a small number of burial records which highlighted the apparent discrepancy between sex determined from osteological assessments and sex assigned on the basis of grave goods. These individuals have been classified as anomalies due to this contrast between cultural gender and biological sex and are termed 'confused' burials in this study. A growing body of literature has focused on the individuals within this category, as it is possible that they suggest the existence of multi-gender identities that exist outside of the traditional binary pair of male and female (Herdt 1993, Bevan 2001, Arnold 2002 and Jensen 2007).

Figure 5.2.10 – Table showing all individuals with non-concordance of sex between osteological and grave good sexing

Cemetery	Grave No.	Sex	Sex by Grave Goods
Cleatham	9	Possible Male	Female
	17	Male	Female
Great Chesterford	13	Unknown	Female
	16a	Unknown	Male
	16b	Unknown	Female
	29	Unknown	Female
	31	Unknown	Female
	34	Unknown	Female
	36	Unknown	Female
	56	Unknown	Female
	57	Unknown	Female
	65	Unknown	Male
	69	Unknown	Female
	79	Unknown	Female
	86	Unknown	Male
	87	Unknown	Female
	99	Unknown	Male
	111	Unknown	Female
	134	Unknown	Male
	136	Unknown	Female
	141	Unknown	Female
	142	Unknown	Male
	148	Unknown	Female
	150a	Unknown	Female
	150b	Unknown	Female
	154	Unknown	Female
	159	Unknown	Female
Morning Thorpe	19	Unknown	Male
	22	Unknown	Male
	30	Unknown	Female
	35	Unknown	Male
	42	Unknown	Male
	45	Unknown	Male
	47	Probable Female	Unknown
	50	Unknown	Female
	51	Unknown	Female
	52	Unknown	Male
	61	Unknown	Male
	62	Unknown	Probable male
	64	Unknown	Female
	66	Unknown	Possible female
	67	Unknown	Male
	68	Unknown	Male
	69	Unknown	Male
	70	Unknown	Possible female
	76	Unknown	Female
	90	Unknown	Female
	91	Unknown	Female
	92	Unknown	Female
	93	Possible Male	Unknown
	96	Unknown	Female
	99	Unknown	Possible female
	100	Unknown	Male
	114	Unknown	Female

Grave No.	Sex	Sex by Grave Goods
115	Unknown	Male
117	Unknown	Male
129b	Unknown	Male
132	Unknown	Male
146	Unknown	Possible female
153	Unknown	Female
154	Unknown	Male
157	Unknown	Male
160	Unknown	Female
167	Unknown	Probable male
170	Unknown	Male
177	Unknown	Probable female
184	Unknown	Male
200	Male	Unknown
208	Unknown	Female
209	Unknown	Female
214	Unknown	Possible female
215	Unknown	Male
221	Unknown	Female
225	Unknown	Male
239	Unknown	Possible male
242	Unknown	Female
249	Unknown	Female
251	Unknown	Female
268	Possible Female	Unknown
269	Unknown	Male
275	Unknown	Male
276	Unknown	Possible female
293a	Unknown	Female
293b	Unknown	Female
299	Unknown	Female
306	Unknown	Female
309	Unknown	Female
312	Unknown	Female
326	Unknown	Female
327	Unknown	Male
328	Unknown	Female
330	Unknown	Male
331	Unknown	Possible female
332	Unknown	Male
334	Unknown	Female
338	Unknown	Possible female
339	Unknown	Male
340	Unknown	Male
341	Unknown	Male
342	Unknown	Female
356	Unknown	Male
359	Unknown	Female
360	Unknown	Female
361	Unknown	Male
362a	Unknown	Female
362b	Unknown	Male
367a	Unknown	Male
368	Unknown	Probable female

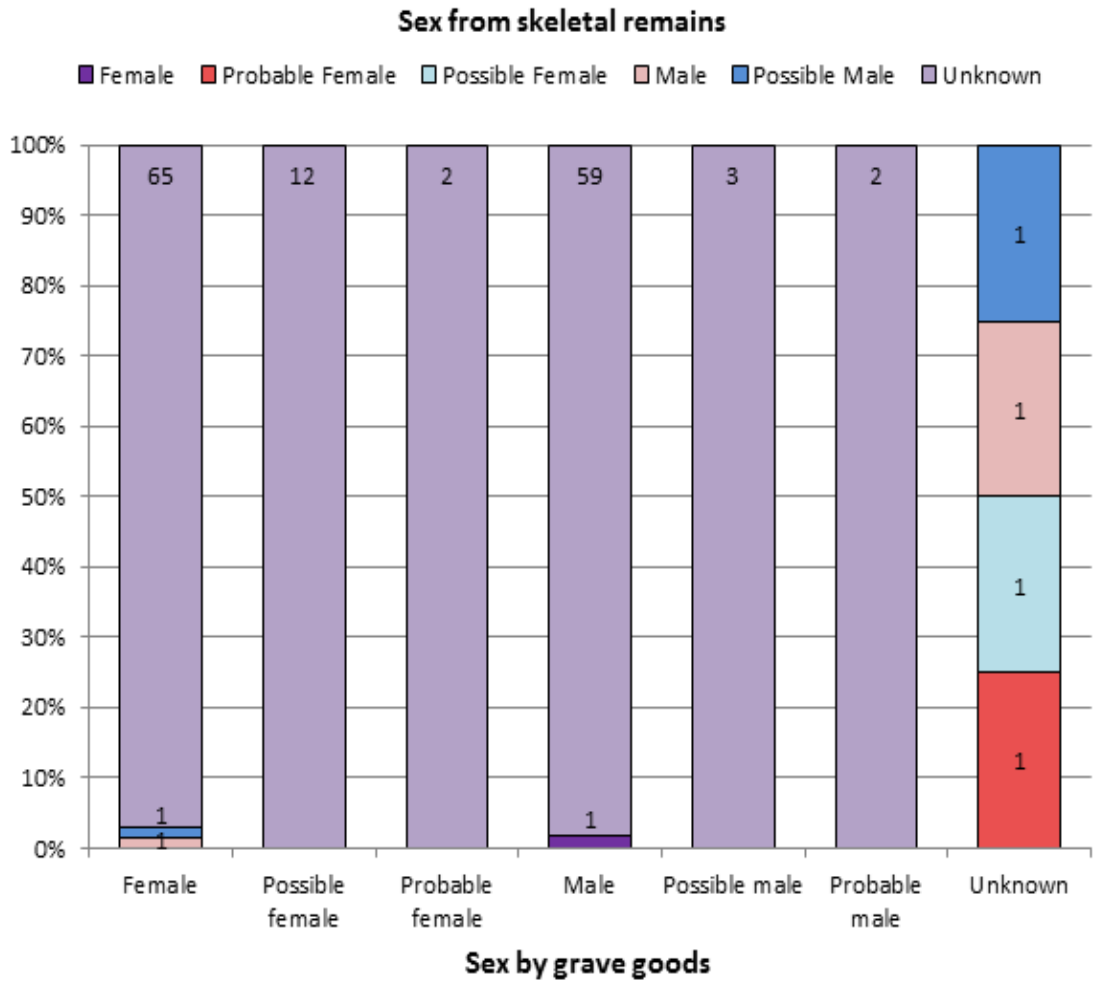
Cemetery	Grave No.	Sex	Sex by Grave Goods
Morning Thorpe	370a	Unknown	Female
	370b	Unknown	Possible male
	379	Unknown	Possible female
	380	Unknown	Male
	381	Unknown	Male
	383	Unknown	Possible female
	384	Unknown	Possible female
	387	Unknown	Female
	388	Unknown	Male
	389	Unknown	Male
	392	Unknown	Female
	402	Unknown	Male
	409	Unknown	Male
	415	Unknown	Female
	416	Unknown	Male
Snape	1	Unknown	Male
	2	Unknown	Female
	3	Unknown	Male
	5	Unknown	Female
	6	Unknown	Male
	8	Unknown	Female
	10	Unknown	Female
	11	Unknown	Female
	14	Unknown	Female
	16	Unknown	Female
	17	Unknown	Male
	18	Unknown	Female
	19b	Unknown	Female
	20	Unknown	Male
	21	Unknown	Male
	25	Unknown	Possible male
	27	Unknown	Female
	28	Unknown	Female
	31	Unknown	Male
	32	Unknown	Male
	36	Unknown	Male
	37	Unknown	Male
	40	Unknown	Possible female
	45	Unknown	Male
	47	Unknown	Male
Westgarth Gardens	4	Female	Male
	50	Unknown	Male

Overall, 150 of the 1016 individuals within the database had been classified as ‘sexed by grave goods’ within the cemetery reports. This accounts for a 14.76% proportion of the total dataset. These individuals were therefore entered into the database as ‘unknown sex’, except for three graves which were sexed using the findings from the osteological report and not the grave catalogue. One of three individuals in this group was found in Grave 4 from Westgarth Gardens, who was categorised as female here because this was determined in the osteological report. However, the cemetery report grave catalogue labels this individual as ‘male’ on the basis of the engendering grave good; a single spear (West 1988). The preservation was adequate for an osteological examination to take place and for the body placement to be recorded and so the individual is classified as ‘female’ here with a satisfactory degree of reliability. Grave 9 and 17 from Cleatham cemetery were also subject to the same process whereby the grave goods accompanying the skeletal remains sexed the individuals as females but they were identified as possible male and male respectively in the osteologist’s report.

Other than the two possible and two definite males and three female skeletons (one definite, one probable and one possible female) in this category, the remaining 143 individuals could not be sexed osteologically. They were all, however, given a sex from an assessment of their material assemblage by the excavators. The 143 individuals displayed a divide between male and female (definite, probable and possible) with the totals for definite sexes at almost exactly half, with 67 females and 60 males sexed by grave goods, which accounted for a percentage comparison of 52.76% to 47.24%. This has serious implications for the integrity and reliability of grave good analysis as an indicator of sex when osteological evidence is not

available. As discussed previously, certain artefact types have stereotyped associations, for example males with weapons and females with jewellery and this is reaffirmed by the types of grave goods used to sexually identify the 150 individuals within this sample.

Figure 5.2.11 – Graph showing the comparison of sexing from osteological evidence and grave goods



In the cemetery reports, the individuals identified as female by their grave goods, rather than by osteological analysis, were all found alongside either beads or brooches. Of the 81 artefactually engendered females, 85.19% were recovered with beads in their assemblage (69 individuals) and 67.90% were found with brooches within their graves (55 individuals). Wrist-clasps were also very popular within this group and were discovered alongside 24 of the 81 engendered females, representing 29.63%. Conversely, the 65 individuals who had been recorded as male by their assemblage within the cemetery reports all possessed a similar range of engendered grave goods that had been used in order to sexually identify them. 92.31% were found with spear components within their assemblage (60 of the 65 total). 38.46% (25 individuals) were recovered with shield related items within their graves, namely shield-bosses, grips and mounts. The 65 individuals had other grave goods in common but the categories of object were not as clear-cut as those found within the 'female' assemblages.

As might be expected, in cases where individuals have been sexed by material culture due to the poor preservation of skeletal remains, age classification was also difficult. These individuals were either classified within the cemetery reports as being sexed using their accompanying grave goods or a judgement has been made by the author, for instance, in graves where no bones remain. Of the 150 individuals who were assigned a sexual interpretation from grave good analysis (e.g. weapons indicating a male individual) only 33 were assigned an age category (10 adults and 23 non-adult/infants). 78.00% of the total population sexed by grave goods and not osteological evidence were not assigned an age category (117 out of the 150 population). An even smaller proportion of individuals within this group

derived from multiple burials (8.67% of the total). This can be further organised by the cemeteries in which they were found. Four of the 13 individuals from multiple graves were recovered from Great Chesterford and could be assigned non-adult status but could not be sexed (Graves 150a and b). The remaining nine individuals found in multiple burials could be neither sexed nor aged; these comprised eight individuals from Morning Thorpe and one individual recovered from Snape.

Overall the results analysed here highlight an area of theoretical and practical contention between sex and gender assignation in burial archaeology. Using material culture to accord sex to a buried individual will always be an unsound practice because, pedantics aside, only biological assessments of human remains can provide definitive sexual identification. The scientific basis to this method needs no further explanation. It may be argued that the relatively small figures analysed in this section are negligible in terms of the whole dataset and that they add little to the overall aims of the project. It may be also suggested that except for raising the numbers of unsexed individuals, no issue was caused by integrating individuals sexed by grave goods into the database. It is, however, important to highlight the difference between osteological assessment and interpretative subjectivity in order to produce the most accurate records available and the results are therefore secondary to this.

Cemetery analysis

Cemeteries and age

The proportion of individuals within each cemetery who could be aged varies greatly across the eight sites. Cleatham and Great Chesterford held the largest proportions of individuals who could be assigned an age – 98.39% and 98.25% respectively. This is considerably higher than the percentage of the cemetery populations that could be assigned a sex (of which the highest was 67.74% of the population and recorded at Cleatham cemetery). It seems that this finding reaffirms the idea that although both ageing and sexing skeletal remains may require osteological assessment, when using broad age categories it may be much easier to assign age due to the corresponding observable size of the remains indicating adulthood or not. Therefore the likelihood of successfully ageing a set of remains versus assigning sex may be greater, almost regardless of levels of preservation. It seems that although good preservation is always the preferred state of recovery, the security of an age determination may not always depend upon it, especially when examining adult remains.

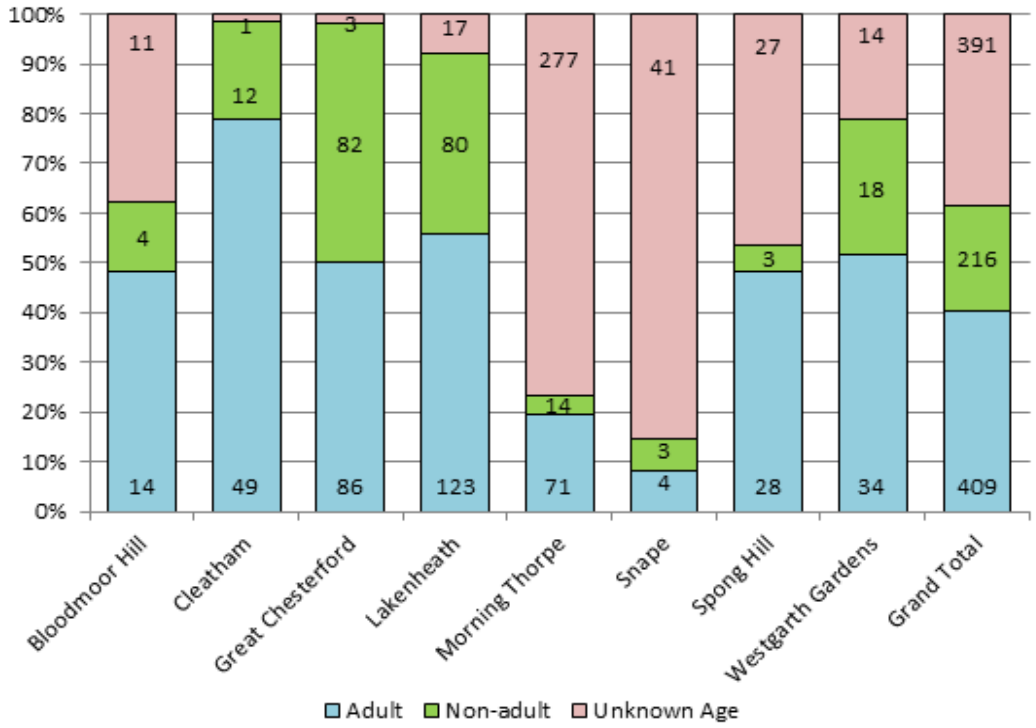
Age totals can be broken down into cemetery divisions where the highest proportion of adults was found at Cleatham at 79.03%. 49 of the 62 total individuals at Cleatham were aged as adults. 12 non-adults (19.35% of total) were determined along with one individual of unknown age (1.61%). Snape cemetery had the lowest percentage of adults in the total population at 8.33% (four out of total 48) and the highest percentage of individuals who could not be aged definitively (41 of 48 individuals – 85.42%). Three non-adults were also discovered (6.25%). Morning Thorpe cemetery shared similar statistics to Snape, with a low number of individuals being aged as adults (19.61% – 71 out of 362 individuals) and non-adults (3.87% –

14 out of 362 individuals). 277 individuals were categorised as being of unknown age (76.52% of total). At Spong Hill adults comprised a much larger portion of the population (48.28% – 28 out of 58 individuals), with only 5.17% (three individuals) of the population being deemed non-adults. The remaining 46.55% of the population (27 individuals) could not be aged. The remaining three cemeteries, Bloodmoor Hill, Lakenheath and Westgarth Gardens all had adult populations of around 50% but differed in the statistics for the other age categories. 48.28% of the Bloodmoor Hill population (14 out of a total of 29) were aged as adults, four individuals (13.79% of the total population) were deemed non-adults, and a remaining 37.93% of the population (11 individuals) were of unknown age. Similarly, 123 individuals out of Lakenheath's total population of 220 (55.91%) were aged as adult. 80 individuals were aged as non-adults (36.36% of the total) and 17 individuals could not be aged definitively (7.73% of the total). 51.52% of the population at Westgarth Gardens (34 individuals) were aged as adults, while 18 non-adults and 14 individuals of unknown age were also identified (27.27% and 21.21% respectively).

Figure 5.3.1 – Table showing age divisions across the cemeteries

	Adult	% of cemetery population	Non-adult	% of cemetery population	Unknown Age	% of cemetery population	Cemetery total
Bloodmoor Hill	14	48.28%	4	13.79%	11	37.93%	29
Cleatham	49	79.03%	12	19.35%	1	1.61%	62
Great Chesterford	86	50.29%	82	47.95%	3	1.75%	171
Lakenheath	123	55.91%	80	36.36%	17	7.73%	220
Morning Thorpe	71	19.61%	14	3.87%	277	76.52%	362
Snape	4	8.33%	3	6.25%	41	85.42%	48
Spong Hill	28	48.28%	3	5.17%	27	46.55%	58
Westgarth Gardens	34	51.52%	18	27.27%	14	21.21%	66
Grand Total	409	40.26%	216	21.26%	391	38.48%	1016

Figure 5.3.2 – Graph showing age divisions across the cemeteries



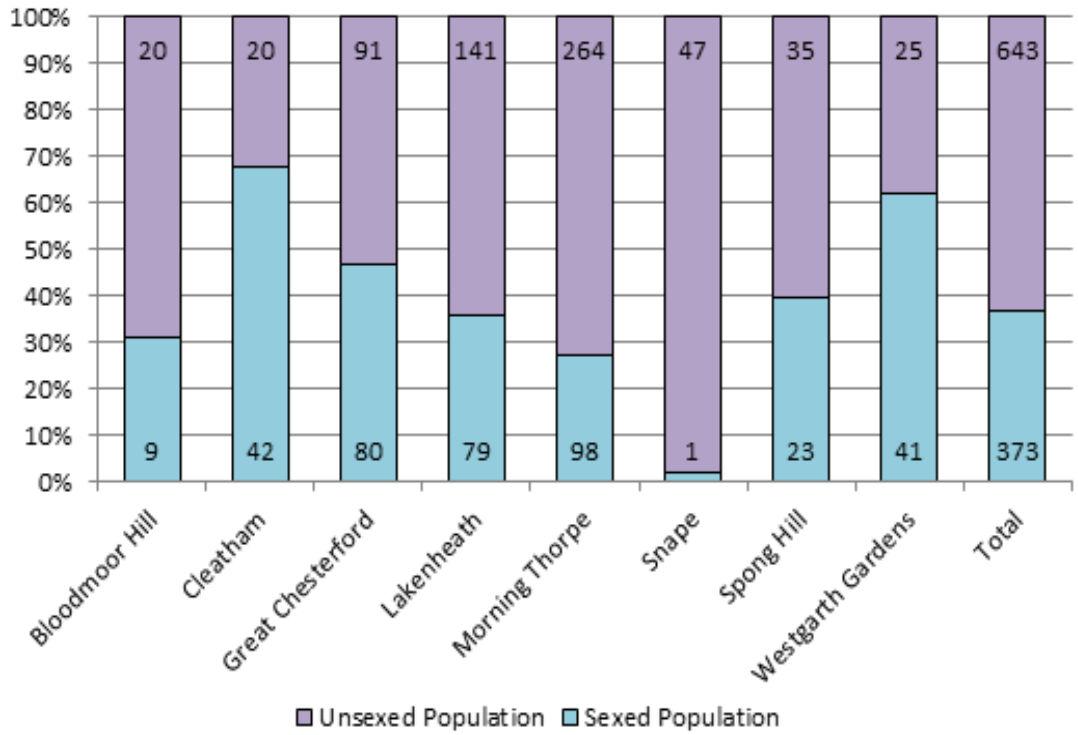
As briefly discussed above, the largest percentage of non-adults from any of the cemeteries was found at Great Chesterford (47.95% of the total population – 82 out of a total of 171 individuals), while adults comprised 50.29% of the population (86 out of 171 individuals). 1.75% of the population (three out of 171 individuals) could not be aged. This high number of non-adults is unusual for early Anglo-Saxon cemeteries, as has been discussed in length in a variety of publications (c.f. Evison 1994, Lucy 1994, Buckberry 2000, Crawford and Shepherd 2007, Lee 2007 and Inskip 2008). Determining the reasons behind this phenomenon has proven very difficult as many scenarios are plausible. The most obvious explanations involve a mixture of high infant mortality rates, cemetery-specific rites and burial conditions that were favourable to the preservation of non-adults. However, if this was the case then it would be expected that the overall preservation levels at the cemetery would

be higher than the other sites. However, the preservation both across and within all eight cemeteries was very variable, and in this Great Chesterford proved to be no exception. Instead, there may be a more unusual explanation for the high proportion of non-adults at Great Chesterford that differentiates this site from the others within the database. This may involve an alternative ritual whereby children were incorporated into the cemetery and not excluded, as is suspected at most Anglo-Saxon burial sites (Lucy 1994, Buckberry 2000 and Crawford 2007). In contrast to this, at the Cleatham site, more adults (as a proportion of total cemetery population) were recovered. This may, in part, explain the lack of multiple burials at the site as these are more commonly associated with non-adult burials in the database (25 out of 41 sexed individuals in multiple burials were aged as non-adults). As suggested above, the absence of multiple burials at Cleatham may be due to the fact that the site was located in Lindsey and not East Anglia which may have practiced alternative burial rites to the other cemeteries. However, an explanation can also be offered that involves the extent of the excavation at the cemetery as the site was not fully uncovered. Therefore, if the non-adult individuals were buried in a part of the cemetery that was not excavated or which had already been destroyed they would be absent from the records. There could be a number of reasons to explain the absence of multiple burials at Cleatham cemetery but it may suggest a site-specific rite. With further research it may be possible to better understand this finding but for the time being it remains no more than a statistical anomaly within this study.

Cemeteries and sex

The data from sexual determinations can also be compared and contrasted on a cemetery level. For instance, the largest sexed populations (over 50%) were found at Cleatham and Westgarth Gardens, perhaps indicating better standards of preservation within the burial environment. A large proportion of unsexed individuals (including adults, non-adults and unaged individuals) were discovered at every site, with the totals from Snape being the highest at 97.92% of the population remaining unsexed. This is due to the low levels of preservation at the cemetery making the recovery of skeletal remains almost impossible and with the majority of human remains being identified through the analysis of body stains (Filmer-Sankey and Pestell 2001).

Figure 5.3.3 – Graph showing the success of sexing across the cemeteries



The largest proportion of individuals who could successfully be sexed from the total cemetery population was found at Cleatham (67.74%), closely followed by Westgarth Gardens (62.12%). This may, in part, be the result of increased levels of preservation or a more thorough osteological examination but may include individuals who were sexed on their assemblage contents without this being made clear in the reports. Although every effort has been made here to remove individuals who have been sexed by any means other than osteological, it is possible that where sex is given in the cemetery report and skeletal remains are present, a decision was made on site to use the assemblage regardless. The author cannot account for instances where this may have happened in the past and without record and can only highlight cases where this is explicitly stated or identifiable. Allowances must be made for the decisions made by excavators in the field and archaeologists making alterations to the record during the post-excavation analysis. This is especially difficult with cemeteries such as Westgarth Gardens, where material culture has been used in instances where osteological examinations could not give definitive sexual information.

Figure 5.3.4 – Table showing the values for sex divisions within the cemeteries

Cemetery	Female	Probable Female	Possible Female	Total Females	Male	Probable Male	Possible Male	Total Males	Total Sexed	Unknown Sex	Grand Total
Bloodmoor Hill	0	0	4	4	1	0	4	5	9	20	29
Cleatham	15	0	3	18	22	0	2	24	42	20	62
Great Chesterford	44	0	0	44	33	2	1	36	80	91	171
Lakenheath	19	0	17	36	24	0	19	43	79	141	220
Morning Thorpe	55	2	6	63	27	3	5	35	98	264	362
Snape	0	0	0	0	0	0	1	1	1	47	48
Spong Hill	16	1	0	17	6	0	0	6	23	35	58
Westgarth Gardens	20	2	0	22	19	0	0	19	41	25	66
Grand Total	169	5	30	204	132	5	32	169	373	643	1016

Figure 5.3.5 – Table showing the percentages for sex divisions within the cemeteries

Cemetery	Female	Probable Female	Possible Female	Females as % of total cemetery population	Male	Probable Male	Possible Male	Males as % of total cemetery population	Sexed individuals as % of cemetery population	Unsexed individuals as % of cemetery population
Bloodmoor Hill	0.00%	0.00%	13.79%	13.79%	3.45%	0.00%	13.79%	17.24%	31.03%	68.97%
Cleatham	24.19%	0.00%	4.84%	29.03%	35.48%	0.00%	3.23%	38.71%	67.74%	32.26%
Great Chesterford	25.73%	0.00%	0.00%	25.73%	19.30%	1.17%	0.58%	21.05%	46.78%	53.22%
Lakenheath	8.64%	0.00%	7.73%	16.36%	10.91%	0.00%	8.64%	19.55%	35.91%	64.09%
Morning Thorpe	15.19%	0.55%	1.66%	17.40%	7.46%	0.83%	1.38%	9.67%	27.07%	72.93%
Snape	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.08%	2.08%	2.08%	97.92%
Spong Hill	27.59%	1.72%	0.00%	29.31%	10.34%	0.00%	0.00%	10.34%	39.66%	60.34%
Westgarth Gardens	30.30%	3.03%	0.00%	33.33%	28.79%	0.00%	0.00%	28.79%	62.12%	37.88%
Grand Total	16.63%	0.49%	2.95%	20.08%	12.99%	0.49%	3.15%	16.63%	36.71%	63.29%

As illustrated above, the individuals from Snape proved the most difficult to identify sexually as 97.92% of the total cemetery population could not be sexed osteologically. Morning Thorpe and Bloodmoor Hill also showed low numbers of sexed individuals with 72.93% and 68.97% of their respective total cemetery populations remaining unsexed. With reference to the sexed populations, the largest percentage of females recorded was from Westgarth Gardens with 33.33% (22 individuals) of the total cemetery population (66 individuals) being deemed definite, probable or possible females. The largest proportion of males was recorded at Cleatham, 24 males out of the total cemetery population of 62, representing 38.71%. The lowest proportion of females was discovered at Snape, where no individuals could be classified as female. Snape also produced the lowest percentage of males within the total cemetery population, with only one male identified, representing 2.08% of the population.

Figure 5.3.6 – Graph showing the sex totals within the cemeteries

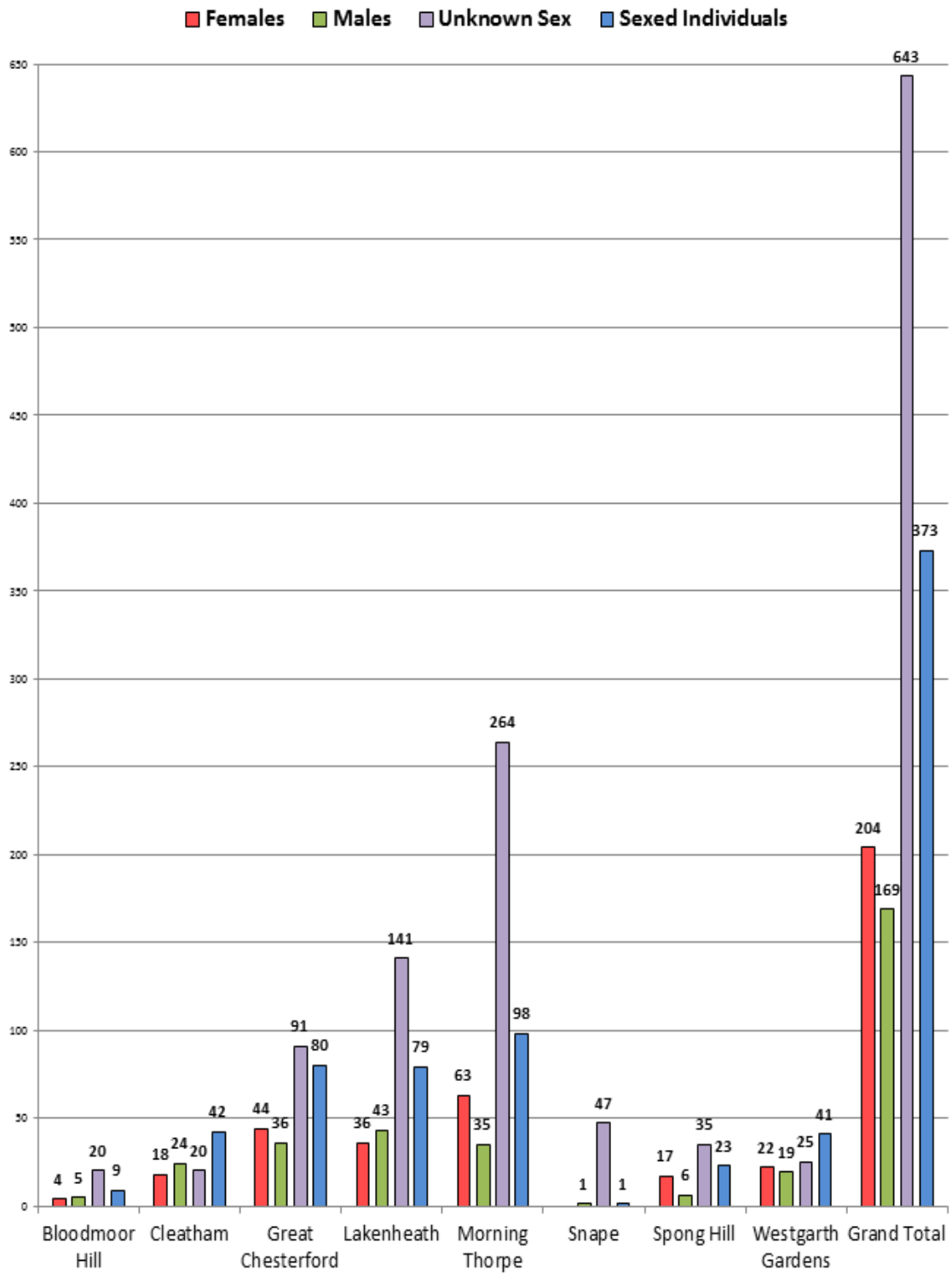
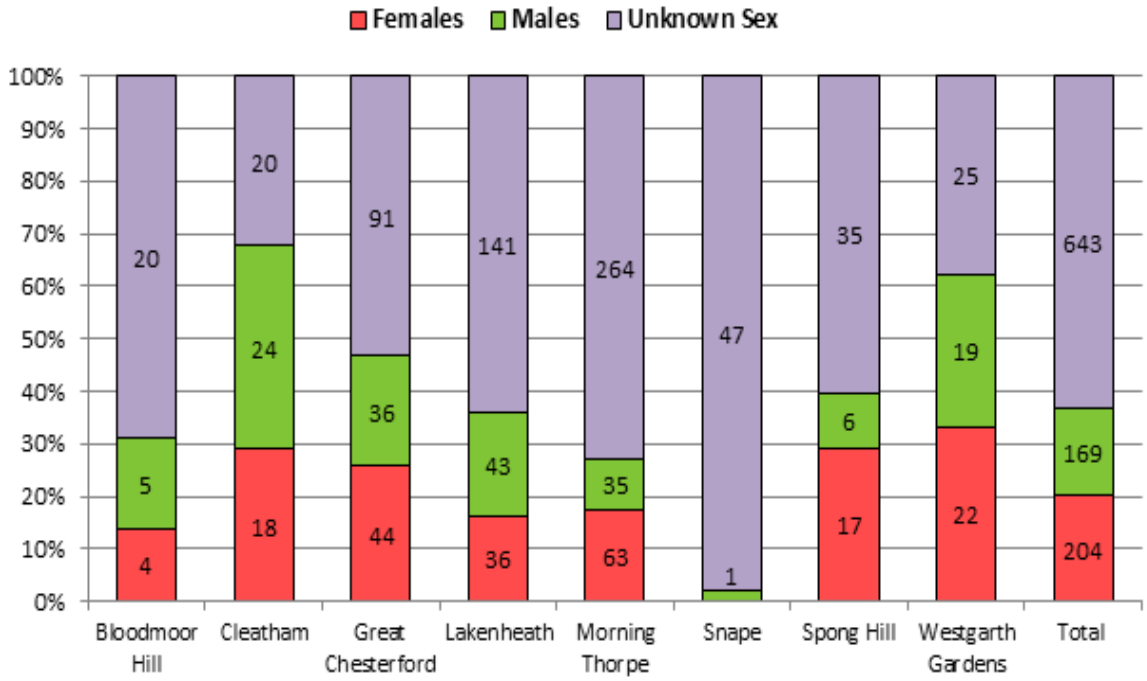


Figure 5.3.7 – Graph showing the divisions of sex within the cemeteries



Sex ratios and associations with burial attributes

The comparison of burial attributes between the sexes produced a collection of interesting results from statistical tests. A Chi-Square test was conducted to determine whether any of the totals for males and females at the cemeteries were statistically significant. The results (P values) can be found in Figure 5.3.8 below. Snape was, however, removed from this test as the numbers of sexed individuals were too low to give valid outcomes (<1 for observed and expected totals). Nonetheless, at two sites, a considerable difference exists between the totals for the sexes within the populations. The first site, Morning Thorpe, has a very high female population in comparison to the number of males recovered, which is very statistically significant. It is difficult to determine whether this statistic was due to a sex differential within the cemetery community, poor preservation of male skeletons, or whether there may perhaps have been an alternative location for some male

burials. The second site, Spong Hill, recorded the same inequality with a statistically significant high female population when compared to the male total. Interestingly, the difference between the sex totals at these sites is also reflected in the statistics taken for the sexed individuals found with grave goods. This may be indicative of the burying community's rites or may simply be the result of the inconsistent preservation between different types of grave goods associated with particular sexes in each of the cemeteries.

Figure 5.3.8 – Table showing results for Chi-square test of statistical significance for sex totals (excluding Snape)

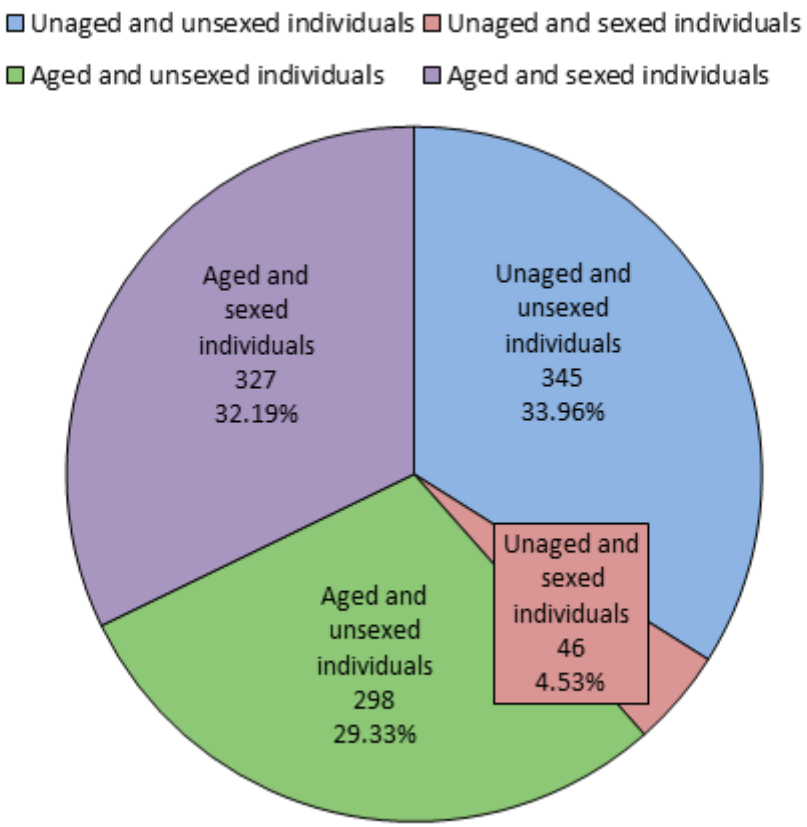
Cemetery	Two-tailed P value	Statistically significant
Bloodmoor Hill	0.7389	**Not**
Cleatham	0.3545	**Not**
Great Chesterford	0.2383	**Not**
Lakenheath	0.431	**Not**
Morning Thorpe	0.0047	**Very**
Spong Hill	0.0218	**Yes**
Westgarth Gardens	0.7576	**Not**
Grand Total	**0.0620**	**Not quite**
Totals excluding Morning Thorpe	**0.6289**	**Not**

Sexes within age categories and Ages within sex categories

This section combines the age and sex data from the database in order to identify the burials that provide the optimum amount of information for further analysis. The quality of information has been determined by the extent to which burials could be aged and sexed skeletally, thereby indicating a higher level of preservation or skeleton completeness. The database suggests that individuals in the study population were more likely to be assigned an age than a sexual category. This may relate to the broad categories of age used here, based upon a generally rather straightforward identification of skeletal maturity. By contrast, the determination of sex or the estimation of a more defined age range is usually more difficult as more variables are involved (as discussed in Chapter 4).

Of the 1016 individuals in the database, age alone could be assigned to 298 individuals, whereas sex alone could be assigned to only 46 individuals. Of the 671 individuals remaining, 625 could be assigned an age category whereas only 373 individuals could be attributed sex. Of the 625 individuals assigned an age, a crucial 327 individuals could be also be accorded a sex (as seen in Figure 5.3.9).

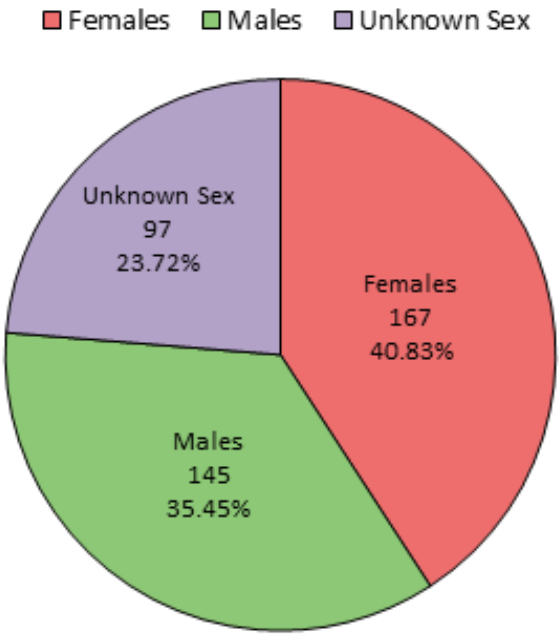
Figure 5.3.9 – Graph showing success of ageing and sexing across the database



It was possible to assign an age and definite sex to 25.79% of total database population which included 262 individuals. Of these, 136 were female adults and 112 were male adults (249 total). Therefore, the remaining 13 individuals were aged as non-adults and assigned a definite sex category. In order to provide a clearer image of the age statistics among the sexed population, it is necessary to break down the figures into three broad groups consisting of the age categories of adult, non-adult and unknown age. However, they do include those individuals sexed as possible and probable males and females along with the definite sexed categories (total 373 individuals could be sexed). Firstly, of the 409 adults recovered, 167 were sexed as female (136 definite females, three probable females and 28 possible females), 145

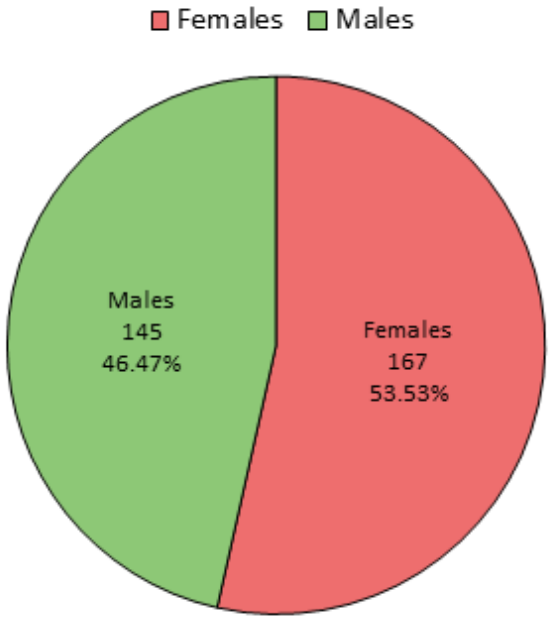
were sexed as male (113 definite males, two probable males and 30 possible males), leaving 97 adults who could not be sexed (seen in Figures 5.3.10 – 5.3.13).

Figure 5.3.10 – Graph showing sex divisions within the adult population



Overall, 40.83% of the total adult population was sexed as female with 33.25% being classified as 'definite' females. 35.45% of the total adult population was sexed as male and 27.63% were categorised as 'definite' males. The remaining percentage of the total adult population – 23.72% – consisted of individuals who could not be accorded a sexual identity. In contrast to the adult population, 93.06% of non-adults could not be assigned a sex (201 out of 216). Only nine (4.17%) non-adults were sexed as female, and six (2.78%) non-adults were identified as male.

Figure 5.3.11 – Graph showing male and female proportions within the sexed adult population



The next step is to identify what percentage of the sexed population was assigned an age category. In respect to the total 'female' population (including 'probable' and 'possible' females), 81.86% (167 individuals) were aged as adult. 4.41% were identified as non-adults (9 individuals) and 13.73% of females were not assigned an age in the cemetery reports (28 individuals). Analogous results are found when analysing the male population. 85.80% (145 individuals) of the total male population (including 'probable' and 'possible' males) were categorised as adults, while 3.55% (6 males) were in the non-adult group. 10.65% (18 males) could not be assigned an age.

Figure 5.3.12 – Graph showing divisions of certainty within the female adult population

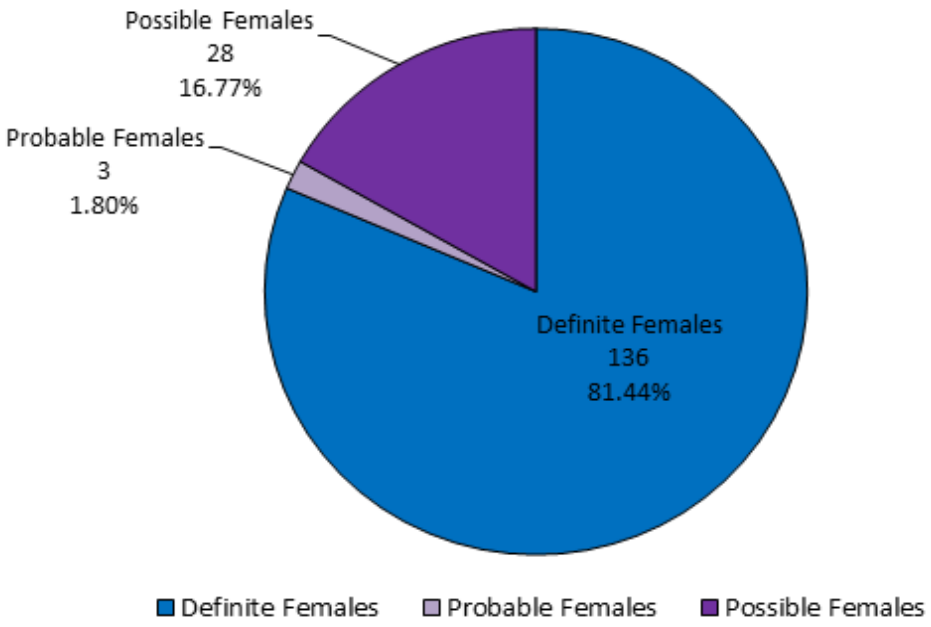
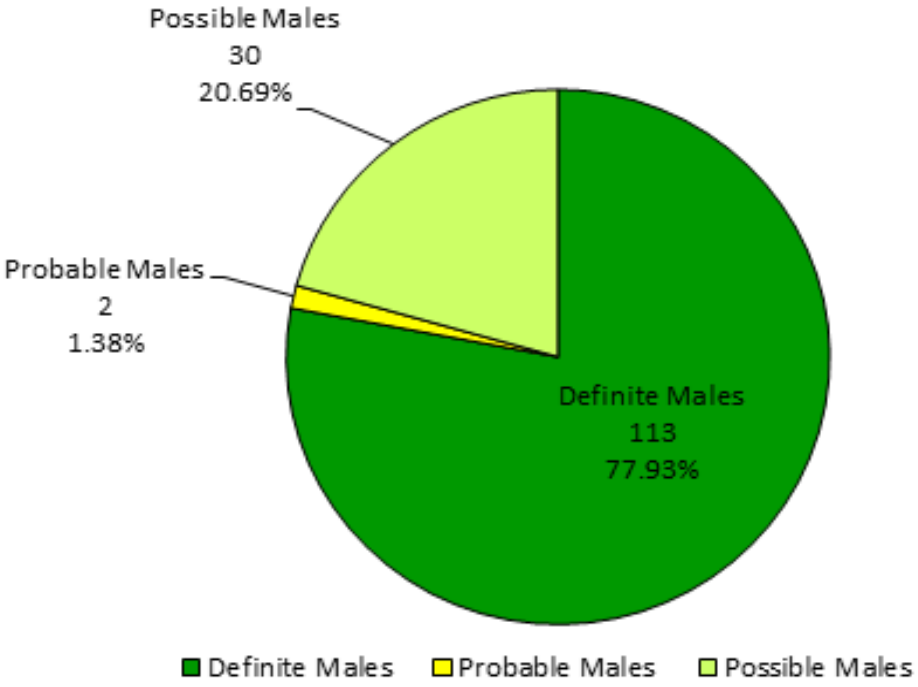


Figure 5.3.13 – Graph showing divisions of certainty within the male adult population

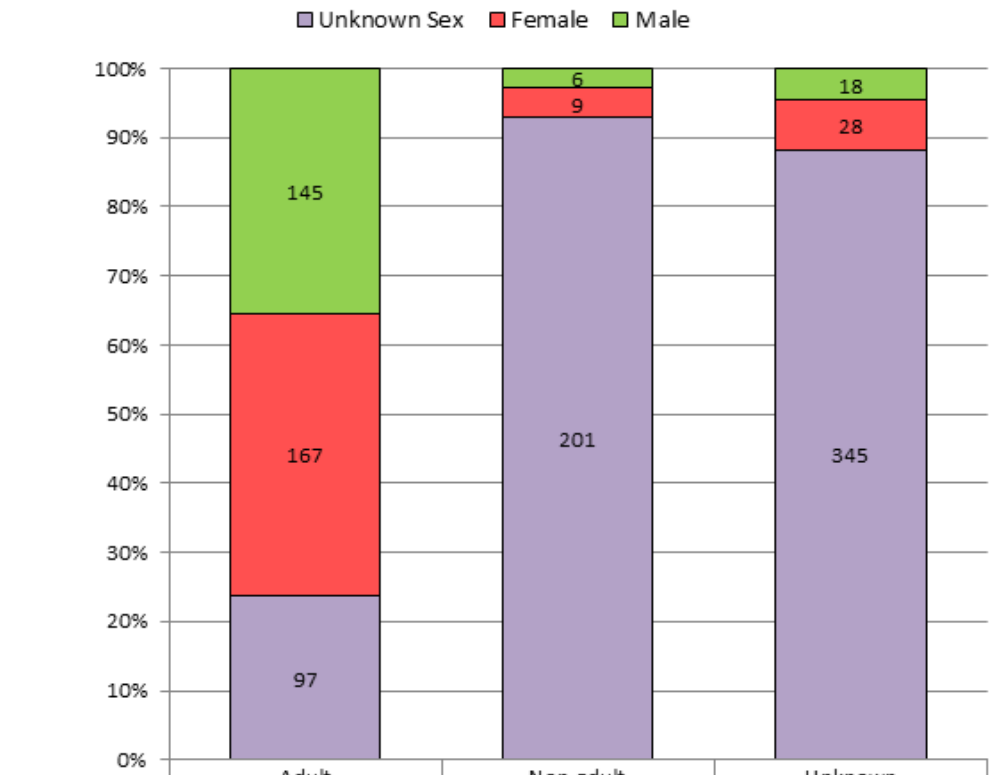


These statistics offer an insight into the effect of degradation on skeletal remains. It is accepted that the better preserved and more complete a skeleton is, the more informative it can be in terms of osteological analysis. It is a logical conclusion that if a skeleton can be assigned sex it is then more likely also to be assigned an age group and vice versa. Therefore, it might be expected that very few individuals within the database could be assessed for both age and sex. 373 individuals from the database could be sexually identified, and of this number 87.67% (327 individuals) could also be aged. In contrast, only 52.32% of the aged population of 625 individuals could be assigned a sex.

In order to examine this further, it is necessary to identify the proportion of the aged population that could be given a definite sex. Of the 625 individuals within the database that were assigned an age category, 262 (41.92%) were identified as 'definite' males and females. This equates to 87.04% of the 301 'definite' males and females that could be aged successfully. Thus, only 39 'definite' males and females could not be aged. Therefore, those individuals who could be assigned a definite sex were more likely to have also been aged, but aged individuals were not as likely to have been accorded sex. This is an understandable set of results, which demonstrates the comparative ease of assigning age to a skeleton because of visual anthroprometric dimensions and the likelihood that fewer bones are needed to make age assessment than sexual assessment. This also highlights the fact that sexing skeletal remains that have not reached maturity is much more difficult than assigning the label of 'non-adult' (see Chapter 4). In contrast to the adult population, only a few non-adults could be sexed (see Figure 5.3.14). Of the total 216 non-adults in the database, 201 could not be assigned a sex (93.06% of total non-adults). Of the

remaining 15, six were classified as males (five definite male non-adults and one possible male non-adult) and nine were females (eight definite female non-adults and one probable female non-adult). As discussed previously, it has been argued by many professionals (see Bass 2005 and Byers 2005) that the reliability of sex determination is subjective to the condition and extent of the remains recovered. This becomes even more apparent where non-adult individuals are concerned (Geller 2005). Attributing sex to non-adult skeletal remains is a very difficult task as the markers used to differentiate the sexes are usually tied to skeletal development. It is therefore easy to appreciate why only 6.94% of non-adults could be assigned a sexual category.

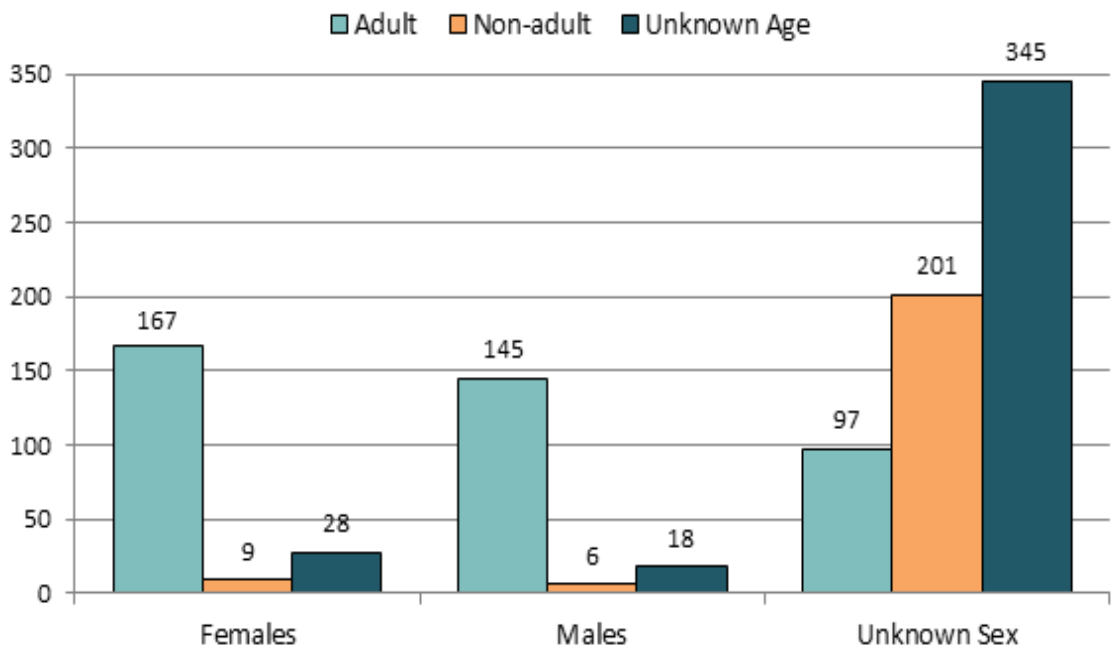
Figure 5.3.14 – Graph showing sex categories within age groups



	Adult	Non-adult	Unknown
Male	145	6	18
Female	167	9	28
Unknown Sex	97	201	345

Individuals of unknown age can also be broken down into categories of sexual determination (see Figure 5.3.15). 391 individuals could not be aged. Of these, only 46 were assigned a sex category, as 345 individuals could not be sexed (88.24% of individuals of unknown age). 25 definite females and 14 definite males were recovered and could not be aged. One probable female, three probable males, two possible females and one possible male, could all be sexed but could not be assigned an age category. Although 53.65% of the unsexed population could not be aged (345 out of 643 individuals), only 11.76% of the unaged population could be sexed (46 out of 391 individuals).

Figure 5.3.15 – Graph showing sex and age totals



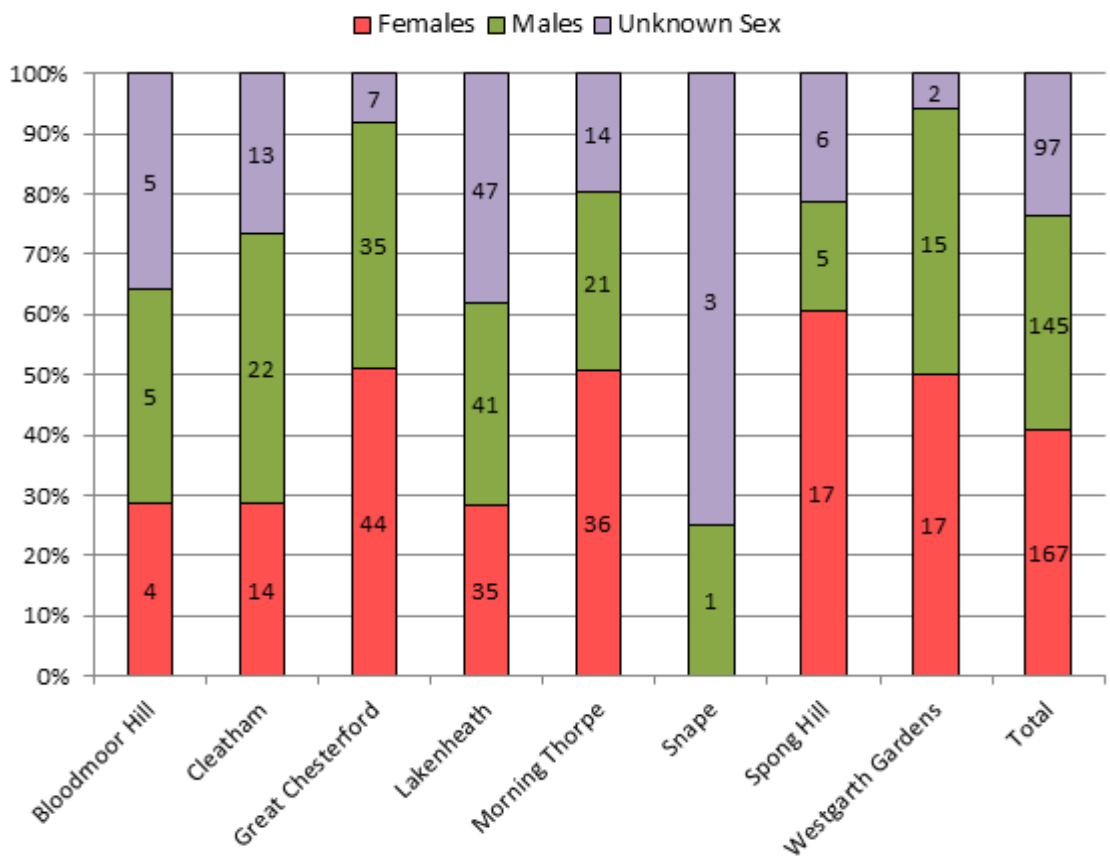
Age and sex categories across the cemeteries

In this section the demography of the eight cemeteries is broken down and examined in terms of assigned age and sex. This provides a clearer understanding of the demographics of each of the cemeteries and an insight into the levels of preservation and completeness recorded at the sites.

262 individuals were categorised with a definite age and sex. This accounts for 25.79% of the total database and is spread across all the cemetery sites except for Snape, where no individuals could be assigned both a definite age and sex. The highest proportions of the cemetery populations with individuals of definite age and sex were found at Cleatham (59.68%) and Great Chesterford (45.03%). Aside from Snape, Bloodmoor Hill showed the lowest proportion for definite age and sex: here, the single definite adult male represents 3.45% of the cemetery total (a comparison can be made between these statistics and the totals with all definite, probable and possible sexes and seen in Figure 5.3.16 below).

Due to the varying levels of preservation across the entire population studied, it is necessary to analyse statistics for definite sex divisions from adult remains only as these provide the clearest osteological information. As such, those who were not definitively sexed and aged are not considered here. An analysis of the sexed adult population gives a much narrower set of results, and when subject to a Chi Square test the results were deemed to not be statistically significant between the two sexes. Therefore, although several cemeteries show considerable variation between the male and female populations (such as Spong Hill with 77.27% of the total adult population being sexed as female and 22.73% sexed as male) this anomaly is absorbed by the overall statistics.

Figure 5.3.16 – Graph showing sex categories within the adult population



In terms of statistical significance, the sex divisions were tested using the Chi Square approach to determine any anomalies within the data. This was implemented using a null hypothesis that stated that the number of males and females within a population should be approximately equal. This is not to suggest that every society should have equal sex populations or that the human remains analysed can be used as a representative sample of the demography of the community to which they belonged. This statistical test is not employed to make judgements on the demography of the cemetery sites but instead to concentrate on the difference in recovery between the sexes. This will be used to determine if there is any link between preservation and bone survival rates and sexual division. However, as indicated previously, there is no reason to believe that the numbers of male and

females were ever equal or even similar. Instead this is a test to determine whether any reasons behind the difference in totals can be associated with a particular practice, condition or burial attribute.

The use of Chi Square analysis reveals that overall the sex totals for the database show a 'not quite' statistically significant difference between the male and female populations. However, this data is skewed by the Morning Thorpe and Spong Hill cemeteries, which show a statistically significant set of values for the population numbers between the sexes. Morning Thorpe in particular shows a very significant result when comparing the female to male ratio of 63:35 ($p = 0.0047$). If the values for Morning Thorpe are removed, the overall result for the database changes to 'not significant' (see Figure 5.3.8). It must be noted that although the totals from Spong Hill reveal a statistically significant result, unlike Morning Thorpe they do not colour the remainder of the statistics. This is because Morning Thorpe has a substantially larger cemetery population than Spong Hill (362:58) and so its influence on the data is correspondingly greater, as will be discussed further below.

Burial attributes

This section incorporates an analysis of grave good types as well as alternative burial features such as flexure, body placement, grave goods and orientation. These burial attributes are analysed with reference to cemetery totals, age and sex. Any correlations or anomalies identified within the data are noted and special attention is paid to the aged and sexed populations, as these carry the most complete osteological evidence.

Flexure

Flexure and body position relate to the placement of human remains within the grave. Flexure describes how the body is bent or extended within the grave. There are several variations within this category, ranging from extended to crouched. A body laid out in an 'extended' flexure is straight and at its fullest length, whereas a 'crouched' burial is tightly flexed with knees high. The category of 'flexed' relates to body positions in between these two extremes. For example, where the upper body is extended but bent at the knees, or where the body tilts from the waist (for a detailed summary of flexure positions see Reynolds 2009). In some instances it is much easier to decipher the lie of the body where identifiable grave goods are placed in particular areas of the grave. For example, brooches and wrist clasps give a general and assumed pattern of placement and flexure around which the body can be estimated.

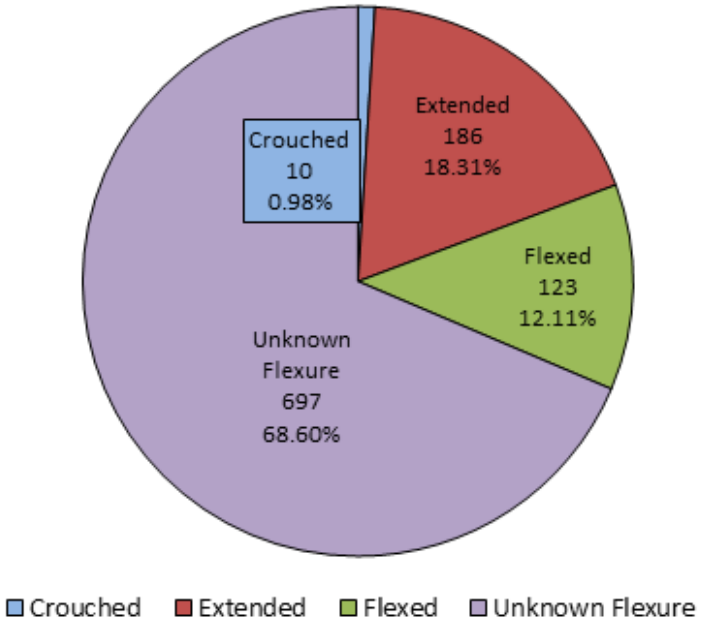
The initial statistics indicate that of the 1016 individuals, only 319 (31.40%) could be assigned a body flexure. The flexure of the remaining 697 individuals could not be determined. As seen in the table below (Figure 5.4.1), extended flexure was the most commonly recorded in the database whereas crouched burial was the least

popular. It is widely accepted that, in terms of flexure, crouched burials are the most rare form that are encountered in Anglo-Saxon cemeteries (Reynolds 2009). Only 10 cases were recorded in the database and it was classified as the least likely flexure type across all variables. As discussed in the next chapter, crouched burial has been associated with a continuation of native Romano-British funerary rites but it may also be indicative of the disrespectful and hasty treatment of human remains (Reynolds 2009). It is for this reason that crouched burial will be classified as atypical flexure in the database and used as a parameter when determining 'deviant' behaviour. Of the 10 individuals found in this position, all were accorded age, and sex could be determined for six of them (of which all were classified as female). The evidence may suggest that this position may be indicative of a rite passed to a specific type of person such as the hypothesised 'cunning women' as discussed by Meaney (1989; see also discussion in Chapter 6).

Figure 5.4.1 – Table showing flexure types across the database

Flexure Type	Total number of individuals	Percentage within total database	Percentage of population with identifiable flexure
Extended	186	18.31%	58.31%
Flexed	123	12.11%	38.56%
Crouched	10	0.98%	3.13%

Figure 5.4.2 – Graph showing flexure types across the database



Flexure and cemeteries

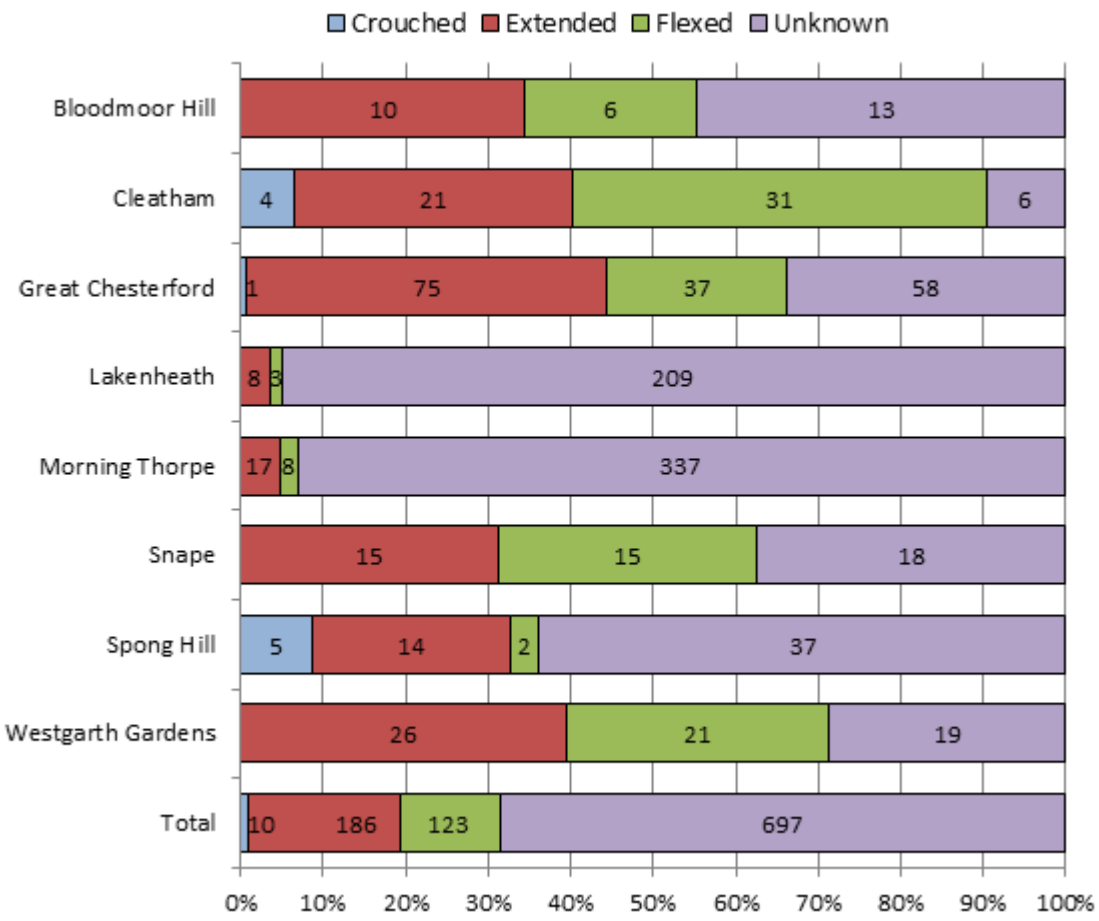
The figures calculated from the flexure totals within the cemeteries vary substantially between each of the sites. For example, the cemetery with the largest proportion of the population recovered with an identifiable flexure was Cleatham (56 out of 62 – 90.32% of the population). Lakenheath and Morning Thorpe presented very different results, with only 5.00% and 6.91% of the total number of individuals having an identifiable flexure position respectively. The average percentage for the database population with identifiable flexure was 31.40%, and Spong Hill provided a result nearest to the average at 36.21%. The remaining four cemeteries sat between 55.71% and 71.21% of total population having definable flexure.

A flexure profile can be created for each of the cemetery sites within the database (see Figure 5.4.3 below). The most popular flexure type that could be identified across the database involved the extension of the body. 186 individuals in total were laid in an extended position and representative burials were found in all

eight cemeteries. Great Chesterford contained the highest proportion of the cemetery population in an extended position at 43.86% (75 out of 171). Interestingly, the 10 crouched skeletons were spread across only three cemeteries. Cleatham held four crouched individuals, one was found at Great Chesterford and five crouched sets of remains were recovered from Spong Hill.

123 individuals from all eight cemeteries were discovered in a flexed position. Cleatham presented the largest number of flexed individuals as a proportion of the total cemetery population at exactly 50.00% (31 out of 62). In terms of the population that could be assigned a sex at Cleatham, more individuals were found flexed than extended. This is unlike any of the other cemeteries in the analysis and 'it would seem, on the basis of the admittedly small number of graves from Cleatham, that while certain body positions were favoured by some sections of the community, they were not used exclusively' (Leahy 2007a: 56). Although it is tempting to attribute this flexure preference to the fact that Cleatham is located in Lindsey, additional cemetery data from the region does not support the theory. For instance, whereas at Cleatham it is predominantly adults who were recovered in a flexed position, this was 'most commonly used for children' at Castledyke South, with adults mainly being laid extended (Leahy 2007b: 71). This proclivity for flexed burial has been associated with Celtic influences even though many of the inhumations date to the 'seventh, not the fifth century' (Leahy 2007b: 71). It may be, instead, that the decisions made at Cleatham indicate a cemetery specific rite that saw the majority of adults being laid flexed within their graves regardless of the practices being followed elsewhere.

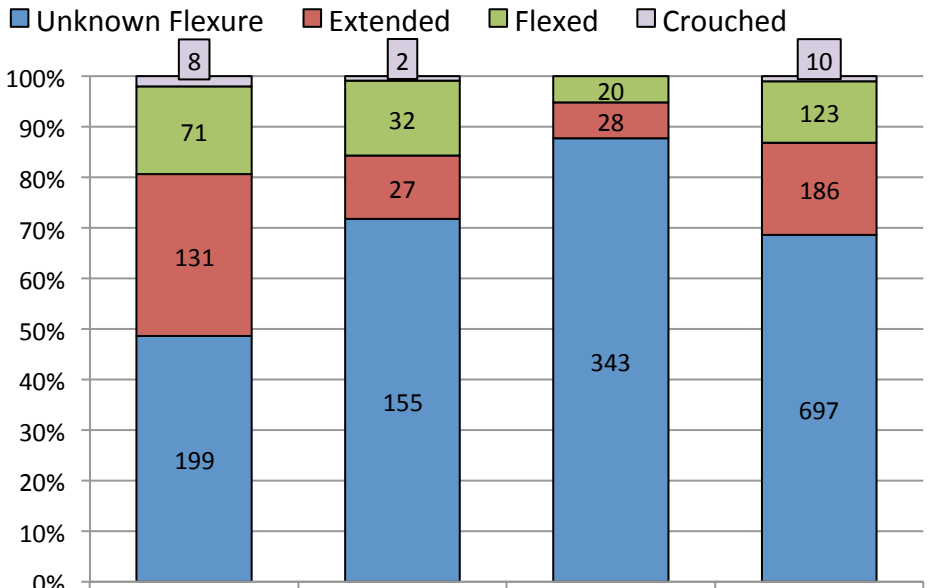
Figure 5.4.3 – Graph showing flexure types across the cemeteries



Flexure and age

The 319 individuals with identifiable flexure can be divided into age groups. The total comprises of 210 adults (65.83%), 61 non-adults (19.12%) and 48 unaged individuals (15.05%). Overall, 84.95% (271) of the total number of individuals with definable flexure could be aged. The proportions of the different flexure types within the age groups can be seen in Figure 5.4.4 below.

Figure 5.4.4 – Graph showing flexure types across the age groups



	Adult	Non-adult	Unknown age	Total
Crouched	8	2	0	10
Flexed	71	32	20	123
Extended	131	27	28	186
Unknown Flexure	199	155	343	697

Unlike the adult population, flexed positions were marginally the most common type of flexure for the 61 non-adults noted above. 32 out of the 61 non-adults were classified as 'flexed' within their grave (52.46%). 27 non-adults were categorised as 'extended', representing 44.26% of the 61 non-adults with identifiable flexure and 14.52% of the total number of individuals classified as 'extended'. Two non-adults were recorded in the total of 10 crouched inhumations.

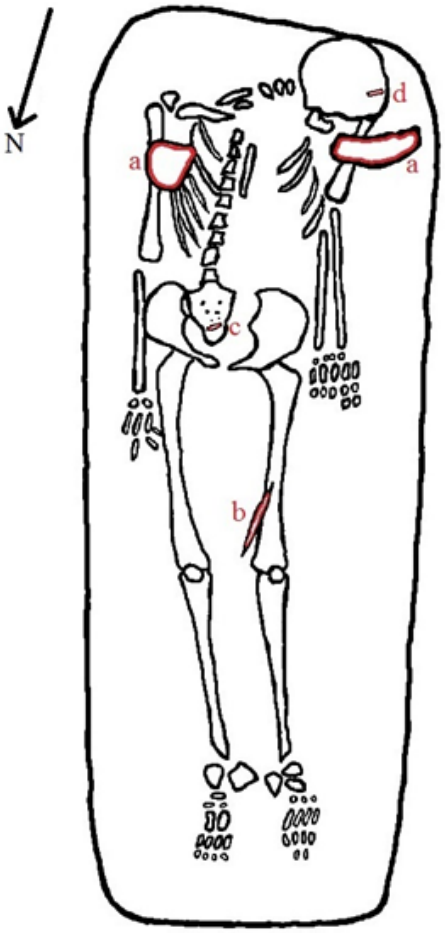
Although the difference in extended and flexed totals within the aged groups does not qualify as statistically significant (P value of 0.1690 from a Fisher's Exact Test), the proportions do show that a higher number of non-adults were buried in flexed positions than extended positions. Certain theories exist as to why this may have occurred, including a possible lower status of non-adults (Pader 1982) and a tendency to lie non-adults in foetal position as a representation of rebirth after death

(Binford 1972). The database can be used to test this theory by using the filters for flexed individuals as well as adding the placement of the body on either the left or right sides (imitating the foetal position). The totals here do show a statistically significant relationship between non-adults lying flexed and on their sides when compared to adults in the same position (P value of 0.0111 from a Fisher's Exact Test). This may have been a show of sentimentality for the loss of a child with a placement for that individual that is reminiscent of sleep and not death, as suggested of this practice in the later medieval period by Gilchrist and Sloane (2005).

This is a curious set of statistics when considering the grave length required to bury adults and non-adults. It is interesting that non-adults, the smallest members of society in terms of their height and stature, were flexed into an even smaller position within their graves, even when there was space to have laid them out in an extended position. Alternatively, it seems many of the taller adults in the database were found extended, indicating a potential need to adhere to these age-assigned flexures in certain cases. Additional evidence from the database substantiates this theory, as several graves were found which included adults who had had their skulls propped up at the end of the grave. Therefore, instead of flexing the legs to shorten the body length, individuals such as those from Graves 80 and 152 at Great Chesterford had their necks bent and the head tilted. The skeleton recovered from Grave 80 was found in such as position that the head and shoulders had been propped up to the extent 'that the left humerus was almost vertical' (Evison 1994: 103). Alternatively, the individual found in Grave 84 at Great Chesterford was also recovered with the skull found propped up against the end of the grave but was

flexed and not extended. From the grave plans reproduced below, it is possible to see the difference in these depositions.

Figure 5.4.5 – Plan of Great Chesterford Grave 80 (After Evison 1994: 197)



SCALE NOT AVAILABLE

Great Chesterford Grave 80	
a	Black potsherds
b	Knife
c	Nail
d	Nail

Figure 5.4.6 – Plan of Great Chesterford Grave 84 (After Evison 1994: 197)

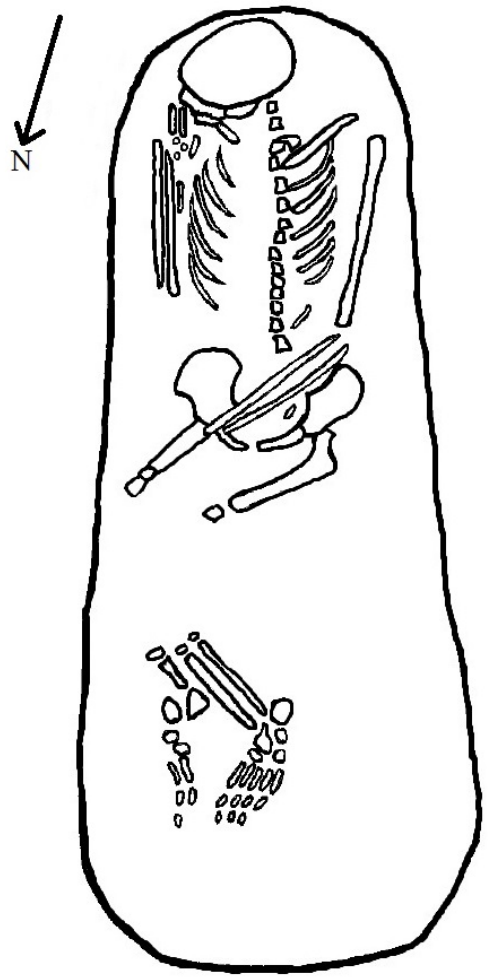
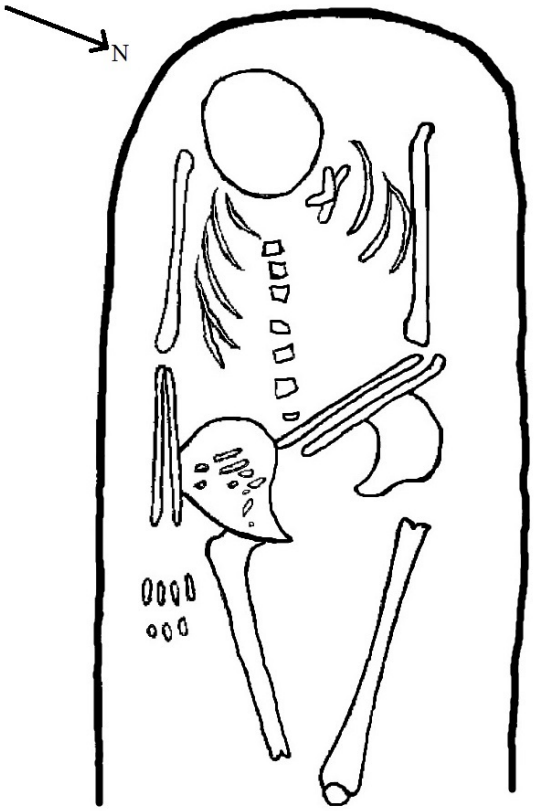


Figure 5.4.7 – Plan of Great Chesterford Grave 152 (After Evison 1994: 204)



SCALE NOT AVAILABLE

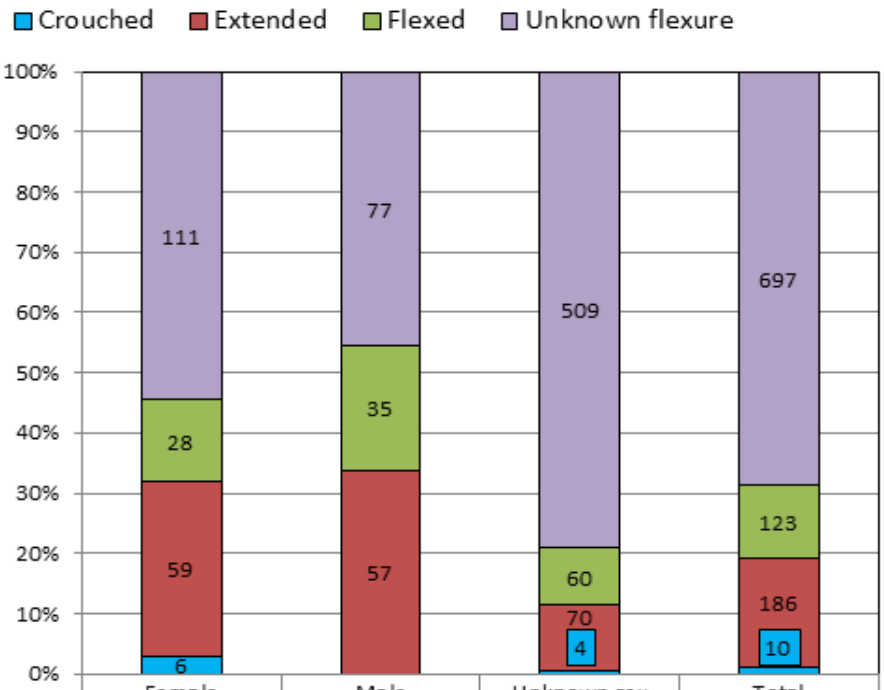
It must be highlighted here, however, that many possibilities exist to explain body placements that are non-intentional, such as rolling or throwing into the grave. Regardless, the act of positioning the head of the deceased at such an acute angle makes it appear to be a forced and intended pose. The vacant space at the foot of the graves should also be considered, for the body in Grave 80 could have been laid out fully extended without having needed to be squashed to such an extent at the head end. There are obviously conditions which may have restricted this, such as the laying of food or other organic material at the foot of the grave. As mentioned above, comparable to Graves 80 and 152 at Great Chesterford, Grave 84 also included an individual who had been squashed up at the head of the burial. Unlike the two

previously discussed graves however, this individual was found in a flexed position. Although the grave was nine inches (22.86cm) shorter than Grave 80, space remained at the foot of the grave which would have allowed the body to be positioned without the manipulation of the neck and head. It is very possible that certain preferences were made for particular inhumations for a variety of reasons. The graves with this unusual placement were not confined to one area, making it all the more likely that this practice may have been individual-specific. It is also reasonable that this attitude was employed to add an element of life to the deceased as the individual would have had more of an active pose, head facing forwards instead of skyward. Although these positions could be interpreted as a result of carelessness in positioning the corpse, the possibility that the deceased were intentionally posed in this manner cannot be ruled out.

Flexure and sex

In terms of flexure, the statistics produced a very balanced set of results. 319 individuals could be categorised with a type of flexure within the database. Of these 319 individuals, 93 were sexed as female (29.15%), 92 sexed as male (28.84%) and 134 individuals could not be sexed (42.01%). 185 out of 373 individuals (50.00%) of the total sexed population were assigned a flexure type. Similar percentages were discovered for the separate sex divisions with flexure, 45.59% of females and 54.44% of males.

Figure 5.4.8 – Graph showing flexure types across the sexes



	Female	Male	Unknown sex	Total
Unknown flexure	111	77	509	697
Flexed	28	35	60	123
Extended	59	57	70	186
Crouched	6	0	4	10

Of the 186 individuals who were categorised as in an 'extended' position, the split between male, female and unsexed totals was almost equal. 59 females (31.72%), 57 males (30.65%) and 70 unsexed individuals (37.63%) were found extended. Alternatively, the totals for the 10 crouched individuals found within the database were only divided between six females and four individuals of unknown sex. Flexed positions were identified in 123 cases and divided across all three sexual classifications. 28 females (22.76%) and 35 males (28.46%) were discovered flexed, as well as 60 unsexed individuals (48.78%). 697 individuals had an indeterminable flexure type and of these 111 were female, 77 were sexed as male and 509 were of unknown sex. Although the results showed a larger proportion of males being

assigned flexure than females, the Fisher's Exact Test was used to determine if flexure was more likely to be assigned to one sex over the other and the P value generated equalled $0.09\dot{6}$, indicating no statistical significance. This intimates that the likelihood of being accorded flexure was not affected by sex. This test was also applied to flexure type within the sexed population and the result was similar. The P value in this case was calculated at 0.02993 which revealed no correlation between flexure type and sex category.

While these results imply that there was no link between an individual's sex and the position of their body within the grave, this finding nonetheless has some interesting implications for the discussion of body flexure. In support of the hypothesis presented above, this result implies that an individual's flexure may have been more influenced, at least in some instances, by their age at death.

Flexure and grave goods

81.19% of all individuals with definable flexure were also found with grave goods (259 out of a total of 319). 31.43% (259 out of 824 individuals) of the population found with accompanying grave goods could be assigned a flexure position and within the population found alongside a grave assemblage, the most popular flexure type was 'extended' which was identified in 57.14% of cases (148 out of a total of 259). When subjected to Fisher's Exact test, however, the results were deemed not to be statistically significant (P value = 0.761), thereby indicating that no flexure type was more likely than another to be associated with the presence of grave goods within a burial. In light of these results, it may be worth repeating this test in the future with data from cemeteries that feature a more complete material record for the

population. This may highlight any potential links between body flexure and the inclusion of certain types of material culture within a burial.

Flexure and orientation

Flexure could be accorded to 319 individuals and within this total 314 could also be assigned an orientation. This 98.43% proportion of the population with a known flexure and orientation can be deconstructed in term of flexure type. In total, of the individuals found with identifiable orientation, 183 individuals were found lying extended, 121 individuals were recovered in a flexed state and the 10 remaining individuals were found crouched.

A One Way ANOVA test was conducted to examine whether the mean angle of orientation within the groups of flexure types would show a relationship. The Pr(>f) value was calculated at 0.0564 which indicated that no correlation existed between flexure type and orientation.

Flexure and body placement

Although body placement will be discussed below, it is necessary here to note the relationship between flexure and the lie of the body, given that a high proportion of individuals were accorded both traits. Of the 319 individuals with determinable flexure, 272 individuals could also be assigned a body placement. This amounts to 85.27% of the total population with a known flexure and 97.84% of all individuals with a known body placement (278 individuals). The most common combination within these totals involved the full extension of the body whilst being laid on the back (supine). 148 individuals were recovered in this position, which accounts for 14.57% of the total database population and 54.41% of all individuals found with

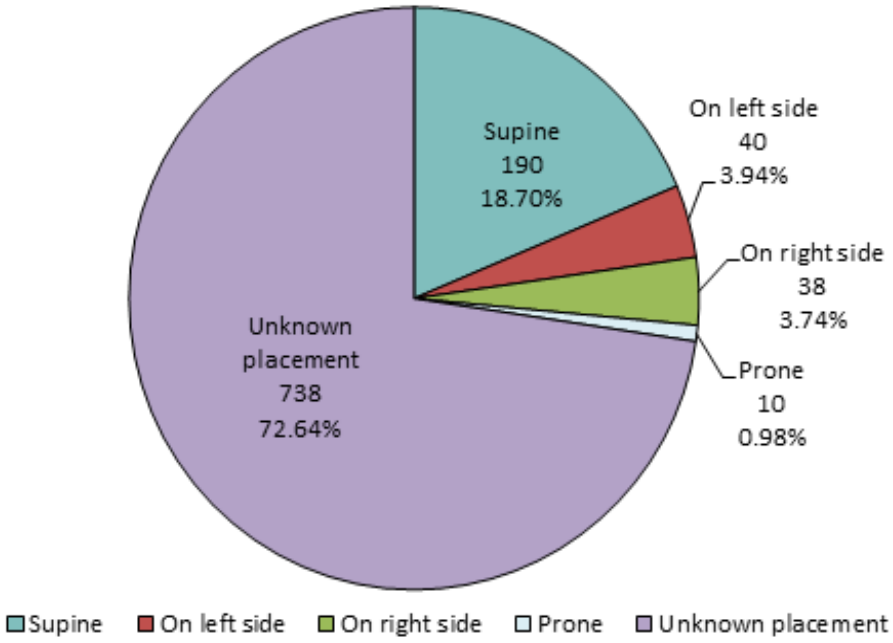
both recognisable flexure and body placement. This figure suggests that it was more common for an individual to be accorded a flexure position than to be assigned a type of body placement. This may be related to the poor levels of preservation at many of the sites whereby it was probably easier to determine that a skeleton had been laid outstretched in an extended state than to establish which side the individual was lying on. It may also be the case that excavators may have only focused on flexure and deemed body placement as being less important information.

Body placement

Body placement – the lie of the body within the grave – is closely associated with flexure. Body placement is predominantly focused on the side on which the body was placed; this includes prone (face down), supine (face up) or on the left or right sides. 738 individuals out of the total population of 1016 could not be assigned a definitive body placement. The remaining 278 individuals were assigned a body placement category of either supine, prone, left or right side. The most common placement category within the database was 'supine'. 190 of the 278 total number of individuals with identifiable body placement were supine. This represents 18.70% of the complete database population. Almost balanced results were recorded for left and right side placements. 40 individuals were found placed on their left side whereas 38 were recovered on their right side. Conversely, only 10 individuals were found prone; lying face down within their grave.

Prone burial has been interpreted as an indicator of the mistreatment of human remains, especially with reference to societal outcasts and criminals (Reynolds 2009). It is probably reasonable to suggest that where an individual is found face down in a grave the decision may not have been made out of care for the deceased. Although rare within this dataset, it can generally be used as a marker for atypical burial and 'deviance' and has been discussed in the following chapter.

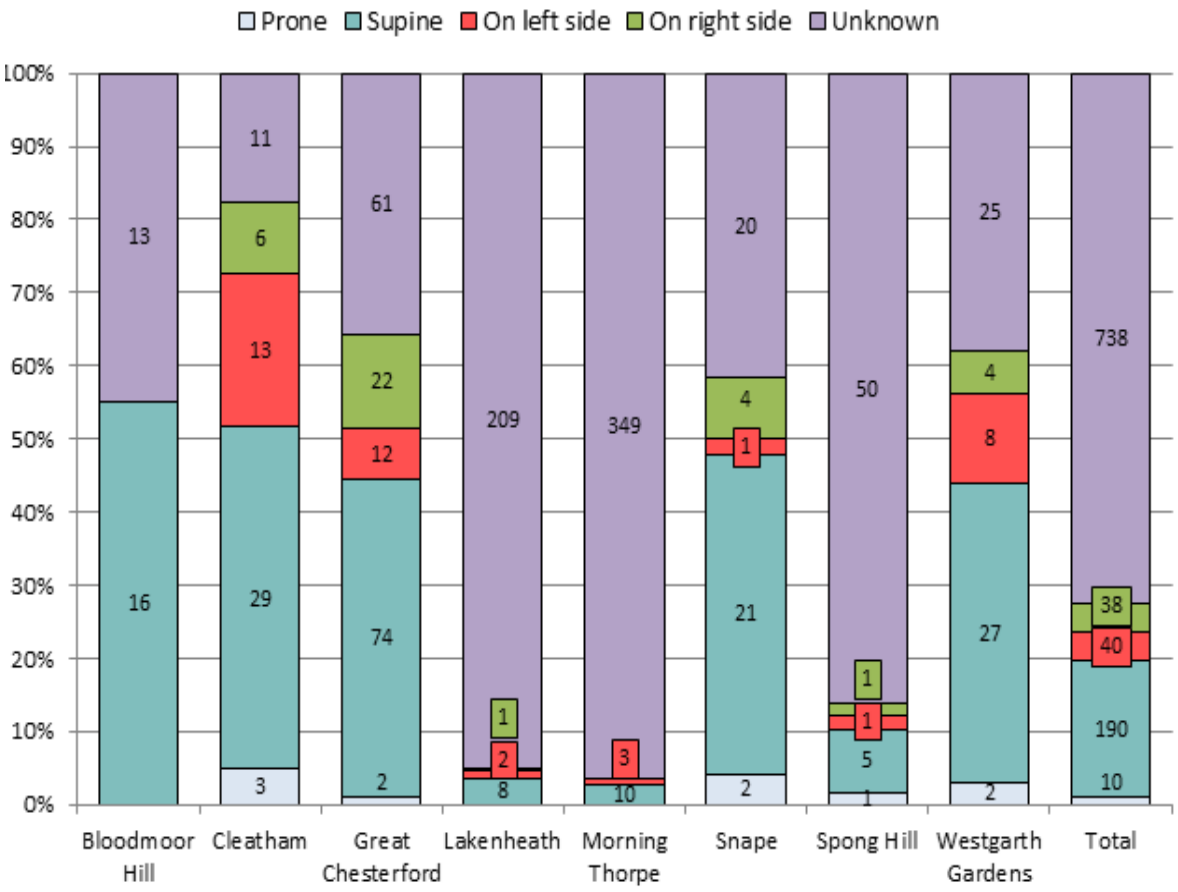
Figure 5.4.9 – Graph showing body placement across the database



Body Placement and cemeteries

Body placement information was recorded at all eight sites with the largest proportion found at Cleatham, where 82.26% of individuals could be accorded a placement type (51 out of a total population of 62). Morning Thorpe held the smallest proportion of the population with a placement at 3.59%. Lakenheath had similarly low numbers at 5.00% (11 out of 220 individuals). As seen in Figure 5.4.10 below, there is considerable variation in the proportions of individuals who could be ascribed a body placement across all eight sites. The average percentage across the database for identifiable placement was 27.36%, which differs greatly from the values calculated for each individual cemetery. The closest figures to this average were recorded for Bloodmoor Hill at 55.17% and Spong Hill at 13.79%.

Figure 5.4.10 – Graph showing body placement across the cemeteries



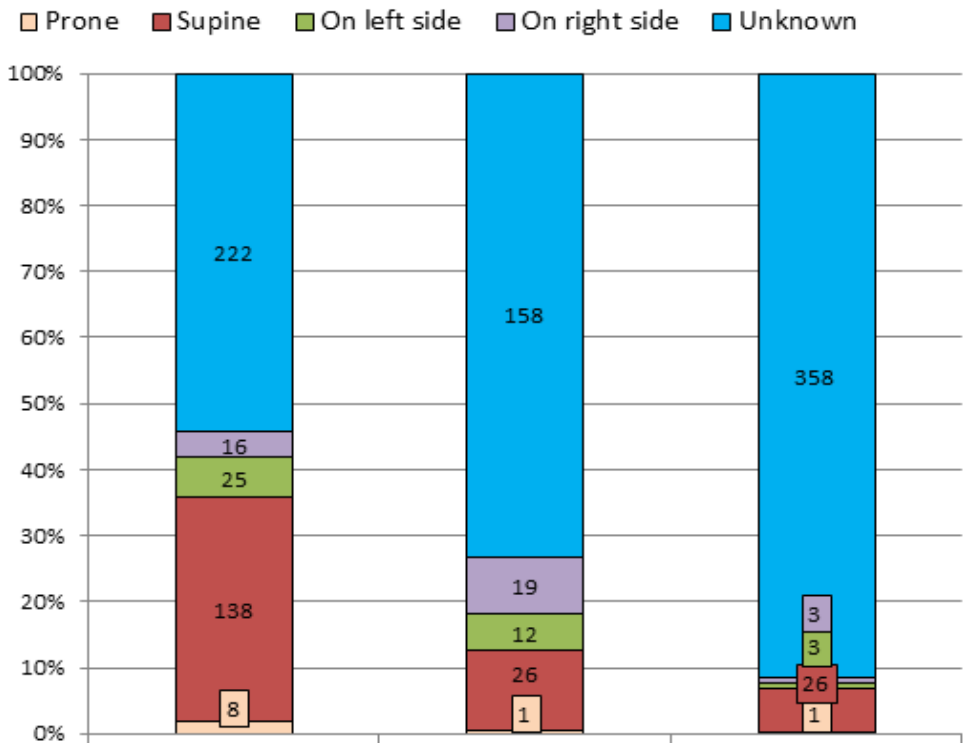
Body placement and age

Of the 278 individuals with an identifiable body placement, 245 could also be assigned an age category. Of this number, 187 were aged as adults and the remaining 58 were non-adults. The most popular body placement type, when one could be assigned, was 'supine'. This was associated with 138 adults (33.74% of total adults and 73.80% of total adults with a body placement type), 26 non-adults (12.04% of total non-adults and 44.83% of total non-adults with a body placement type) and 26 individuals of unknown age (6.65% of total number of individuals of unknown age and 78.79% of individuals of unknown age with a body placement type).

Looking more closely at these results shows a clear difference between adults and non-adults when compared between supine and side placement. Adults were

found lying supine in 138 cases and on either their right or left sides in 41 graves. Adults were also more frequently found buried prone than non-adults; eight of the ten prone burials were those of adults. Non-adults, however, were found more frequently laid on their sides (31 individuals) with fewer individuals (26) found supine. These figures produce an extremely statistically significant result when subject to a Fisher's Exact Test with a P value of 0.0001. This confirms that a correlation exists between non-adults and side placement when compared to adults and supine placement. Of course, it is perhaps logical to find a correlation between flexure and body position – those individuals buried in a flexed position might well be expected to have been laid on their sides. For the purposes of this study, however, these results reinforce the suggestion that non-adults were potentially buried in foetal or sleeping positions (see page 172), whereas adults were more likely to have been laid out in extended positions, whether supine or on their sides.

Figure 5.4.11 – Graph showing body placement across the age groups



	Adult	Non-adult	Unknown age
Unknown	222	158	358
On right side	16	19	3
On left side	25	12	3
Supine	138	26	26
Prone	8	1	1

Body placement and sex

278 individuals from the database had a distinguishable body position, which comprised of 82 females (29.50%), 87 males (31.29%) and 109 unsexed individuals (39.21%). Within the sexed population, 169 out of 373 could be assigned a body position, representing 45.31% of the total. When examining the figures in terms of sexual division it is possible to ascertain that 82 of the 204 females within the database (40.20%) were found with an identifiable body position. In comparison, 51.48% of males (87 of a total of 169) were found with a body position. The body placement frequencies across the sexes were very similar when compared on

percentage terms and produced no statistically significant results. This implies that an individual's sex generally did not determine their body position within the grave. This is demonstrated by the fact that of the 82 females with identifiable body placement, 73.17% comprised supine sets of remains, 12.20% were found on their left side, 9.76% on their right side and 4.88% in a prone position. These percentage divisions were approximately consistent with those for males, with the exception that males produced slightly higher figures for supine and left side placements. Males in the supine position represent 73.56% of the total number of males with determinable placement, 14.94% were found on their left side, 8.05% were on their right side and 3.45% were found prone.

While there is little to be gained from the discussion of unsexed individuals in relation to their body position, it is worth noting that 109 of the 643 unsexed individuals (16.95%) could be assigned a placement type. As with the sexed population, the majority of the unsexed individuals were buried in a supine position (66 or 60.55% of the total population), and prone burials represented the smallest proportion of the total unsexed population (three individuals or 2.75%). Interestingly, however, in contrast with the sexed population, a slightly higher proportion of unsexed individuals were found to be buried on their right, rather than left sides (21.10% compared to 15.60%). This is not statistically significant, and at present it is only possible to speculate as to why this small discrepancy exists between the sexed and unsexed populations. In future, the study of cemetery populations that have yielded more complete data on the sex of the deceased has the potential to determine whether a correlation exists between sex and the side placement of individuals.

Figure 5.4.12 – Graph showing body placement across the sexes



	Female	Male	Unknown sex	Total
Unknown body placement	122	82	534	738
On right side	8	7	23	38
On left side	10	13	17	40
Supine	60	64	66	190
Prone	4	3	3	10

Body placement and grave goods

278 individuals were recovered with a definable body position and of these, 231 were also found with accompanying grave goods (83.09%). At first instance this may reaffirm the suggestion that it is easier to determine the lie of a body where identifiable grave goods are discovered, especially if these were certain objects that were worn on various parts of the body. This was, however, not the case as no statistically significant correlation existed between the deposition of grave goods and the recording of a body placement. This may be due to the fact that over half the

population were found alongside a grave assemblage but without a discernible body placement (593 individuals).

It is worth noting that, in an effort to remove ambiguous data from the database, it was decided to disregard information on body placement for those individuals who had no bones remaining – ie. those whose body placement was determined by the position of grave goods or the form of their grave. This goes some way to explaining the lack of body placement information for individuals accompanied by a grave assemblage. Because the position of grave goods within a burial can be affected by numerous taphonomic processes (Wood and Johnson 1978), it is difficult to confidently identify where objects might have lain when originally deposited within the grave. This especially applies to jewellery and dress accessories, which might have been worn or placed upon the deceased themselves.

Body placement and orientation

Virtually all – 98.92% (275 out of 278) - of individuals discovered with an identifiable body position were also assigned an orientation whereas only 35.30% of the oriented population could be assigned a body placement (275 out of 779). This figure included 275 of the total 278 recordings of body placement, with the remaining three being found on their right side (one individual) and lying supine (two individuals). The frequencies seen in the database population as a whole for body placement were also reflected in the statistics for orientation. The most popular placement was noted as supine comprising 188 of the total 275 individuals being found with a definable orientation (68.36%). This accounted for 98.95% of all individuals found in the supine position (188 out of a total of 190). All of the individuals recovered on their left side and found prone were assigned an orientation

whereas all but one individual placed on their right side was accompanied by an orientation (97.37% of a total of 38).

In order to determine whether body placement correlated with the mean angle of orientation recorded, a One Way ANOVA test was performed. The results calculated from this test showed no statistical significance, thereby indicating no relationship could be found between orientation and body placement (Pr(>f) value of 0.253). This lack of statistical significance may be due to the extensive range of orientations recorded among the populations of the eight cemeteries. This will be further discussed below.

Orientation

Where possible, orientation was also entered in the database. Burials were recorded by their compass orientation according to 16 cardinal points (N, NNE, NE etc.) and to the nearest degree. From the examination of the cemetery reports, orientation diagrams and grave plans, 15 different directions were established from several types of records with a category also made for those individuals with an indiscernible grave orientation (for greater detail please refer to Chapter 2).

As orientation will be discussed in great detail later in the analysis it is only necessary here to establish the basic statistics (see Figure 5.4.12). Of the 1016 individuals within the database, 779 had a distinguishable orientation (76.67%). The most popular orientations of the 15 identified were west, west-southwest and west-northwest. Therefore, the individuals within these burials were found with their head to the west end of the grave (i.e., if they sat up in their graves they would face an eastward direction). They respectively constituted 44.93%, 24.39% and 13.35% of the total oriented population. The largest subdivision of the oriented population was classified as 'west' and was made up from 350 individuals. Within this, 86 individuals were sexed as female (24.57%), 72 as male (20.57%) and 192 (54.86%) were of unknown sex. The 350 individuals found facing an eastward direction can also be analysed in terms of age. 168 were classified as adults (48.00%), 49 were non-adults (14.00%) and 133 were unaged individuals (38.00%).

The second largest proportion was found for 'west-southwest' direction and comprised 190 individuals. 106 were aged as adult (55.79%), 46 were non-adults (24.21%) and 38 could not be aged (20.00%). Along with divisions of age, this group of orientated individuals can also be classified in terms of sex with 42 females, 45

males and 103 unsexed individuals. As a percentage of the total west-southwest oriented group, females and males represented roughly equal percentages at 22.11% and 23.68% respectively. In addition, the proportion of unsexed individuals within the east-northeast category made up the remaining 54.21%.

The third most popular orientation direction was west-northwest and accounted for 104 of the total 779 oriented population. This group consisted of 24 females representing 23.08% of the group's total, 18 males contributing 17.31% and 62 unsexed individuals representing 59.62%. This group can also be analysed with respect to age categories where the 104 individuals can be separated into 54 adults which represented 51.92%, 28 non-adults occupying 26.92% with the remaining 21.15% portion comprising 22 unsexed individuals.

Figure 5.4.13 – Table showing orientation variance across age and sex

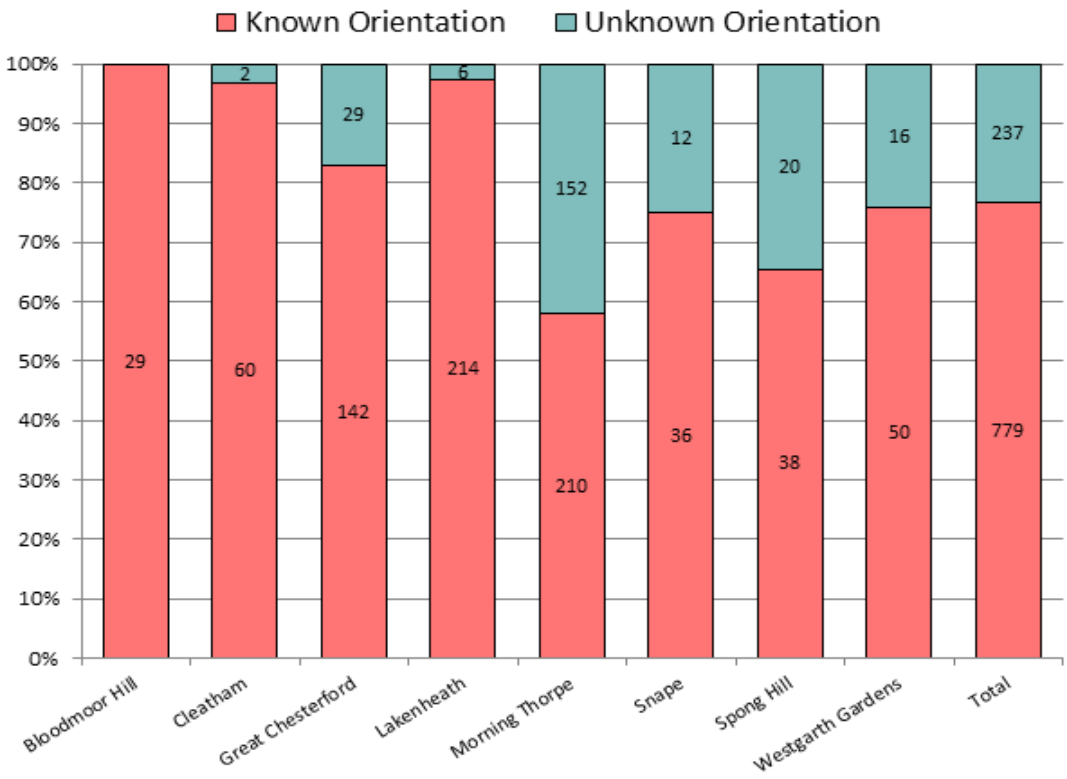
Age Category	Sex Category	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Grand Total
Adults	Females			1	2	2	4	7	7	2	2	36	70	21	8	3	165
	Males	1			1	2	1	6	1	2	3	37	63	16	6	3	142
	Unknown							1			2	33	35	17	3	1	92
Non-adults	Females		1		1							2	2		2	1	9
	Males											2	2	2			6
	Unknown	1	1	3			4	17	14	2	1	42	45	26	5	2	163
Unknown Age	Females						1				1	4	14	3			23
	Males						1				1	6	7				15
	Unknown				1		1				2	28	112	19	1		164
Grand Total		2	2	4	5	4	12	31	22	6	12	190	350	104	25	25	779

These figures follow the traditional Anglo-Saxon practice which places burials on an east-west orientation with the head to the west (Lucy 2000 and Reynolds 2009). However, it does highlight the fact that 135 individuals were buried on alignments not classified into the three most popular cardinal points. However, the variance across this category is so considerable it is necessary to analyse burial orientations by cemetery, age, sex and in reference to the overall database population. Therefore when assessments are made in terms of unusual orientation in later discussions, they may refer to frequency proportions that do not immediately appear anomalous when compared across all sites. As an overall total, the 135 individuals buried atypically in regard to orientation represent 17.33% of the oriented population and 13.29% of the total database. This result will be analysed later in the text in regard to 'deviant' or atypical burial to better understand the conditions that may explain the accordance of alternative burial rites to specific people.

Orientation and cemeteries

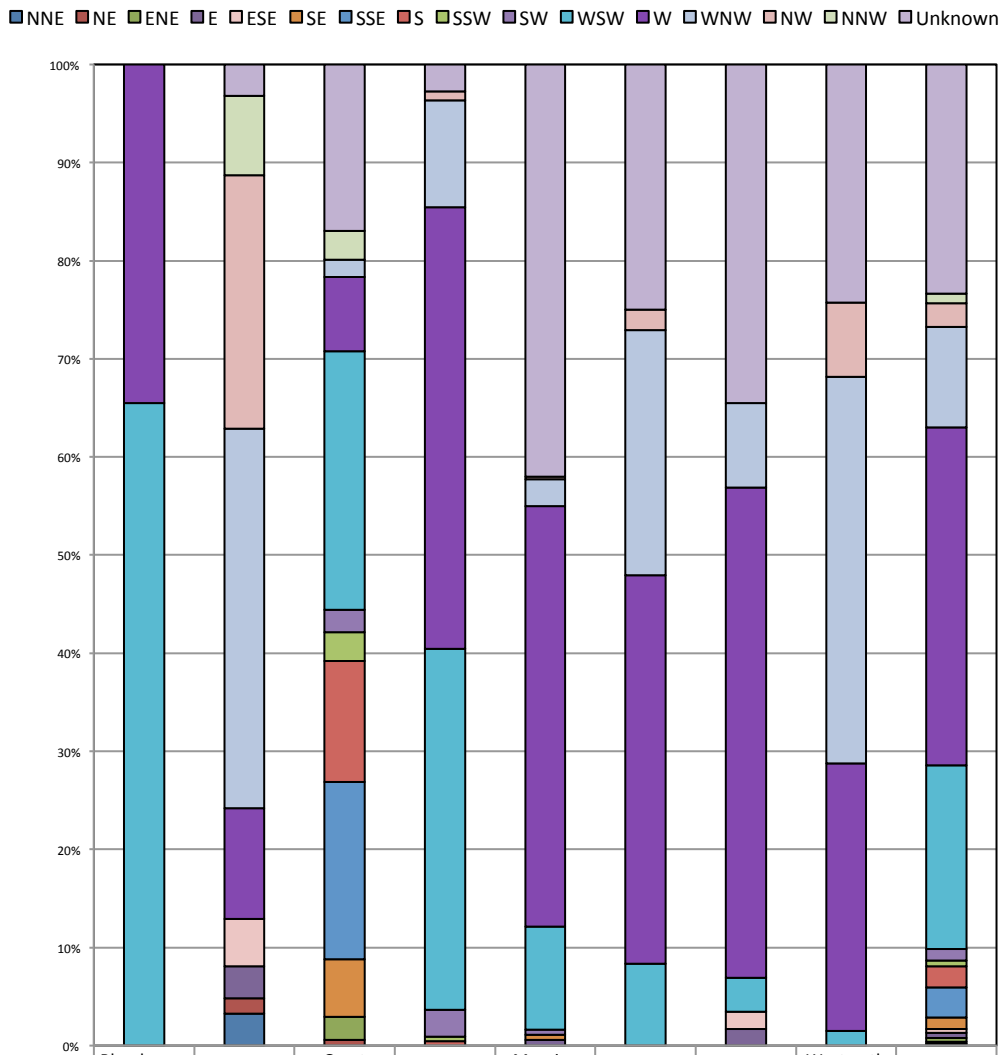
Within the cemeteries there was a range of oriented population totals as can be seen in Figure 5.4.14 below. All the individuals recovered from Bloodmoor Hill could be assigned an orientation direction. High proportions of the population with identifiable orientation were also recorded at Lakenheath (97.27%), Cleatham at (96.77%) and Great Chesterford (83.04%). The lowest cemetery figures were reported for Morning Thorpe and Spong Hill at 58.01% and 65.52% which sit just below the database total average of 75.00%. The remaining two sites, Snape and Westgarth Gardens presented the closest percentage value to the overall average at 75.00% and 75.76% respectively.

Figure 5.4.14 – Graph showing orientation records for the cemeteries



As shown in Figure 5.4.15 below and as discussed above, the most popular grave orientations identified within the database were W, WSW and WNW. There was, however, considerable difference shown within the cemeteries for both the range and frequency of orientations identified. For example, at Bloodmoor Hill, over 65% of the cemetery population were found on a WSW alignment whereas no individuals at Cleatham or Westgarth Gardens were recovered on this orientation. It may be somewhat misleading to offer this statement without a reminder of how close the 16 cardinal points are to each other (see Figure 2.4). Nevertheless, it is possible to use this group of data to analyse the level of differentiation an individual has been accorded in comparison to the most common orientations within the cemeteries and across other groups. This issue in particular will be raised in the following chapter as a potential indicator of 'deviant burial'.

Figure 5.4.15 – Graph showing orientation variance across the cemeteries

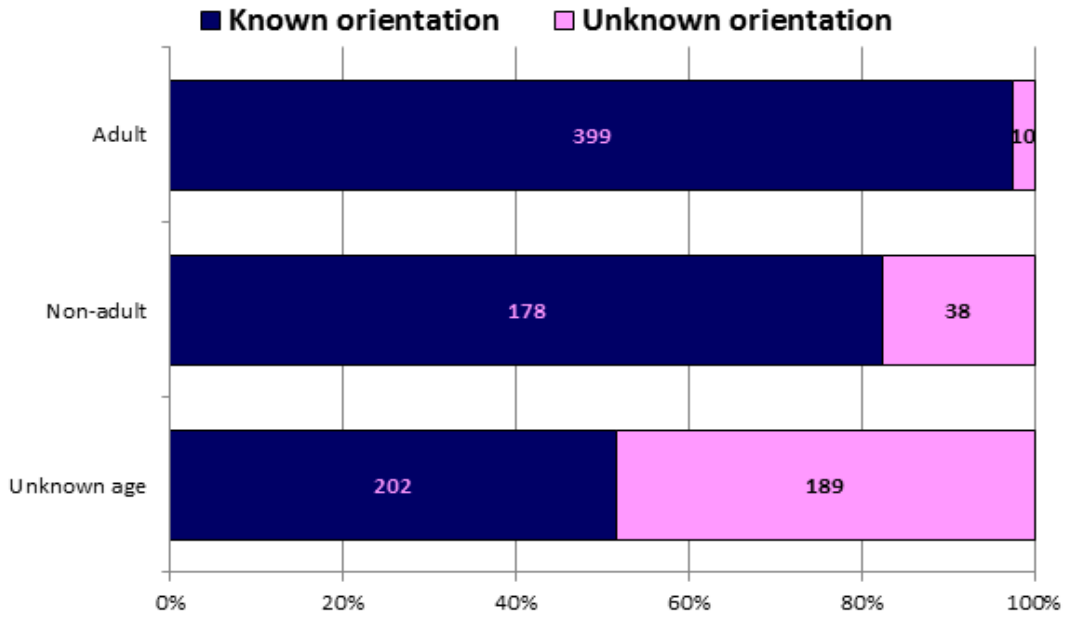


	Bloodmoor Hill	Cleatham	Great Chesterford	Lakenheath	Morning Thorpe	Snape	Spong Hill	Westgarth Gardens	Total
Unknown		2	29	6	152	12	20	16	237
NNW		5	5						10
NW		16		2	1	1		5	25
WNW		24	3	24	10	12	5	26	104
W	10	7	13	99	155	19	29	18	350
WSW	19		45	81	38	4	2	1	190
SW			4	6	2				12
SSW			5	1					6
S			21	1					22
SSE			31						31
SE			10		2				12
ESE		3					1		4
E		2			2		1		5
ENE			4						4
NE		1	1						2
NNE		2							2

Orientation and age

Of the 779 individuals with identifiable orientation, 399 were aged as adult (51.22%), 178 were aged as non-adults (22.85%) and 202 individuals of unknown age could not be assigned a grave orientation (25.93%). The justification for this difference in statistics may be linked to the level of grave destruction and the ease of interpretation at the excavation site. However, when analysed in terms of the age categories, for instance adults with assigned orientation accounted for 97.56% of the total adult population. Whereas, non-adults with defined orientation represented 82.41% of the total number of non-adults in the eight cemeteries, and individuals of unknown age with an identifiable orientation made up 51.66% of the total unaged population. This could potentially indicate a relationship between the level of preservation and the ability to make a definitive classification for orientation. This is linked to the connection between age and preservation. As discussed previously, a set of skeletal remains is more likely to have a better standard of preservation if it has completed skeletal development and not begun to degenerate as in mature adults (Gowland 2006). This can also be applied to individuals with pathological conditions, especially if there is damage to the integrity of the bone, which will lead to overall lower preservation levels. Therefore individuals such as non-adults and mature individuals with degenerative disorders will be less likely to be assigned burial attributes including orientation because of the poor condition of the remains (Henderson 1987).

Figure 5.4.16 – Graph showing the identification of orientation across the age categories



To avoid the potential issues associated with preservation, it may be useful here to focus on the orientation data for only individuals who could be aged. This will allow the patterns of orientation to be presented without the effect of poor preservation on the results. The figures recorded for adults and non-adults can be seen in Figure 5.4.17 below.

Figure 5.4.17 – Table showing the orientations for adults and non-adults

Orientation	Adults	Non-adults	Grand Total
E	3	1	5
ENE	1	3	4
ESE	4	0	4
NE	0	2	2
NNE	1	1	2
NNW	7	3	10
NW	17	7	25
S	8	14	22
SE	5	4	12
SSE	14	17	31
SSW	4	2	6
SW	7	1	12
W	168	49	350
WNW	54	28	104
WSW	106	46	190
Unknown	10	38	237
Total	409	216	1016

As is demonstrated by the results, the three most popular orientations were recorded for both age categories: W, WSW and WNW. The proportions do differ between these three orientations, however, with adults having a clearer order of frequency unlike the results for non-adults which have almost equal percentages for W and WSW (as seen in Figure 5.4.18 below). It may be that for non-adults a more general direction was recorded as adult remains were more easily analysed. Or, perhaps, this may highlight the fact that the slight variance in orientation may be much more obvious under scrutiny by the interpreter than it ever was for the grave-digger. Nonetheless, there are also certain orientations that were recorded for one age group and not the other. For instance, NE was only recorded for individuals aged as non-adults, whereas ESE was reserved for adults only. Unfortunately these results only relate to a small number of individuals in total, but they may nonetheless

indicate a burial rite that was specifically designed for certain individuals of a particular age.

This type of pattern was also found in a comparison between adults and non-adults across the orientation data. Adults formed the largest proportions within each orientation direction except for ENE, NE, S and SSE. Non-adults were more likely to be found aligned in these directions.

Figure 5.4.18 – Table showing the orientation percentages for adults and non-adults

Orientation	Adult	Non-adult
E	0.73%	0.46%
ENE	0.24%	1.39%
ESE	0.98%	0.00%
NE	0.00%	0.93%
NNE	0.24%	0.46%
NNW	1.71%	1.39%
NW	4.16%	3.24%
S	1.96%	6.48%
SE	1.22%	1.85%
SSE	3.42%	7.87%
SSW	0.98%	0.93%
SW	1.71%	0.46%
W	41.08%	22.69%
WNW	13.20%	12.96%
WSW	25.92%	21.30%
Unknown	2.44%	17.59%
Grand Total	100.00%	100.00%

Overall, little variance was recorded between the age groups for orientation. Certain differentials were noted but it is difficult to identify any patterns with the data that suggest orientation was influenced by the age of the deceased. Instead, it may be more likely that local tradition and site-specific rites were responsible for the orientations recorded.

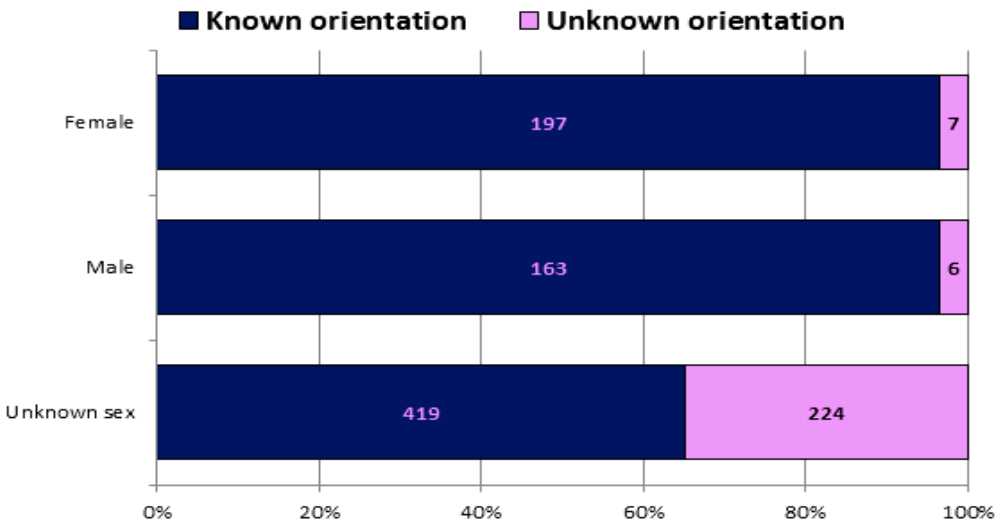
Orientation and sex

In terms of sexual determination, 46.21% of the oriented population could be sexed (360 out of 779 individuals). 197 individuals with known orientation were sexed as female (definite, probable and possible) and 163 males (definite, probable and possible) were given a defined orientation. The remaining 419 individuals with known orientation could not be sexed; this represents 53.79% of the total oriented population. The sexed counterparts within this population consisted of 25.29% females and 20.92% males. 237 individuals were discovered without any identifiable orientation and these make up 23.33% of the total database. The 237 individuals can also be broken down into sexual classifications, with seven females, six males and 224 individuals of unknown sex.

These statistics can be approached from a different angle, using sexual determination as a marker (Figure 5.4.19). 360 of the 373 sexed individuals were assigned an orientation, giving a percentage of 96.51%. Understandably, the separate sex categories produced similar results, with females just below average and males just above. 96.57% of the total female population within the database, 197 out of 204, were found with an identifiable orientation. This leaves seven individuals, 3.43% of the total number of females, with an unknown orientation. Similar results were found for the male population, with 163 of the total 169 males being assigned an orientation, constituting 96.45% and leaving six individuals, a 3.55% portion of males, with unknown orientation. More balanced results were taken from the unsexed population, where 65.16% of the total could be given an orientation, comprising 419 individuals of unknown sex. In comparison, 34.84% of the unsexed

population could not be provided with an orientation, 224 of the total 643 individuals of unknown sex.

Figure 5.4.19 – Graph showing the identification of orientation across the sexes



These statistics follow assumed logic, that where the skeletal remains within a grave are of an adequate condition to be sexually identified, it is more likely that the orientation will also be determinable. This logic can be applied vice versa, where the grave structure is well maintained and orientation can be identified, the likelihood of obtaining a sexual determination is higher. From these calculations it is possible to better understand this correlation. As discussed above, almost half of the population with definable orientation could be assigned a sexual category. However, when examining the figures from the sexed population it is clear that individuals with an identifiable sex are much more likely to also have a definable orientation. This was confirmed using One Way ANOVA test which showed a statistically significant relationship. This is also reflected in the percentages as 96.51%, 360 of 373 sexed individuals were assigned an orientation. This can be translated into conclusions relating to the overall database, namely that graves that included sexually identifiable

remains were much more likely to have a readable orientation, whereas all graves with an orientation had a roughly 50.00% (46.21%) chance of being able to be sexually identified (360 out of a total of 779).

The orientations recorded for the sexed population can be found in Figure 5.4.20 below. The same three orientations were the most popular for both sexes: W, WSW and WNW. There were, however, differences as certain orientations were not recorded for both sexes. Males were not found aligned on an ENE or NE alignment. Alternatively, females were not oriented on a NNE direction. If the differences here were associated with orientations that were not as closely aligned, the results may be more impactful within the analysis. However, as the total number of individuals within these orientation categories is 10, it is difficult to use these statistics as confirmation for a sex-specific pattern. These results do, however, suggest that orientation was not used to differentiate individuals by sex.

Figure 5.4.20 – Table showing the orientations for adults and non-adults

Orientation	Females	Males	Total
E	3	1	5
ENE	1	0	4
ESE	2	2	4
NE	1	0	2
NNE	0	1	2
NNW	4	3	10
NW	10	6	25
S	7	1	22
SE	5	2	12
SSE	7	6	31
SSW	2	2	6
SW	3	4	12
W	86	72	350
WNW	24	18	104
WSW	42	45	190
Unknown	7	6	237
Grand Total	204	169	1016

Orientation and grave goods

779 individuals were assigned an orientation within the database. Of these, 677 individuals were accompanied by grave goods. This represents 86.91% of the oriented population and 82.16% of the total number of individuals found with a grave assemblage. These two grave attributes are some of the most commonly recorded within the database. This may suggest a relative ease of identification when compared to more specific burial details such as pathology. Similarly, the next section discussing multiple burial is also distinctive in nature from single inhumations, but as with all grave information, is completely dependent upon the level of preservation recorded.

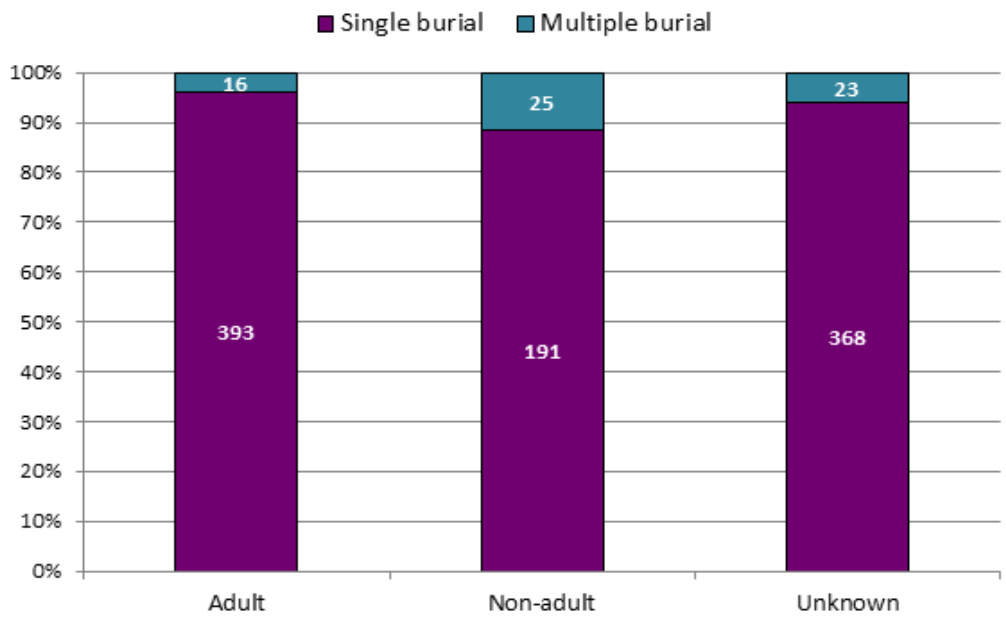
Multiple burial

Multiple burials are classified in the database as graves which contain more than one set of skeletal remains. For a discussion of multiple burial see Chapter 3 as well as the section on atypical characteristics in Chapter 6.

Multiple burial and age

Of the 64 individuals recovered from graves with multiple sets of skeletal remains, 41 could be assigned an age category. Of these, 25 non-adults and 23 unaged individuals constituted the largest proportions within this total at 39.06% and 35.94%. 16 adults were included which accounted for 25.00% of the total multiple burial population. As non-adults are the most commonly found age group associated with multiple burial, it may be useful to examine the results within this subdivision further. For instance, the 25 non-adults comprised eight infants, seven foetuses, six children, two juveniles, one possible child and one possible sub-adult. Therefore it is important to note that individuals from the youngest age divisions within this group were more commonly found within multiple burials. Infants represent 12.50% of the total population in multiple burials, foetuses represent 10.94% and children represent 9.38%. Overall, 11.63% of the non-adult population were included in multiple burials. 46.67% of all foetuses within the database were found within multiple burials (seven of the total 15). Only 16 out of the total population of adults (3.91%) were found in multiple graves.

Figure 5.4.21 – Graph showing age categories within multiple burials



A considerable proportion of the individuals found in multiple graves were aged as non-adult, although Cleatham had both low frequencies of non-adult inhumations and a complete absence of multiple burials. Overall 64 individuals were recovered from graves with multiple sets of skeletal remains and within this total 41 could be assigned an age category. Though not deemed statistically significant, a substantial 25 individuals within this total were identified as non-adult through a determination of skeletal immaturity (60.98%). The high frequency of the youngest individuals being interred in multiple burials might be explained by the fact that non-adult remains are usually smaller in size than adult bodies, making them easier to place in a standard grave with more than one individual. This would make sense if a pre-prepared grave was dug and non-adults and adults required deposition simultaneously. The commonsensical approach might be to fill the adult-size grave with more than one non-adult so as to not waste the space within the grave.

Figure 5.4.22 – Table showing combination of individuals in multiple burials

Bloodmoor Hill	28	a	Adult male
		b	Non-adult unknown sex
Great Chesterford	2	a	Adult male
		b	Adult female
		c	Non-adult unknown sex
	16	a	Non-adult unknown sex
		b	Non-adult unknown sex
	83	a	Non-adult unknown sex
		b	Non-adult unknown sex
		c	Non-adult unknown sex
		d	Non-adult unknown sex
		e	Non-adult unknown sex
		f	Non-adult unknown sex
	95	a	Non-adult unknown sex
		b	Non-adult unknown sex
	150	a	Non-adult unknown sex
		b	Non-adult unknown sex
Lakenheath	25	a	Non-adult unknown sex
		b	Non-adult unknown sex
		c	Adult unknown sex
	59	a	Non-adult unknown sex
		b	Non-adult unknown sex
		c	Non-adult unknown sex
	113	a	Non-adult unknown sex
		b	Non-adult unknown sex
		c	Non-adult unknown sex
	149	a	Non-adult unknown sex
		b	Non-adult unknown sex
Morning Thorpe	108	a	Adult female
		b	Adult female
	110	a	Unknown age and sex
		b	Adult possible female
	129	a	Adult female
		b	Unknown age and sex
	148	a	Adult female
		b	Adult male
	238	a	Unknown age female
		b	Unknown age male
	293	a	Unknown age and sex
		b	Unknown age and sex
	304	a	Unknown age male
		b	Unknown age female
	337	a	Unknown age female
		b	Adult male
	351	a	Adult male
		b	Unknown age female
	358	a	Adult female
		b	Adult female
	362	a	Unknown age and sex
		b	Unknown age and sex
	367	a	Unknown age and sex
		b	Unknown age and sex
	369	a	Unknown age female
		b	Unknown age female
	370	a	Unknown age and sex
		b	Unknown age and sex
	371	a	Adult female
		b	Unknown age female
Snape	19	a	Unknown age and sex
		b	Unknown age and sex
Spong Hill	31	a	Adult male
		b	Non-adult and sex
Westgarth Gardens	30	a	Unknown age male
		b	Unknown age male

In order to pursue any of these hypotheses, there must be confirmation that the non-adult bodies were deposited at the same time and not in phased burial. This would eliminate the premise that less time and effort acted as incentives as both tasks (to bury an individual in an empty grave or to reopen an occupied grave and deposit an additional body) are very similar in nature. It may be feasible that in this case the non-adult was deposited first and not completely covered. The grave may have been, in effect, left open in order to house the next deceased non-adult. The practice of leaving graves open after the deposition of the corpse is not unheard of in Anglo-Saxon England (Hirst 1985). There is also a suggestion that other graves within the database may have been left 'open' as one individual, in Grave 32 at Snape, was found with evidence of 250 insect puparia within the burial (Filmer-Sankey and Pestell 2001). This may indicate that the body was left open to the air after decomposition had begun thereby initiating the cycle of entomological activity that is commonly associated with exposed human remains. Dunn (2009: 89) proposes that this evidence indicates that 'some Anglo-Saxons may have been given a second burial once their bodies had partially decomposed'. It is reasonable to assume that regardless of the particularities, this individual was either laid in an open grave for an extended period of time, or the individual may have, in fact, died or been killed and not discovered until after the decomposition process had begun. Alternatively, the insect evidence preserved by the surrounding metal objects may have been the result of usual taphonomic degradation and the survival of these entomologic samples may simply represent the chance survival of material that is not often observed in other burials and moreover, often not looked for.

Assuming any of these hypotheses to be accurate requires an additional explanation as to why non-adults of similar age may have been buried in single graves. As with many of the anomalies identified through the statistical analyses or through the examination of the database, it becomes very clear that certain individuals, for one reason or another, were accorded burial rites different from those of their peers and contemporaries. This is clear when analysing the foetal remains within the database as although these were recovered from a variety of graves, almost half of the foetuses collected from the eight cemetery sites were found in multiple burials (46.67%). Crawford (2011: 77) indicates that this pattern is also seen in cremation burials and that 'where infants are found within earlier Anglo-Saxon cemeteries they are disproportionally likely to be buried or cremated with other bodies'. This may signify a more complex funerary practice but instead may also provide information on the frequency of childbirth success and the life expectancy of neonates. It has been suggested that survival rates may have been very low for both the mother and baby during labour and that this may be reflected in the burial record (Sayer and Dickinson 2013). An example of this exact instance may be represented in Grave 127 at Great Chesterford, where an adult female was recovered with the remains of a foetus within her pelvic cavity and with her arms placed around what would have been her pregnant belly (as seen in Figure 5.4.19 below). The indications from the cemetery analysis and the grave plans point towards a case of death during childbirth. This type of occurrence may have spurred the need to formalise the burial of foetuses in multiple burials, especially if they are all related to the same adult female (which could be substantiated by DNA analyses). This category of burial has been discussed in detail by Sayer and Dickinson (2013: 294), who suggest there was

no specific profile associated with the burial of a female and a foetus or a neonate. Instead they highlight findings which include females within these burials between the ages of '15-45+' years. Therefore, although it is tempting to assume many of these burials represent the death of a mother and baby, the findings of this study and Sayer and Dickinson (2013) suggest a range of situations may be possible. This is reiterated by Crawford (2011: 77) who highlights the fact that double burials with adult and non-adult remains may involve 'a less cosy interpretation' as it is reasonable that infants may have been interred 'as a supplementary part of the adult burial ritual'. Therefore, although the initial response to the discovery of infant or child grave may involve empathy at the 'loss of a child', the true meaning behind the burial may reveal a much darker interpretation (Crawford 2011: 77).

Figure 5.4.23 – Plan of Great Chesterford Grave 127 with female skeleton and foetal bones in pelvis (After Evison 1994: 202)



Great Chesterford Grave 127	
a	Knife
b	Tinned bronze disc brooch
c	Tinned bronze disc brooch
d	Lead pattern for brooch mould
e	10 beads
f	Iron pin
g	Half iron ring
h	Nail

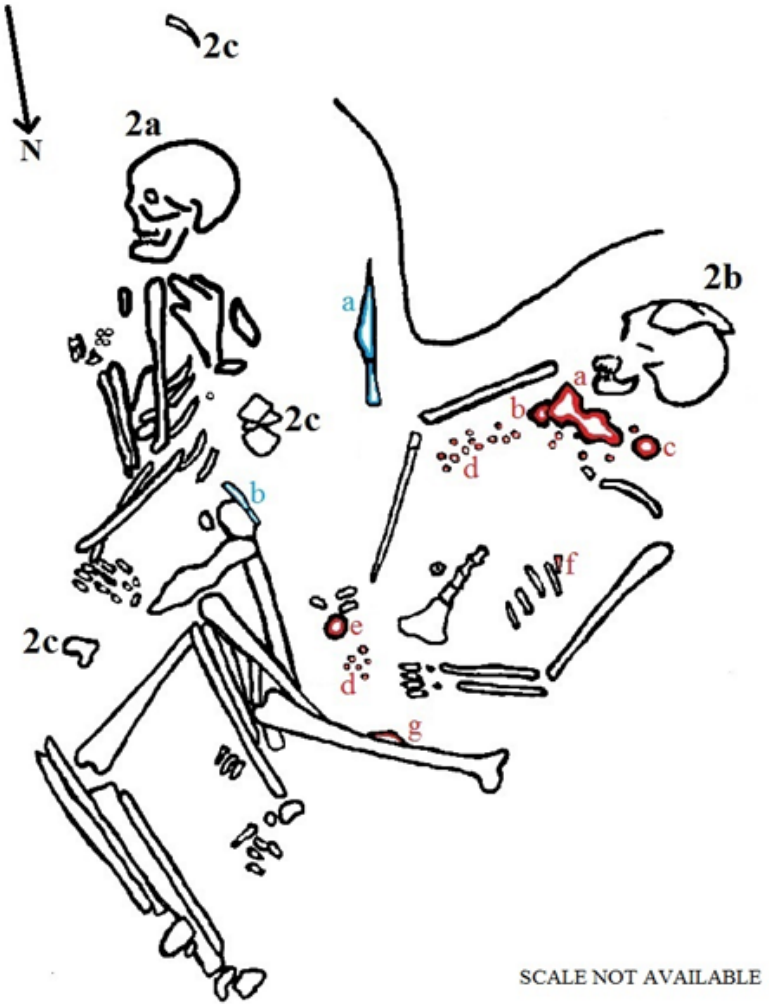
SCALE NOT AVAILABLE

The deposition of foetuses within multiple burials may also reveal possible waves of illness or contagion that were more prevalent and harmful to neonates. This may involve the spread of a disease such as tuberculosis which is much more likely to be fatal for infants (Lewis 2007). This could have resulted in the deaths of several new-born babies and infants in a very short space of time, making the collective inhumation of those individuals a practical decision. In reference to the pathology of non-adults, however, the likelihood that the skeletal remains will be in a good enough condition to display any osteological markers would be very slim (Crawford

2007 and Lewis 2007). This may in part explain the discovery of this type of burial but may also expose prevailing conditions at cemeteries such as Great Chesterford, where a large number of multiple graves were identified. This could, in turn explain the deposition of such a large number of non-adults compared to the other sites. Disease and poor health may have caused simultaneous death amongst family members which may have prompted the decision to bury those individuals within the same grave.

In simple terms, there may have been a specific rite or individualised practice that instigated the need to bury foetuses together. One grave from the database (Grave 2 at Great Chesterford) presents a very unusual case study where the remains of at least six foetuses were recovered. However, due to the nature of non-adult remains and the associated poor preservation at many of the sites, it was not possible to determine whether the deposition was simultaneous or involved more than one phase of burial. In this instance, however, it is reasonable to posit that this burial represents the roughly contemporaneous deposition of six foetuses as they do not show evidence for secondary interment or burial disturbance. In respect to this, there also needs to be a consideration of the practicalities involved with managing a cemetery. If no grave markers were used, it is very possible that inhumations would disturb each other, perhaps to the point of being mistaken for an intentional multiple burial. This is less likely in the case of six foetuses being found together, but may be applicable to other multiple burials such as Graves 2a and 2b from Great Chesterford as seen in Figure 5.4.24 below.

Figure 5.4.24 – Plan of Great Chesterford Graves 2a, 2b and 2c (After Evison 1994: 190)



Great Chesterford Grave 2a	
a	Spearhead
b	Knife

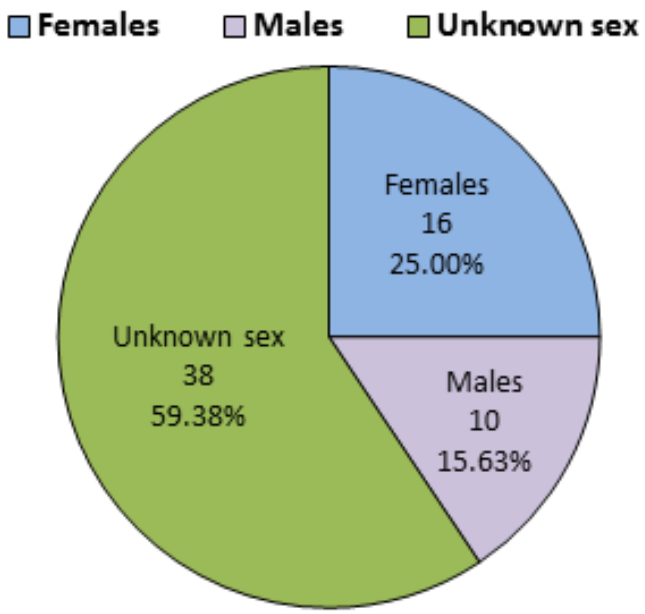
Great Chesterford Grave 2b	
a	Bronze square-headed brooch
b	Bronze saucer brooch
c	Bronze saucer brooch
d	111 beads
e	Bronze ring
f	Nail
g	Nail
h	Bronze tube (unknown location)

Although unlikely and unpleasant there may be an explanation for the high non-adult totals within multiple burials that involves a purposeful removal of certain individuals: infanticide. This could have resulted from an over-population of a particular sex or an effort to expunge babies of a certain sex who were not considered as favourable as their sexual opposite (Scott 1997). Conversely, the deposition of infants and children within the cemetery may indicate the opposite, for it might be expected that unwanted children would be disposed of at alternate locations such as middens and rivers (Lewis 2007). The mentality that supported these acts could also be responsible for burials recorded in the database which house sexually opposing skeletal remains and engendered grave goods. This may indeed be the result of the actions of parents who wanted a child of a preferred sex and instead of undertaking infanticide, they encouraged their offspring to behave and represent themselves in the role of their opposite sex. In essence, this would result in the visual representation of one sex through the appropriation of distinctive material goods and clothing which would also be deposited after death (Arnold 2002). The skeletal remains would nonetheless present the true biological sex of the individual which would obviously not correspond with the assemblage found within the grave. An example of this comes from a recent study of the Ammassilik society of southeast Greenland, where children were raised as their sexual opposite where a biased sex ratio within the family existed instead of infanticide (Robert-Lamblin 1981). These individuals would be classified as ‘confused’ burials as the nature of the assemblage and osteological sex would not match.

Multiple burial and sex

As discussed above, 64 individuals from the database were found within multiple graves. In addition to age estimation, 38 of the 64 individuals could not be sexually identified, which constituted 59.38% of the total. The 26 individuals who could be attributed sex included 16 females; one possible and 15 definite females and 10 definite males. This translates to a female to male ratio of 16:10 and a percentage divide of 61.54% females and 38.46% males. The 38 individuals of unknown sex within multiple graves can be analysed in terms of age to reinforce the previous statistics. As noted above, of the total 38 unsexed individuals 25 (65.79%) were aged as non-adult, 12 remained unaged and one adult was identified. This illustrates not only the limited success of sexually identifying non-adult remains but also the confidence with which osteologists can identify non-adult ages because of the size and incomplete development of the skeleton.

Figure 5.4.25 – Graph showing the division of sex within multiple burials



Multiple burial and flexure

54 out of the 64 individuals found within multiple burials could not be assigned a flexure category. This accounted for 84.38% of the total number of individuals from multiple burials. Of the 10 individuals who could be assigned flexure from multiple graves, five were identified as laid 'extended' and five individuals were found 'flexed' (including two individuals with one leg flexed) both representing 7.81% of the total 64 individuals. Three multiple burials in the database included individuals with different flexures within the same grave (Bloodmoor Hill Grave 28, Snape Grave 19 and Westgarth Gardens Grave 30). This may indicate a different phase of interment for these individuals if a second body was flexed to fit around a previous inhumation. Otherwise, it may be possible that individuals within these graves were simply positioned to fit best within the burial or to incorporate particular grave goods.

Multiple burial and body placement

Nine of the 64 individuals (14.06%) found within multiple burials could be assigned a body placement type. Seven of these were found supine (77.78%) with one individual on their right side and one recorded on their left side. These nine individuals in multiple graves represent 3.24% of the 278 individuals with definable body placement. Unlike flexure, no individuals within the same multiple grave had different body placements.

Multiple burial and orientation

Of the 64 individuals found within multiple burials, 54 were assigned an orientation. This represents 84.38% of all individuals recovered from multiple burials. With reference to the oriented population (779 individuals), the 54 individuals from multiple graves account for 6.93%. What must be remembered, however, is that the orientation of the grave and the alignment of the body may have varied. This is only a consideration where the grave is large enough to accommodate a rotation of the body. However, wherever possible the orientation given in the database is that of the body lying within the grave, not the alignment of the grave itself, which is especially important in cases of multiple burial.

Overall, the analysis of multiple burial provides an additional point of comparison within the database but is discussed in much more detail as part of Chapter 6.

Pathology

One of the more difficult areas to categorise and analyse was the subject of pathology. The topic covers all areas of health and illness within the population. As discussed previously, not all cemeteries within the database have accompanying pathological data, reports or discussion. 138 individuals had pathological conditions recorded in the database. Pathological data were not available at Lakenheath or Snape. Lakenheath pathological information could not be included in the database due to restrictions on data release prior to publication. The individuals from Snape, on the other hand, did not display evidence of pathology due to the poor condition of the remains. These two points distort any percentage figures that could be provided across the complete database as the frequencies would not be representative.

Although the remains from Snape were too badly degraded to provide any pathological details, it may be useful to include the cemetery in the first statistics calculated for these totals, as skeletal remains were found at the site. A total of 796 individuals are left when the population at Lakenheath is excluded. Of this total, 17.34% were found with pathological markers (138 out of 796 individuals). This percentage increases slightly to 18.45% when the population at Snape is also removed (138 out of a total of 748 individuals). In this instance it may also be useful to present statistics for pathological data only using the total for sets of skeletal remains found. 726 individuals were recovered with skeletal or odontological remains and 19.01% of this total was found with evidence of pathology. The remaining 290 individuals showed no evidence of pathological conditions, which could be due to the poor preservation of remains, an absence of pathology, a lack of pathological information or an inability to definitively identify the condition.

Figure 5.4.26 – Table showing pathology statistics from the database

Total database population	**1016**
Individuals with evidence of pathology	138
Total database population excluding Lakenheath	796
Total database population excluding Lakenheath and Snape	748
Total number of individuals with osteological data (bones and/or teeth remaining)	726
Percentage of individuals with pathology within complete database	13.58%
Percentage of individuals with pathology within complete database excluding Lakenheath	17.34%
Percentage of individuals with pathology within complete database excluding Lakenheath and Snape	18.45%
Percentage of individuals with pathology within population with osteological data (bones and/or teeth remaining)	19.01%

Pathology and cemeteries

It is possible to generate and analyse pathology statistics for each of the cemeteries studied (as seen in Figure 5.5.27 below). It must be remembered, however, that the attention paid to pathological evidence may not be consistent across the database records. For example, more time and resources were used to observe and interpret the pathological information from Cleatham cemetery and therefore it is unsurprising that this site has the largest proportion of individuals found with pathological conditions (Jacob 1999 and Leahy 2007a). This point also relates to the date at which the pathological assessments were made as earlier cemetery excavations are less likely to have benefitted from the more accurate techniques and tests available in recent years (Waldron 2009).

Over half of the population at Cleatham were found with pathological markers and in contrast only 4.70% of all individuals at Morning Thorpe showed evidence for pathological conditions. Similarly low numbers were also reported from Westgarth Gardens and Spong Hill. One of the main reasons for this may lie in the preservation of osteological material, as the frequency of observable pathologies is inevitably affected by the relative survival of skeletal remains. Even when some pathologies could be identified in poorly preserved material (as at Morning Thorpe), the evidence was so scanty as to prevent a comprehensive analysis of the overall health and lifestyle of the cemetery populations (see McKinley 1987).

As the data is so varied within the database, both within and between cemeteries, it is difficult to determine whether any specific patterns of pathology exist between the different communities, or subgroups within these. However, it is possible to make some broad observations of prevailing pathologies across the sites (as discussed below in 'Pathological Conditions').

Figure 5.4.27 – Table showing the totals and percentages of individuals with pathological conditions within the cemeteries

Cemetery	Total cemetery population	Individuals with pathological conditions	Percentage of cemetery population
Bloodmoor Hill	29	7	24.14%
Cleatham	62	35	56.45%
Great Chesterford	171	65	38.01%
Lakenheath	220	0	0.00%
Morning Thorpe	362	17	4.70%
Snape	48	0	0.00%
Spong Hill	58	7	12.07%
Westgarth Gardens	66	7	10.61%
Grand Total	1016	138	13.58%

Pathology and age

The identification of pathology within skeletal remains was directly proportional to the age of the individuals. For instance, 89.13% of the population found with pathology were aged as adults (123 in the total of 138). As can be seen in Figure 5.4.28, below, almost half of these (61 individuals) were from Great Chesterford, where specialists were able to compile a more comprehensive report on pathologies owing to the superior preservation at the site. 28 adults with pathologies were noted at Cleatham, 14 at Morning Thorpe, seven at Spong Hill and Bloodmoor Hill respectively, and six at Westgarth Gardens. Only 12 individuals with pathological markers were deemed non-adults. Of these individuals, seven were from Cleatham, four from Great Chesterford, and one from Morning Thorpe. Three individuals with pathological traits could not be assigned an age.

The general paucity of data prevents any substantial conclusions from being drawn. The likelihood of positively identifying osteological evidence of pathology is, as with other aspects of skeletal information, reliant upon the level of preservation of the remains and the resources available for post-excavation analysis. Therefore, the proportion of individuals with pathological markers may be considerably more than the statistics produced here. Sadly, however, this is the only data available from which observations might be made.

It is not surprising to find that the vast majority of pathologies were identified on adult skeletons. Adults are more likely to have developed degenerative conditions prior to death, and they would have spent more time engaged in the most physically demanding and dangerous occupations. Therefore, the 123 adults exhibiting evidence of pathological conditions are almost certainly under-representative of the true extent

of pathologies among the population given that preservation varies not only between cemetery sites, but also within them. This is something that has been noted among other early Anglo-Saxon cemetery populations, such as that excavated at Norton, Cleveland (Marlow 1992). However, a couple of interesting observations could be made of the non-adult population. Three of the non-adults, all from Cleatham (graves 27, 28 and 46), may demonstrate evidence for degenerative joint disease, the first of whom also demonstrated evidence for Schmorl's nodes on numerous vertebrae. Another individual (grave 13) from the same site showed evidence for possible degenerative disc disease. Although degenerative conditions may be caused by many underlying conditions, the presence of degenerative disorders among these non-adults may imply that at least some individuals engaged in strenuous activities from a young age. Other early medieval skeletal assemblages, such as the two well-preserved and closely studied Viking-Age assemblages from St. John's College, Oxford, and Ridgeway Hill, Dorset, have yielded evidence for biomechanical stress markers that similarly imply that the deceased engaged in physically demanding tasks from an early age (Falys 2014 and Loe 2014).

Also of potential interest are four instances of cribra orbitalia visible on non-adults at Great Chesterford (graves 17, 30 and 87) and Cleatham (grave 20). This could be indicative of malnutrition, although it should be noted that these three individuals represent only 3.66% of the non-adult population, indicating that this issue, if it existed at all, may not have been widespread at any given time. Only two other individuals demonstrated evidence for this condition, both of whom were female adults (grave 50 at Cleatham and grave 66 at Great Chesterford). Once again, however, given the variation in preservation between and within cemeteries, it is

likely that this condition, along with other indicators of malnutrition, are under-represented in the skeletal assemblages for the sites.

Figure 5.4.28 – Table showing individuals with pathological conditions within the age categories and across the cemeteries

Cemetery	Adults with pathological conditions	Non-adults with pathological conditions	Unaged individuals with pathological conditions	Total
Bloodmoor Hill	7	0	0	7
Cleatham	28	7	0	35
Great Chesterford	61	4	0	65
Morning Thorpe	14	1	2	17
Spong Hill	7	0	0	7
Westgarth Gardens	6	0	1	7
Grand Total	123	12	3	138

Pathology and sex

138 individuals within the total population of 1016 were discovered with a pathological condition. Of these, 65 were female (47.10%), 61 were male (44.20%) and 12 could not be sexed (8.70%). Hence, the sexed population was more likely to be found with pathological markers. It is assumed that this related to higher levels of preservation and completeness of the skeletal remains that made more complete osteological observations possible.

As Figure 5.4.29 shows, the surviving skeletal material does not indicate that pathological markers manifested more frequently among either sex. Even within cemeteries, there are no statistically significant differences between the numbers of males and females with pathological conditions. As Gilchrist (2012) notes, both men and women engaged in physically demanding and potentially dangerous tasks as part of daily life. While this might manifest in evidence for biomechanical stress, which was widely identified among both males and females, this might also result in

injuries such as fractures. Interaction with livestock, for example, could lead to individuals being kicked by animals, and falls might have occurred during any number of agricultural or construction activities. The distribution of fractures between the sexes was heavily skewed towards males, with 14 individuals demonstrating evidence for these in comparison to only two females. Four adult males (Cleatham grave 27 and Great Chesterford graves 2a, 75 and 137) had suffered fractures to the clavicle, and four or possibly five (Cleatham graves 5, 10, 18, 40, and Great Chesterford grave 90) had suffered fractures to the lower legs or arms. These injuries are considered to be typical of those sustained while working in agricultural contexts (Gilchrist 2012). One female (Cleatham grave 19) had also suffered a fracture to the clavicle, and another (Great Chesterford grave 160) had experienced a fracture of the right radius. Gilchrist (2012) cites fractures to the lower arms as a potentially common injury that women sustained during the milking of cows, but a lack of further evidence for this or other similar instances of trauma prevents an assessment of occupational injuries among the female population.

While the discussion here represents a brief examination of some of the interesting data for pathologies as they vary by age and sex categories within the database, the examination of more complete skeletal assemblages as part of future studies may be able to provide datasets that can be effectively used as part of a statistical analysis of pathological conditions during the early Anglo-Saxon period.

Figure 5.4.29 – Table showing individuals with pathological conditions within the sex categories and across the cemeteries

Cemetery	Females with pathological conditions	Males with pathological conditions	Unsexed individuals with pathological conditions	Total
Bloodmoor Hill	3	3	1	7
Cleatham	12	20	3	35
Great Chesterford	33	27	5	65
Morning Thorpe	10	6	1	17
Spong Hill	4	2	1	7
Westgarth Gardens	3	3	1	7
Grand Total	65	61	12	138

Pathological Conditions

Although the pathological information within the database was limited due to a variety of reasons, as noted above, it is possible to give a broad summary of the types of pathology recorded from the available data (as seen in Figure 5.4.30 below).

Many pathologies were identified in individuals from across the six cemeteries, indicating that the populations suffered from similar health issues regardless of the location or chronology of the site. The most commonly reported pathological conditions related to dental wear and poor oral health. 89 individuals in total were found to have some form of dental pathology. While indicators of poor oral health may have been more commonly noted in the pathology reports because odontological remains were sometimes the only evidence recovered in the graves, a range of dental pathologies were recorded. These included ante-mortem tooth loss, severe dental wear from repeated activity and carious lesions. Interestingly, the biting of thread, something that was practised as part of textile manufacture, was the repeated activity suggested to have caused the severe dental wear in some of the

female remains at Spong Hill (Hills *et al.* 1984; see also Mays *et al*. 2007 on comparative dental wear from the medieval site at Wharram, North Yorkshire).

Also relatively common were symptoms associated with degenerative diseases, namely in the vertebrae and joints. As noted above, these were most probably associated with repeated physical activity. This could have also been exacerbated by the poor nutrition, evidence of which could be seen within the database. Instances of enamel hypoplasia and cribra orbitalia were recorded at five of the six sites from which information on pathology could be obtained (these pathologies were not present in the population at Westgarth Gardens), and while these were not widespread among the population they nonetheless indicate that malnutrition was a latent issue that could affect the lives of those interred at the sites.

Other conditions were noted much less frequently. These included tuberculosis and spina bifida occulta, which were only recorded in a single individual within the database and therefore constitute the rarest of the pathologies identified. Degenerative conditions were the most common form of pathology within the database (degenerative disc and joint disease, for example, were recorded in 32 cases). As noted above, these conditions can develop for many reasons, but one common potential cause is repeated strenuous activity. Given the physicality of early medieval life, it is reasonable to assume that many day-to-day activities, such as agricultural work, might provide a context for the development of such conditions.

Trauma was detected in the remains from Cleatham, Great Chesterford, Morning Thorpe and Westgarth Gardens. However, incidences of this were relatively rare, being recorded in only 20 individuals. This mainly consisted of healed fractures (18 cases, sustained by 16 individuals). Fractures were recorded in all areas of the

skeleton: on the skull, ribs, arms, legs, clavicles and vertebrae. One interesting instance of healed trauma, possibly related to interpersonal violence, was discovered on an adult male buried at Cleatham (grave 40). This individual exhibited fractures on his left radius and ulna, which are often considered to represent defensive injuries (Vogel 2017), although injury as a result of an accident certainly cannot be ruled out. While the fractures had demonstrably healed, the individual may have suffered long-term repercussions of his injuries, as he was found buried with what was interpreted as an orthopaedic fitting (Leahy 2007). Although the individual may have lost the use of his arm due to his injuries, the fitting could have been developed to enable him to continue engaging in occupational activities. Interestingly, he was accompanied by a spear, possibly providing an insight into the circumstances in which he was injured.

Interestingly, there was a general lack of definitive evidence for peri-mortem violence recorded within the database, with the possible exception of the two remaining individuals who presented evidence of unhealed vertebra trauma and possible ante-mortem tooth loss respectively. In the first case, the bone of the vertebrae had been flattened, and in the second there were indicators that teeth had been knocked out. However, any of the above injuries could have occurred accidentally; as with degenerative conditions, these types of injuries may have occurred during many activities, especially those related to agriculture (see discussion in Gilchrist 2012). One individual, an adult male from Great Chesterford (grave 75) exhibited healed sharp force trauma to the right parietal bone, in addition to a fracture of the left clavicle. While the head trauma might well have occurred as a result of some accident, this might also represent evidence for interpersonal violence. Similar head trauma was identified on another male (Westgarth Gardens grave 32),

who was found with evidence of healed injuries that had possibly been inflicted by a spear and a sword. This individual, furthermore, was also missing his left hand. While the missing hand could be interpreted as the result of animal scavenging, the lack of any carpal bones suggests that the hand was already missing when the individual was buried. Therefore, while together these individuals do provide potential evidence for interpersonal violence, the exact circumstances surrounding their injuries cannot be known for certain. Either way, it is worth noting that the generally low levels of violent trauma in the database is consistent with other studies that have recorded a similar lack of evidence for healed weapon injuries among medieval skeletal assemblages (see Grauer and Roberts 1996, Falys 2014 and Loe *et al*. 2014, among others).

One final potential indicator of violence can be seen in two burials, in which the individuals were decapitated. The individuals in question were both adults; a female and a male (Cleatham grave 11 and Westgarth Gardens grave 8 respectively). The skull of the female was not present in the burial, but instead may have been deposited 2.2m to the south of the grave. The male's skull, in contrast, had been placed on his chest. While both of these burials are discussed in more detail in the next chapter, it is worth noting the violent treatment of human remains, especially decapitation, is widely regarded as a characteristic of 'deviant' burials in Anglo-Saxon England (see discussion in Reynolds 2009). It must be stressed, however, that it is not possible to conclusively assert that decapitation had taken place before death, as it is equally possible that this act was conducted either prior to or as part of the burial rite.

Figure 5.4.30 – Table showing pathological conditions and individual totals from the database

Pathological Conditions	Total no. of individuals
Schmorls nodes	13
Porotic hyperostosis	1
Degenerative joint disease	43
Trauma	20
Osteoarthritis	22
Degenerative disc disease	16
Foramen caecum hypoplasia	3
Osteomyelitis	2
Periostitis	4
Osteochondritis dissecans	5
Cribra orbitalia	6
Spondylolysis	4
Spina bifida occulta	1
Hyperostosis frontalis interna	1
Mandibular hyperplasia	2
Spondylosis	2
Disseminated idiopathic skeletal hyperostosis	1
Tuberculosis (Pott's disease)	1
Tooth agenesis	5
Periodontitis	10
Hypercementosis	3
Enamel hypoplasia	12
Dental wear	3
Ante-mortem tooth loss	20
Calculus deposits	6
Dental caries	17

In sum, this brief overview of the more salient pathological data from the six available cemeteries has provided some insights into the lifestyle, health, and occupations of the communities buried within them. The discussion has demonstrated that all members of the population could develop and suffer from a range of conditions, including degenerative conditions and chronic illnesses. Additionally, although instances of violent trauma were infrequent, the few examples of this demonstrate that individuals were engaging in conflict, either with other

members of the local population or against outsiders. Furthermore, the evidence for decapitation in two burials provides potential evidence for 'deviant' or atypical individuals, who will be discussed later in this study.

While issues with regards to preservation exist both across and within cemetery sites, future studies will undoubtedly be able to shed further light on the population of eastern England during the early Anglo-Saxon period. While the pathological data from Lakenheath could not be provided for this study, it is anticipated that the forthcoming publication of this material will provide significant quantities of high-quality data that can be harnessed in pursuit of this goal.

Grave good analysis

The sections above have provided an in-depth look into the demography of the database population using cemetery, age and sex as filters. The same data will now be used to provide a structure for the analysis of grave goods. The osteological information produced above will now be presented alongside the grave good analyses and additional burial features. This will help to determine if any anomalies or patterns exist within grave good frequencies across the dataset. As above, core statistics will be generated and discussed, providing totals for the complete database population, the individual cemeteries, and age and sex categories. The analysis will then focus on the 11 grave good types established (dress accessories, jewellery, personal equipment, recreational items, tools, utensils, weapons, textiles, coins and unidentifiable objects) with the aim of identifying any correlations between grave good type and demographic categories. This will include grave good statistics and frequencies for the complete database population, as well as a secondary level of analysis which focuses only on aged and sexed individuals. From this, it will be possible to develop the most accurate grave good analysis as only the remains from sexed adults provide the fullest osteological data.

Where possible each individual within the database was catalogued both osteologically and in terms of their accompanying material culture. Some individuals were found without a grave assemblage and were classified as such. Where grave goods were recovered alongside skeletal remains they were evaluated on grounds of their functionality and generalised classification e.g. knives were identified as tools and bowls as utensils (as seen in Figure 2.5). The grave good analysis used within this study has been designed to provide a simple and logical means of categorising

grave assemblages. This approach also avoids the engendered stereotypes that have been applied in the past such as the 'weapon equals warrior' interpretation whereby skeletal remains have been classified as male warriors solely on the discovery of weapons within their graves (for a detailed discussion see Whitehouse *forthcoming*).

It could be suggested that grave good analysis by its nature is overreaching and restrictive. It is, in essence, a way of describing and deconstructing the existence of one human life by the few goods beside which they happened to be buried. Although it is sometimes all we have to work with, it does highlight the potential errors that can be made using this type of analysis to form conclusions on social groups, communities and societies. It is for this reason that a modified version of grave good analysis forms an important component within this study and this is reflected within the database through the use of 11 categories. However, the approach used to interpret the assemblages was not created to typify the lives of the studied individuals. Instead, the analysis of the material culture found at the eight sites was designed to complement the osteological information and not overshadow it. It was not, for example, used as an indicator of sex but was used to determine if correlations exist between particular grave goods and certain social groups.

Grave goods across total population

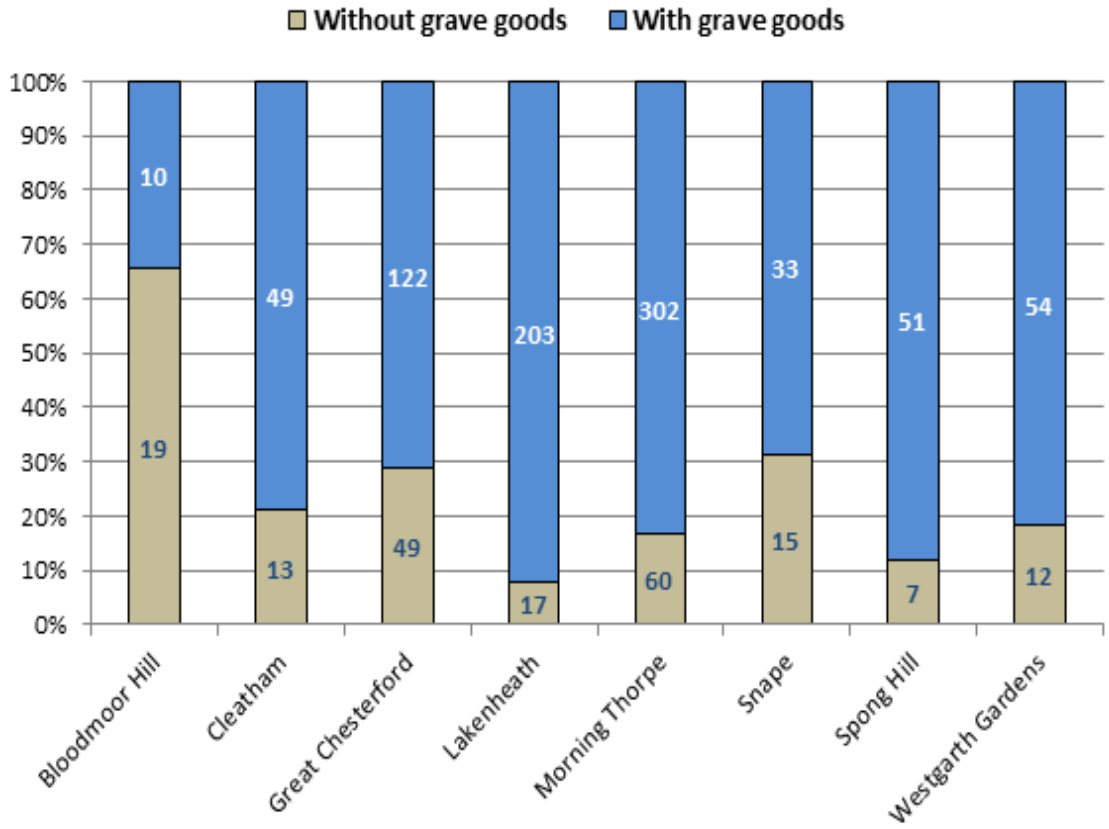
Overall, 824 of the 1016 (81.10%) individuals within the study were accompanied by grave goods. 764 of the total 824 individuals (92.72%) with grave goods were found in single inhumations. With reference to multiple burials and grave goods, 93.75% of the total 64 individuals were found with an associated grave assemblage (60 individuals). Similar proportions between single and multiple graves were also recorded for burials without grave goods. Of the 192 individuals found without an identifiable assemblage, only four individuals were deposited in multiple graves. Therefore, the inclusion of grave goods was not affected by the number of individuals within the burial. It may be argued, however, that the individuals found without grave goods may not all have been buried with empty graves, for the absence of grave goods may relate to poor preservation at the site or may be due to the perishable nature of the items deposited. For example, food stuffs and other organic material are unlikely to leave tangible remains in the grave if they have no containers or the containers themselves are organic (Lee 2007).

Grave goods and cemeteries

When the number of grave assemblages is compared across the eight cemeteries, all sites except for Bloodmoor Hill show similar proportions. At Bloodmoor Hill only 10 individuals of the total population of 29 were found alongside grave goods, representing 34.48% (see Figure 5.5.2 below). The remaining cemetery populations produced much higher percentages of individuals found with grave assemblages: Lakenheath 92.27%, Spong Hill 87.93%, Morning Thorpe 83.43%, Westgarth Gardens 81.82%, Cleatham 79.03%, Great Chesterford 71.35% and Snape 68.75%.

This divergent statistic from Bloodmoor Hill may suggest that the frequency of grave good deposition was very different when compared to other cemeteries (assuming preservation did not significantly alter the recovery of grave goods). This is potentially linked to the later chronology of the site, which saw a decrease in the use of furnished burial. Bloodmoor Hill was in use after 'Christianity had become firmly established in East Anglia and so the cemetery may be considered an early Christian-period burial ground' (Lucy *et al.* 2009: 406). This suggests that there may have been overlap between the pre-Christian practice of depositing grave goods with the dead and the newer burial rite that promoted the use of unfurnished graves. Consequently this site may provide an example of cultural diffusion whereby certain individuals at Bloodmoor Hill were adopting elements of Christian burial practice whereas others (possibly the older generations) were continuing the rite of furnished burial. It is, however, possible that individuals who had converted to Christianity may have chosen to retain the furnished burial rite. The recovery of suggested 'Christian' grave goods such as the cruciform pendants found in Grave 11 may support this theory (Scull 2009).

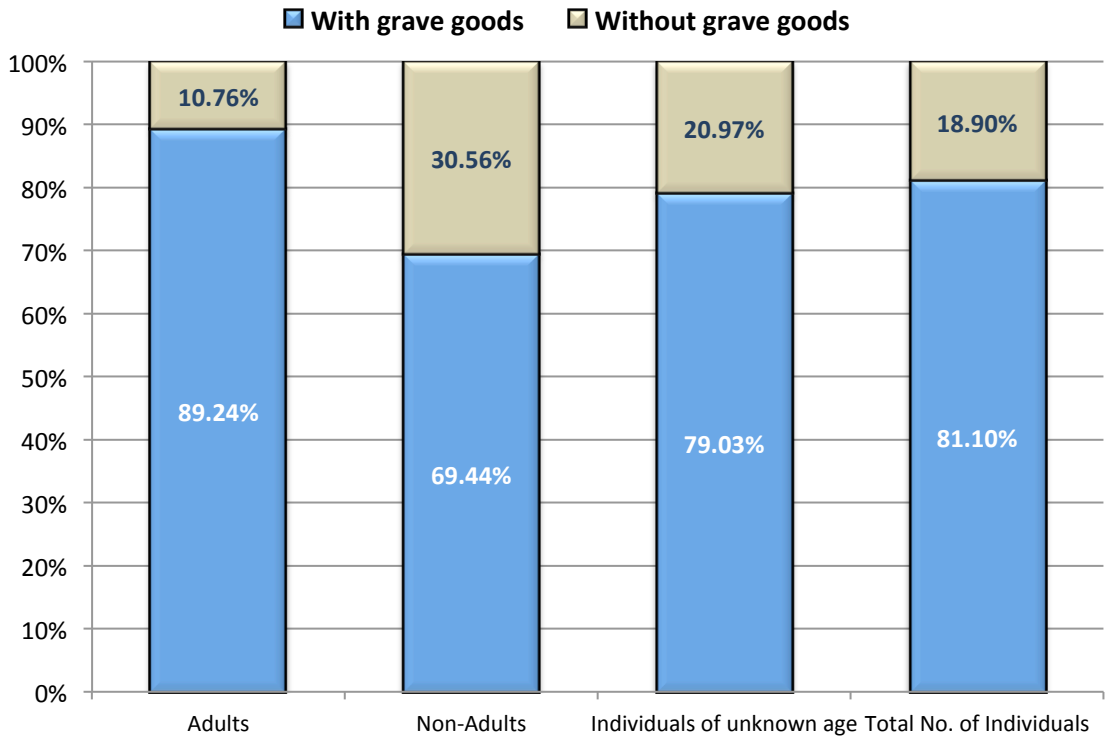
Figure 5.5.1 – Graph showing grave good deposition across the cemeteries



Grave goods and age

The total 824 individuals found with grave goods comprised 44.30% (365) adults, 18.20% (150) non-adults and 37.50% (309) individuals of unknown age. In terms of the total aged population found with grave goods 70.87% could be aged as adult and the remaining 29.13% as non-adults. The 365 adults accompanied by grave goods represent 89.24% of the total 409 adults in the database population. 44 (10.76%) were either buried in empty graves or with goods that did not survive archaeologically. Of the 216 non-adults and 391 individuals of unknown age within the database, 66 and 309 were accompanied by grave goods respectively.

Figure 5.5.2 – Graph showing grave good deposition across the ages



In some cases, the level of burial preservation may be used to explain the grave good frequency differential between adults and non-adults. The smaller numbers of non-adults found with grave goods could relate to the accelerated rate at which non-adult bodies decompose when compared to the deterioration of adult remains (Geller 2005). A 30% disparity was calculated between the proportion of adults and non-adults with grave goods. If not the result of poor preservation, this could alternatively indicate a practice whereby non-adults are less likely to be deposited with material objects. It is possible that, at certain sites, non-adults were not considered as full members of society until they had reached a particular stage of social, biological or cultural development (Crawford 2000). This would then be reflected in the absence of an assemblage or the deposition of an alternative or

smaller collection of grave goods for non-adults (Crawford 2007). While this hypothesis can hold to an extent, it is important to also note that a wide variety of assemblages do not seem to be affected by age. An example of this can be seen in the comparison of Graves 86 and 155 at Lakenheath cemetery. In these graves, an infant and an adult were recovered from single inhumations and were found alongside almost identical sets of grave goods. The similarity in assemblages can be seen in the tables below.

Figure 5.5.3 – Tables showing the comparison between the assemblages found in Lakenheath Graves 86 and 155

Lakenheath Grave 86	
Female adult	65 beads
	2 annular brooches
	Pin
	Knife
	Latch-lifter
	Buckle
	2 finger rings

Lakenheath Grave 155	
Non-adult of unknown sex	82 beads
	2 annular brooches
	Pin
	Knife
	Latch-lifter
	Wrist-clasp
	Ring
	Unidentified object

Grave goods, cemeteries and age

Within the cemeteries there was considerable difference noted across the aged populations found with grave goods. This is clearly displayed in Figure 5.5.4 below, which shows the variance in percentage totals, from under 5% at Snape cemetery to 85.00% at Lakenheath. For six out of the eight cemeteries, a larger proportion of the individuals found with grave goods could be aged than not. At the two remaining cemeteries, Morning Thorpe and Snape, more unaged individuals were found with grave goods than the individuals who could be accorded an age. Both Morning Thorpe and Snape showed the largest proportions for the unaged population with grave goods. By contrast, Bloodmoor Hill displayed the highest prevalence for aged individuals without grave goods. A variety of reasons can be used to explain these deviations which may involve cemetery-specific burial rites, levels of preservation or difficulties in recovery or identification. In the case of these two cemeteries however, it is reasonable to assume that the low numbers of aged individuals with grave goods relate to the poor preservation at the sites. This is especially true of Snape where the preservation of human bone was so poor that in almost all graves only a body stain remained. Although these individuals could not be aged due to the absence of skeletal material, they were still recovered with grave goods. It is believed that the 'high acidity of the natural heathland soil' at Snape promoted the survival of textiles and associated metal work whilst destroying the human remains (Filmer-Sankey and Pestell 2001: 16).

Figure 5.5.4 – Graph showing grave good deposition across age and cemetery

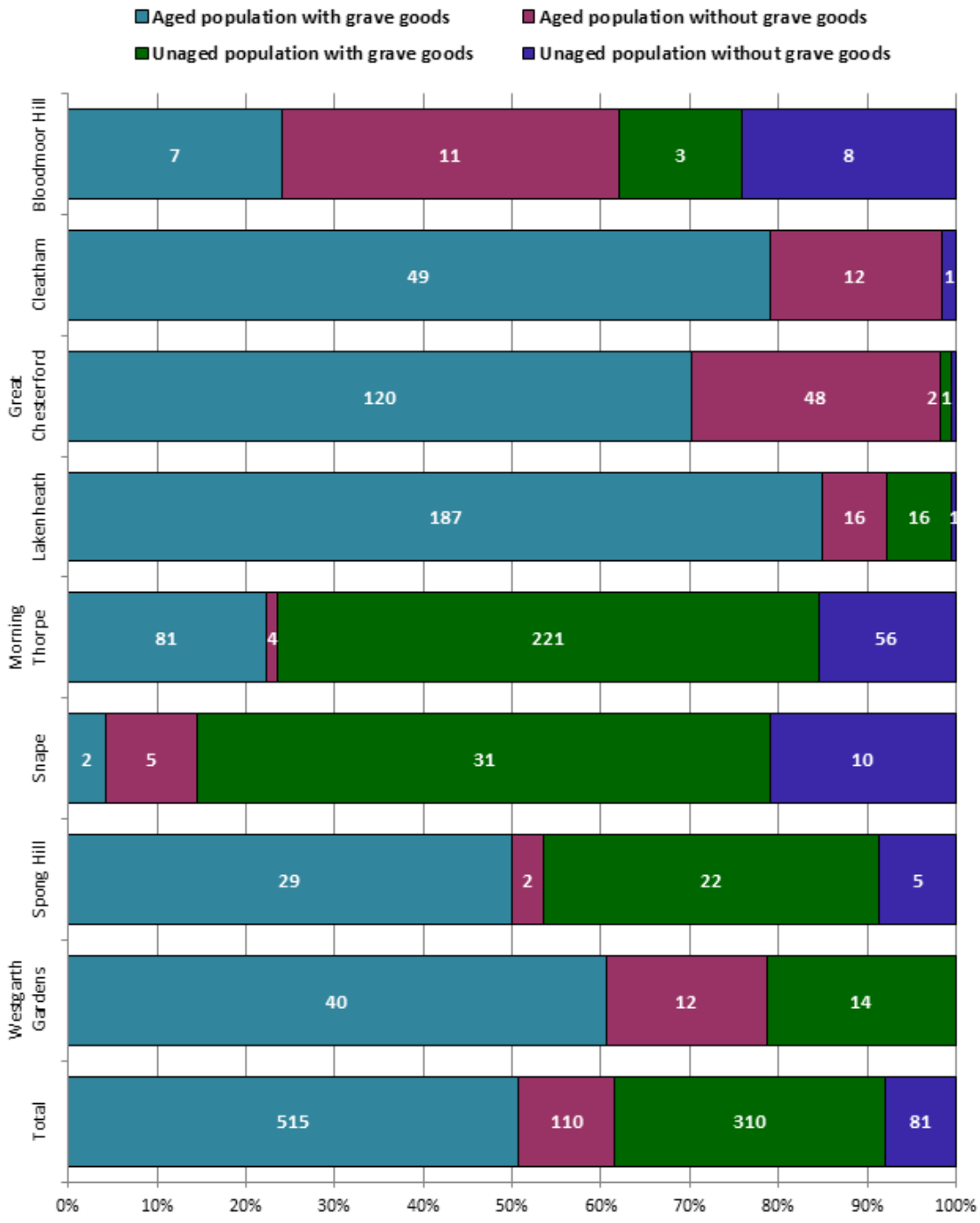


Figure 5.5.5 – Table showing values for grave good deposition across age and cemetery

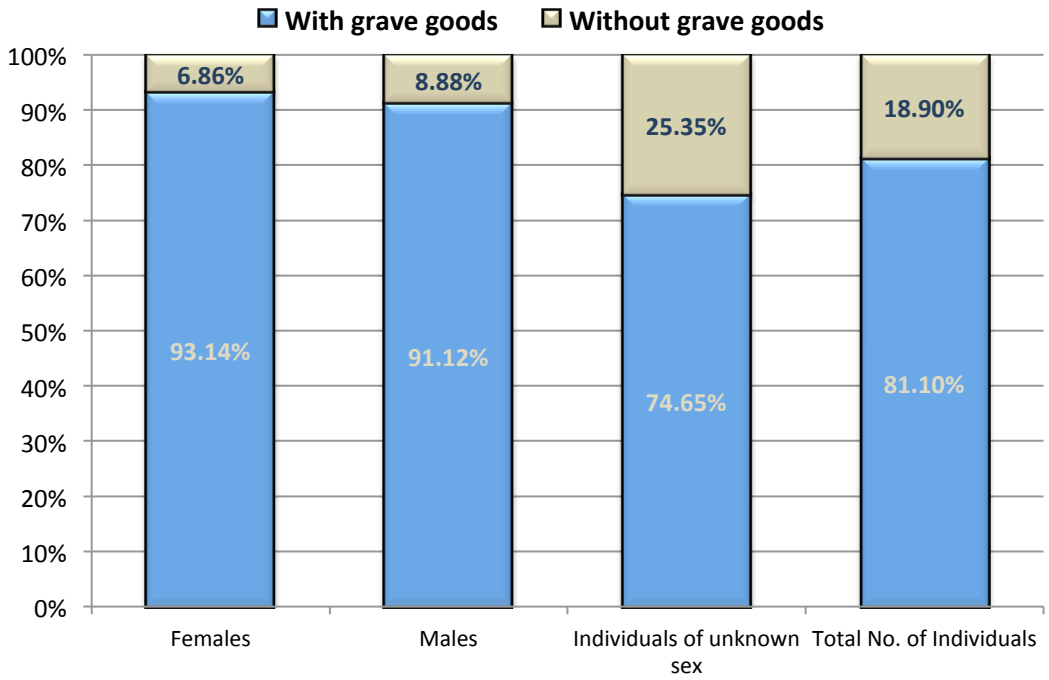
Cemetery	Aged population with grave goods	Aged population without grave goods	Unaged population with grave goods	Unaged population without grave goods
Bloodmoor Hill	7	11	3	8
Cleatham	49	12	0	1
Great Chesterford	120	48	2	1
Lakenheath	187	16	16	1
Morning Thorpe	81	4	221	56
Snape	2	5	31	10
Spong Hill	29	2	22	5
Westgarth Gardens	40	12	14	0
Total	515	110	310	81

Grave goods and sex

Of the 824 individuals accompanied by a grave assemblage, 344 (41.75%) could be given a sexual classification. Of the total individuals buried alongside grave goods (824), 190 were female (23.06%) and 154 were male (18.69%). The total number of sexed individuals with grave goods is 344, representing 33.86% of the total database population. A very high percentage (92.23%) was recorded for the individuals found with grave goods inside the total sexed population, at 344 out of a total of 373. 55.23% of those with grave goods were sexed as female (190 out of a total of 344) and 44.77% of those with grave goods were deemed male (154 out of a total of 344). 480 of the total number of individuals accompanied by grave goods remained unsexed. 190 of the 204 females within the database were found with a grave assemblage. An analogous figure was seen for the male individuals with 154 out of a

total of 169. The individuals of unknown sex had a higher proportion found without grave goods at 25.35% when compared to less than 10% for both males and females without grave goods. One explanation could be associated with a lower level of preservation for graves where neither skeletal remains nor material culture survived the burial conditions. It is therefore expected that where bone preservation was high enough to enable sexual identification, there is an increased likelihood of better preservation of grave goods. Consequently, where osteological sex is easier to establish, the determination of gender from the material goods will also be an easier process. As there is no arbitrary reason to expect members of one sex to have been provided with grave goods over the other, further examination of *both* sets of information here would be superfluous.

Figure 5.5.6 – Graph showing grave good deposition across the sexes



Grave goods, cemeteries and sex

It is also possible to examine the results for sex categories and grave goods across the cemeteries, as seen in Figure 5.5.7 below. Cleatham produced the highest proportions for sexed individuals found with grave goods whereas the results from Snape were extremely low, with only one individual being found with a grave assemblage and an identifiable sex. Bloodmoor Hill also presented a low percentage at 14.29%, whereas the remaining cemeteries were all over 25% of their total population being sexed and found with grave goods.

There are several ways of analysing this data as it brings together three different quantifiable components: grave goods, sex and cemeteries. As a contrast to examining these figures in reference to the complete cemetery population, it is also useful to discover what the proportions for each cemetery are within the total sexed population. For example, in three cemeteries, assemblages were found alongside 100% of the sexed population (Morning Thorpe, Snape and Spong Hill). All results for this query were above 85% except for the data from Bloodmoor Hill, where only 44.44% of the sexed population were found with accompanying grave goods (four out of nine sexed individuals). In essence this suggests that the accuracy of the sexing conducted at Bloodmoor Hill may be more reliable as over half the sexed individuals would not have had grave assemblages to influence the accordance of sex. Although this proposition may be acceptable, the results were formulated from a small number of individuals as only four out of the nine individuals within the sexed population were accompanied by grave goods. Nonetheless, this data and suggestions for the variance in results will be analysed later in the text (see discussion on grave good types).

Figure 5.5.7 – Graph showing grave good deposition across sex and cemetery

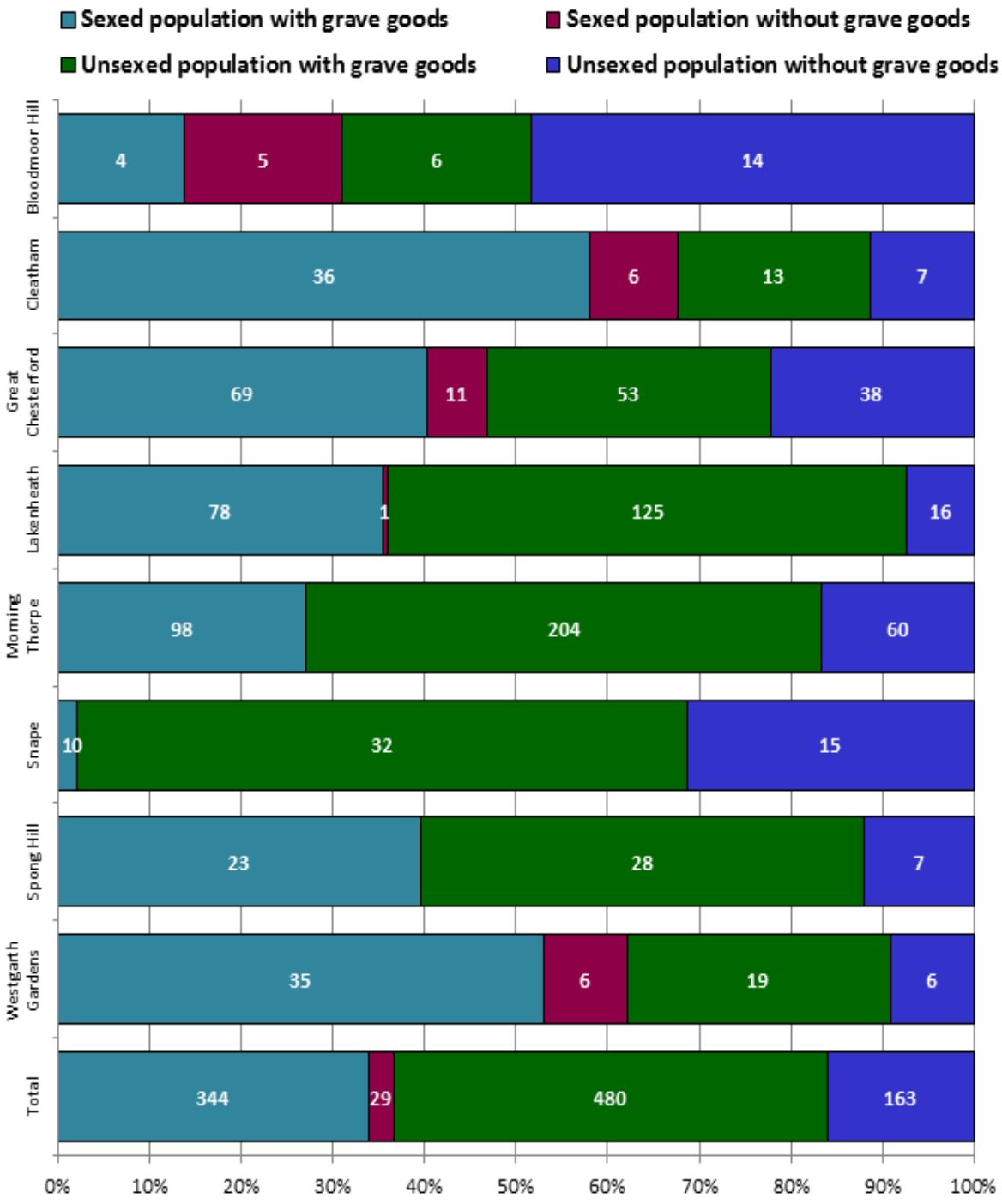
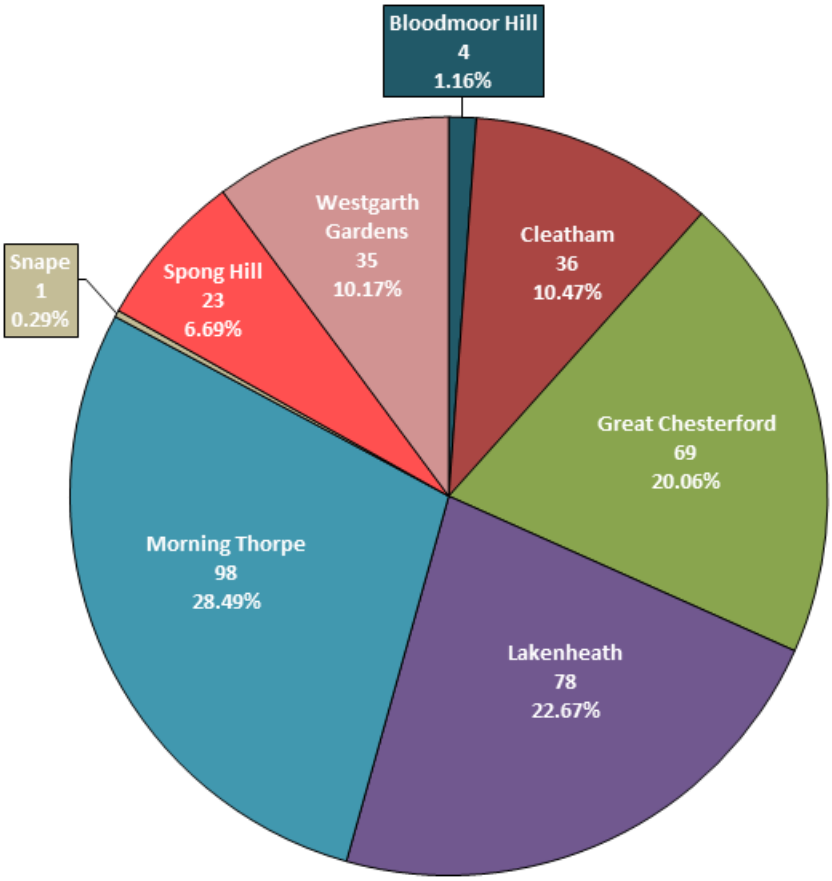


Figure 5.5.8 – Graph showing cemetery proportions within sexed population



In addition to the anomalous result from Bloodmoor Hill, it may be pertinent to the discussion as a whole to examine reasons behind such high numbers of sexed individuals found alongside grave goods in the other cemeteries. This is, of course, assuming that sex was not accorded using gender stereotypes from the analysis of material culture and not declared in the cemetery reports. Therefore, the high figures within this category may be the result of isolated levels of better preservation, perhaps partially caused by the placement of grave goods on certain areas of the skeleton. For example, it has been suggested that the positioning of bronze grave goods (such as brooches) on particular areas of the body can preserve the integrity of surrounding skeletal material (Evison 1994).

Figure 5.5.9 – Graph showing grave good deposition within sexed population at the cemeteries



Connected to these results are the sex divisions within the cemeteries for individuals found with grave goods. The largest differentials between the sexes for this query were from Snape at 100.00%, Bloodmoor Hill at 50.00% and Spong Hill at 47.82%. Snape held only one sexed individual; a male with grave goods, and therefore has a differential between the sexes of 100.00%. Similarly, Bloodmoor Hill also presented a male bias for sexed individuals with grave goods. In contrast, a female bias with comparable values was recorded for Spong Hill within the sexed population with grave goods. This separation of sex statistics may be due to the grave conditions of the site as well as the material and chemical constitutions of the grave goods and burial environment (Buckberry 2000). There may also be social and cultural motivations (such as age or ethnicity) which affect the frequency of grave good deposition for particular sexes or groups of individuals (Härke 1997).

Figure 5.5.10 – Table showing results of Chi-square test for statistical significance within the sexed population with grave goods

Cemetery	Two-tailed P value	Statistically significant
Cleatham	0.5050	Not
Great Chesterford	0.1854	Not
Lakenheath	0.4969	Not
Morning Thorpe	0.0047	Very
Spong Hill	0.0218	Yes
Westgarth Gardens	0.8658	Not
Total	0.0342	Yes

When conducting the Chi Square test for this set of data both Bloodmoor Hill and Snape were removed as their expected values were too low to be suitable for the significance tests. Of the remaining six cemeteries, Spong Hill and Morning Thorpe produced statistically significant results when comparing grave good deposition between the sexes. Both cemeteries show a much lower proportion of males with grave goods compared to the female values which will be discussed later when individual grave good types are analysed. Regardless of the extent of this statistical difference, the overall total for the sexed population with grave goods is also classified as statistically significant. These statistics correspond generally with the results from the Chi Square test on sexual divisions within the cemeteries.

Given the numerous combinations of burial attributes that can be used to generate statistics, it is understandably difficult to satisfy all queries. It is, however, important that the alternate statistics are offered for the previous categories of grave good analysis, sexual division and age category. With this in mind, it is now necessary to offer possible explanations for the variation found in the results for grave good deposition.

Grave good types

Having analysed the demography of the cemetery populations alongside and in reference to the presence of grave goods, the discussion will now move on to a secondary, more in-depth discussion of the different types of grave goods. This comprises the augmentation of the grave good categories, and represents one of the main components of the study given that this allows the identification of one potential marker of 'deviance' – mystic items (as discussed on pages 328-337).

The grave goods were broken down into 11 categories of type in order to classify them more easily in terms of the database as a whole and within all burial attributes. To avoid narrowing the interpretation of burial assemblages and thereby limiting the breadth of individual social identity, it was necessary to produce a wide range of grave good types and a 'material profile' for all of the individuals within the database. This approach was chosen as similar methods have been implemented in many successful comparable studies (Crummy 1983, Lucy 1998, Stoodley 1999 and Hines and Bayliss 2013).

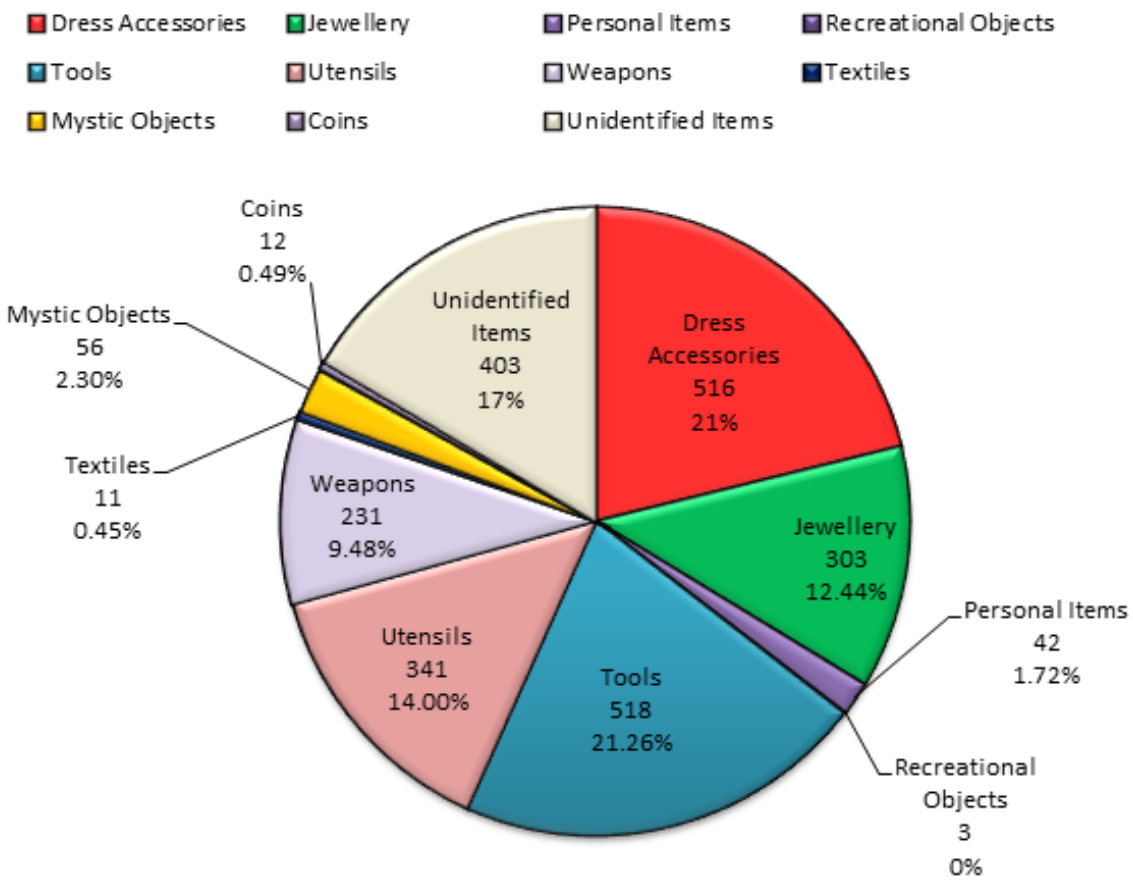
Although older than many of the texts used in this study, Crummy (1983) in particular helped to establish the structure of grave good analysis within this thesis based on functional analysis. There was a need to leave the classification of material remains as open as possible whilst maintaining a workable number of categories suitable for a structured statistical analysis and relevant discussion. As highlighted in Chapter 2, the categories of grave goods chosen include; dress accessories, jewellery, personal equipment, recreational items, tools, utensils, weapons, textiles, mystic items, coins and unidentifiable objects. This section is therefore structured in order to present basic statistics for the grave good types within the complete population

before the age and sex filters are applied. The next phase will then involve grave good analysis for sexed adults only, to give the most accurate assessment of osteological evidence against burial assemblages.

Generally, tools were the most popular grave good type recorded across the database, with 518 of the 1016 individuals being recovered alongside an item classified as a tool. A very similar frequency of goods was recorded for dress accessories, with 516 individuals within this group. The lowest figures were calculated for recreational items with only three individuals found with this type of grave good. Similarly low totals were reported for textiles and coins, with 11 and 12 individuals respectively as seen in Figure 5.5.11 below. Local tradition and regional practices may influence certain burial rites that indicate alternative determinants other than age (Lucy 1998). There are contradictions to the assertion that grave assemblages can reflect age, but there are instances where the theory holds true. An example of this may be found in the distribution of personal equipment. This was one of the least popular item types recorded in the database and mainly included personal grooming tools such as tweezers and combs. The frequency of this type of grave good amongst the adult population can most probably be related to the anatomical changes experienced during puberty (54.76% of this find type was found with adults and 9.52% with non-adults). For example, the use of tweezers may have only been widespread in the adult population for grooming and therefore were restricted to the adult assemblages. It would then be expected that fewer items of a certain type could represent a shorter life, with fewer goods accumulated or offered, especially if they are associated with the completion of certain tasks or life events (Gowland 2006 and Sofaer 2011). A similar differential between age groups was calculated for the grave

good category of 'mystic items' which were associated more with adults than non-adults. This grave good type was classified as such from the interpretation of their use as well as their ambiguous meaning. Many of the assemblage items within this category were examined in reference not only to their limited distribution but also with key publications in mind (Meaney 1981, Knüsel and Ripley 2000, Crawford 2004 and Gilchrist 2008) which draw on later Anglo-Saxon and English texts that may preserve folk practices. Due to the nature of these items and their mystical overtones they were included in the parameters used to identify 'atypical' individuals and will therefore be examined in greater detail in the section below.

Figure 5.5.11 – Graph showing grave good types across the database



Grave good types overall totals; age, sex and cemetery

Figure 5.5.12 – Graph showing grave good types within the aged population

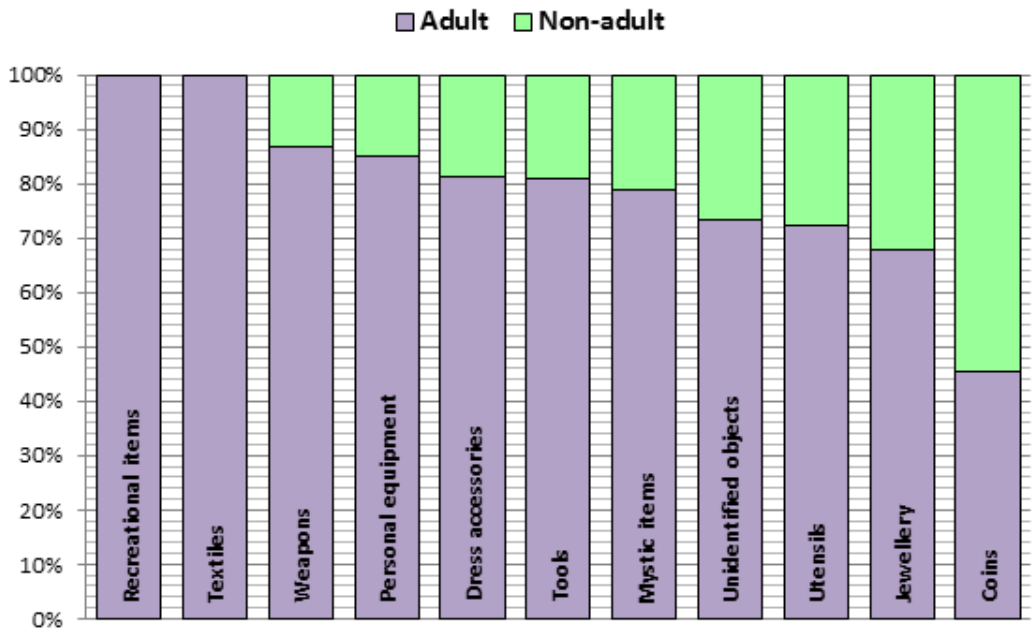
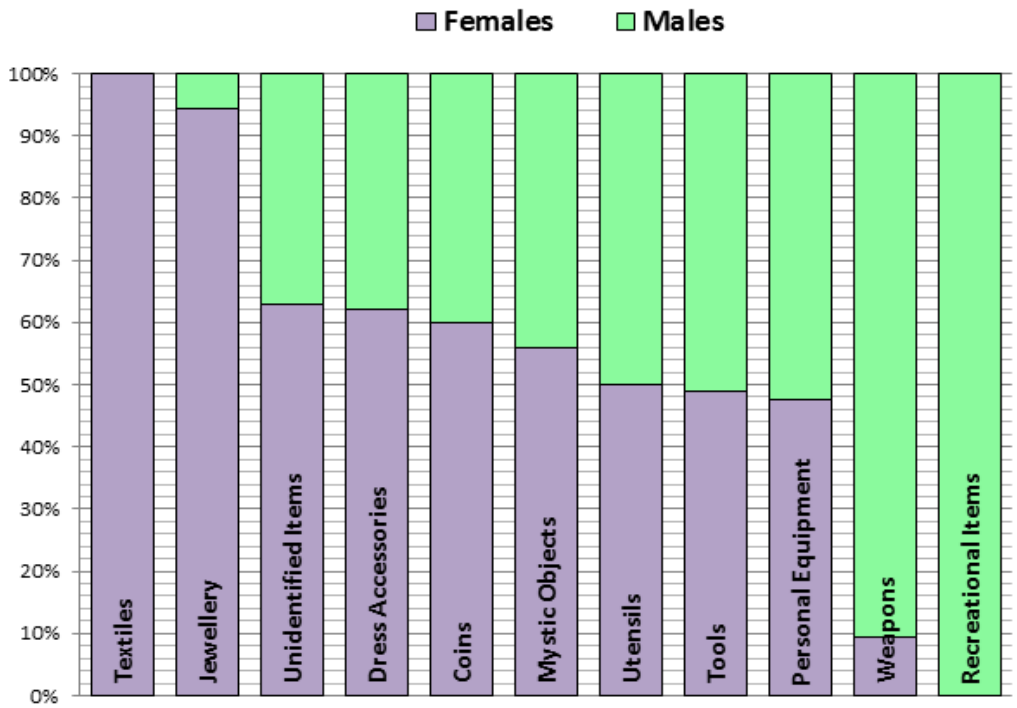
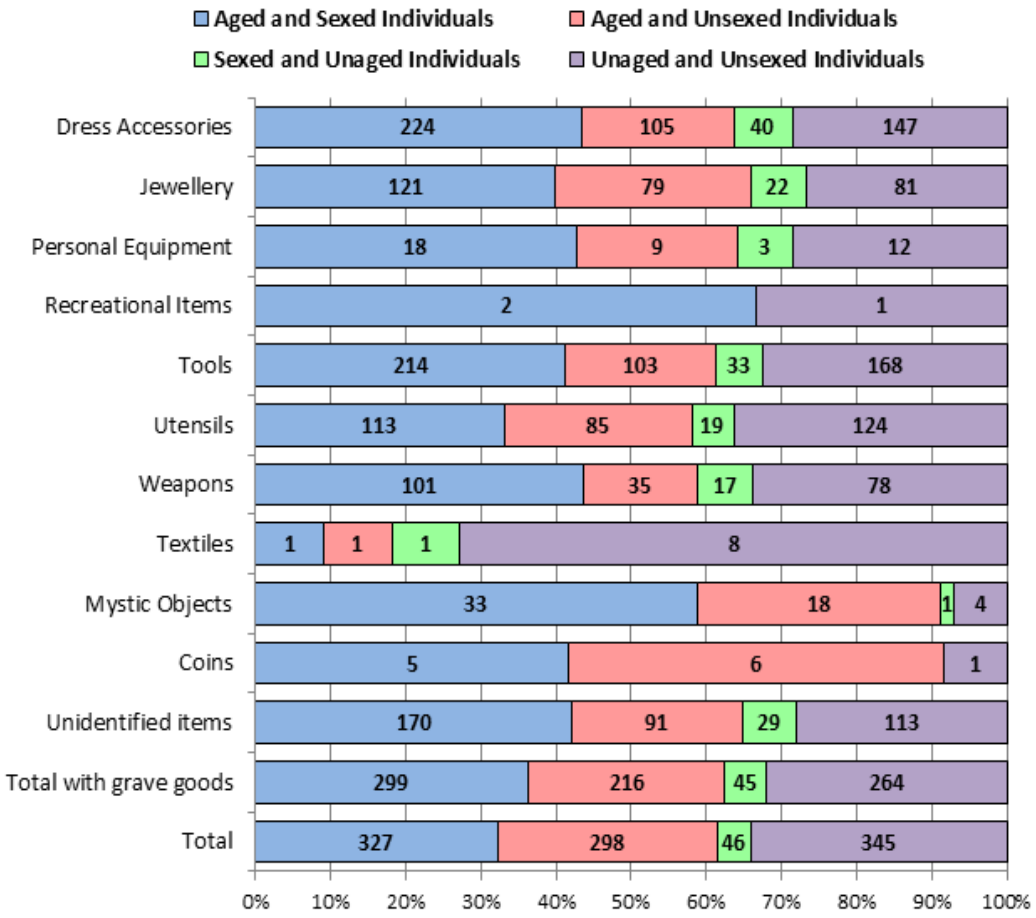


Figure 5.5.13 – Graph showing grave good types within the sexed population



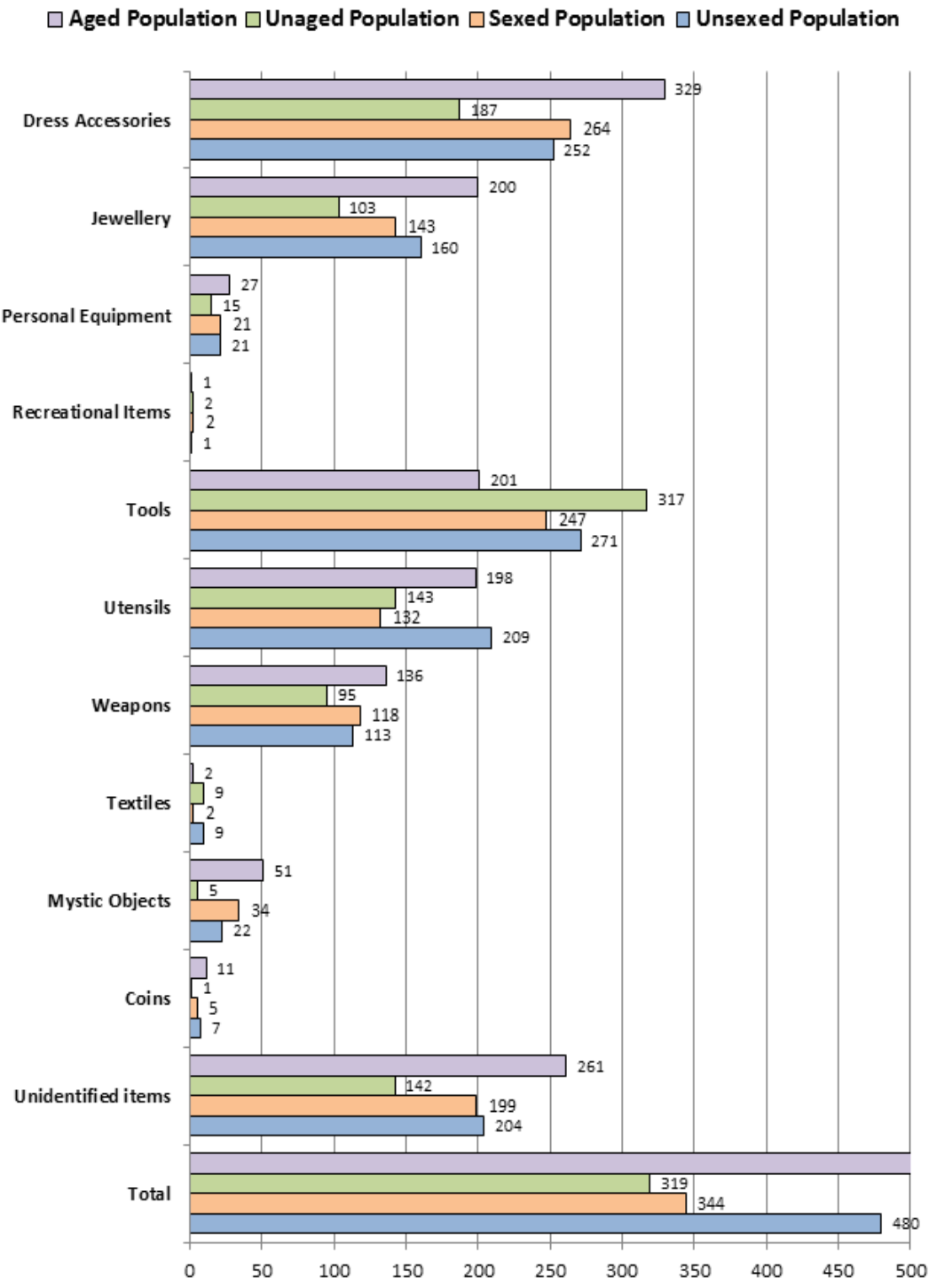
Overall, the two figures above provide a comparative view of the grave good types within the aged and sexed populations. This presents the proportion of individuals associated with each grave good type in terms of the success of their osteological assessments of age and sex. This will be used later in the text to see if there are any correlations between grave good type and the completeness of an individual's osteological profile. Figure 5.5.14 below displays the quantity and quality of the osteological material studied against the backdrop of grave good classification. For instance, it is clear from the diagram that the individuals found alongside textile remains were much less likely to be aged and sexed definitively. This may be associated with the catalytic effect of organic textiles on the decomposition of human remains (Hunter *et al.* 1996 and Haglund and Sorg 2002). Alternatively, it is evident that individuals found with coins or mystic objects within their burials were more likely to be aged and sexed that those without. Interestingly the three individuals found with recreational items ranged from both aged and sexed to undetermined sex and of unknown age. This usually suggests that a more complete skeleton in good condition was analysed alongside skeletal remains that were badly degraded.

Figure 5.5.14 – Graph showing aged, unaged, sexed and unsexed populations within grave good types



The figure below complements the information displayed above as it provides an insight into the composition of each of the grave good types in relation to age and sex attribution. There are statements that can be drawn directly from the chart which help decipher the type of individual found beside each type of grave good. These may be generalised and abstract but can be used in later stages of analysis to determine if any links exist between the types of grave good deposited and the likelihood of assigning age and sex regardless of the state of remains. This is essentially a test of grave good significance to determine whether a particular item type may inadvertently influence the age and sex recorded for the burial.

Figure 5.5.15 – Graph showing grave good types across aged, unaged, sexed and unsexed populations



In the tables below, the sexed population has been evaluated using the Chi Square Test in order to establish if any statistics were significant in terms of grave good classification and sexual category. This approach was the most efficient way of demonstrating the statistical relevance of this data. Essentially, this test is examining the level of divergence between equal sex ratios within the different grave good types. This rests on the null hypothesis of equal female and male populations with a degree of freedom of one and a two-tailed P value. Two grave good types were removed from this test (recreational items and textiles) as their totals were too low to give valid results (<1 for observed and expected values).

Figure 5.5.16 – Table showing results of Chi square test for statistical significance within the sexed population for grave good types

Grave good type	Two-tailed P value	Statistically significant
Dress Accessories	<0.0001	**Extremely**
Jewellery	<0.0001	**Extremely**
Personal Equipment	0.8273	**Not**
Tools	0.7504	**Not**
Utensils	1.0000	**Not**
Weapons	<0.0001	**Extremely**
Mystic Objects	0.3980	**Not**
Coins	0.6547	**Not**
Unidentified items	0.0003	**Extremely**
All grave goods	0.0509	**Not quite**

The results from the Chi Square Test indicated four cases of 'extreme' statistical significance within this query. The grave good types within this group included dress accessories, jewellery, weapons and unidentified items. The figures recorded for all individuals with grave goods were deemed as 'not quite' significant

when split between the sexes. In order to verify whether the statistically significant results from the previous experiment were applicable regardless of age classification, the Chi Square Test was repeated for the sexed adult population. Roughly the same patterns were recorded for the grave good types within this test except for two deviations. The findings for dress accessories, jewellery and weapons all remained 'extremely' statistically significant whereas the results for unidentified items were downgraded to 'very' statistical significant. The results for the complete population with grave goods were deemed not statistically significant. These changes could relate to the uneven sex ratio that was produced by the unaged individuals and those aged as non-adults. Therefore when the filter group was altered to include only sexed adults, the statistically significant results from the grave good categories were removed. A discussion of these calculations will be incorporated in later analyses.

Figure 5.5.17 – Table showing results of Chi square test for statistical significance within the sexed adult population for grave good types

Grave good type	Two-tailed P value	Statistically significant
Dress Accessories	0.0010	**Extremely**
Jewellery	0.0001	**Extremely**
Personal Equipment	1.0000	**Not**
Tools	0.3639	**Not**
Utensils	0.9230	**Not**
Weapons	0.0001	**Extremely**
Mystic Objects	0.3692	**Not**
Coins	1.0000	**Not**
Unidentified items	0.0047	**Very**
All grave goods	0.1902	**Not**

Individual grave good types

The following sections will dissect the different grave good types in terms of the burial attributes recorded within the database. This is designed with the intention of generating a stable platform from which to conduct further statistical tests. Each of the eleven grave good types are subsequently analysed in terms of database totals, cemetery proportions, age categories and sexual divisions to provide a comprehensive profile for grave good analysis.

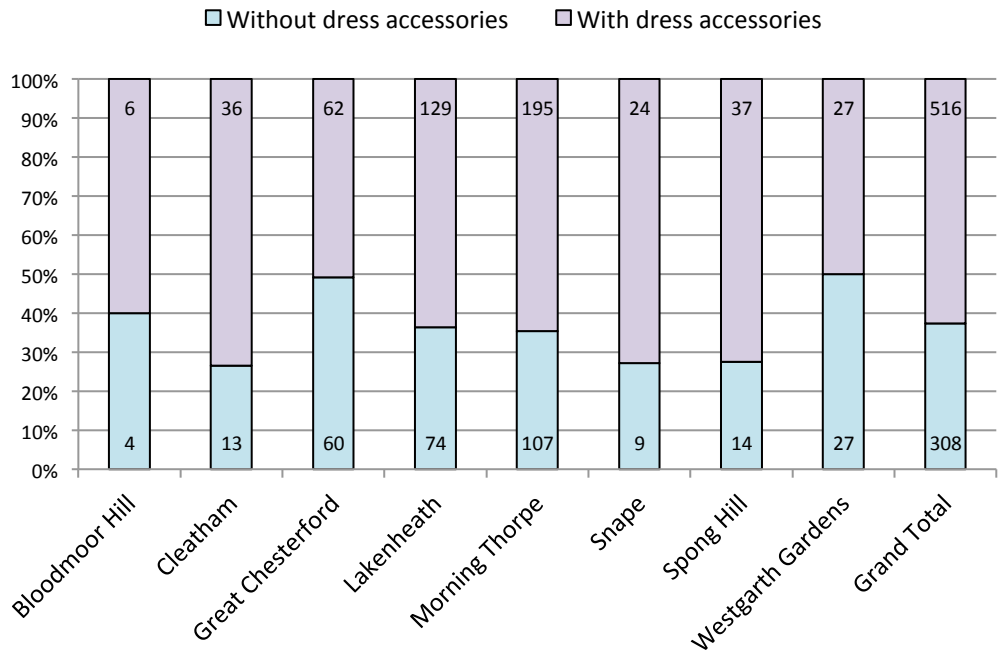
Dress accessories

Dress accessories were recovered with 516 of the total 1016 individuals within the study remit. The most popular goods within this category included buckles (found with 289 individuals) and brooches (found with 264 individuals). Overall, 62.62% of individuals found alongside grave goods had a dress accessory within their assemblage.

The cemetery containing the largest proportion of dress accessories was Cleatham, where 73.47% of individuals with assemblages were recovered with this grave good type. Similarly high figures were recorded at Snape and Spong Hill (as seen in Figure 5.5.18 below). In contrast, only half of the individuals in furnished graves at Westgarth Gardens had a dress accessory within their assemblage. As this grave good type is directly associated with clothing, it may indicate that, at Cleatham, Snape and Spong Hill, certain styles precipitated the need for more dress accessories to be worn, resulting in more being deposited with the deceased. It has been suggested by Walton-Rogers (2007: 233) that in the northern regions of East Anglia 'costume exhibited a much greater range of styles' than other areas of Anglo-

Saxon England and that it is very likely that different localities adopted different fashions in accordance with their particular influences and tastes.

Figure 5.5.18 – Graph showing dress accessories across the cemeteries within the population found with grave goods



As discussed in the previous section, the difference in the deposition of dress accessories between males and females was statistically significant. This was found for a number of the grave good categories, especially those which have been used as engendering indicators in previous reports. The demographic statistics for dress accessories within the database have been presented below to provide a detailed insight into the deposition of this grave good. In addition to the statistically significant results for sex in this category, the differential between adults and non-adults also proved extremely statistically significant. Hence, the database suggests that both females and adults were much more likely to be buried alongside dress accessories than males and younger individuals. Both of these instances of extreme

significance are discussed in further detail at the end of the chapter, when anomalous statistics from the database are highlighted and the potential reasons for these are considered.

Jewellery

The second grave good category examined was jewellery, which was found with 303 individuals. 36.77% of all assemblages discovered contained an item of jewellery, of which the most popular type was beads made from a variety of materials. 97.36% of all jewellery assemblages contained at least one bead. As seen in Figure 5.5.19 below, the proportion of individuals from furnished burials found alongside jewellery was roughly equal across the cemeteries.

Within the overall total number of individuals accompanied by jewellery assemblages, 135 were sexed as female and eight of the total 169 male population were discovered with an item of jewellery within their grave. 160 individuals of unknown sex were also discovered with an assemblage containing jewellery. In respect to the sexed population, 47.19% were found with an item of jewellery although this figure is distorted heavily by the disproportionately larger percentage of females in the group found with this grave good type. There is an arguable point here, that if jewellery more likely to be found alongside females, the unsexed population would potentially have an unequal split between the sexes. This can be further substantiated using statistics produced from the database, such as; expected sex ratios from the prevalence of jewellery suggest 135:8 female to male. Therefore within the unsexed population found with jewellery, nine would technically be sexed as male (9.48) and the remaining 151 would be deemed female.

The eight males buried with jewellery items were found at Cleatham, Lakenheath, Morning Thorpe and Westgarth Gardens. Seven were aged as adults and one could not be assigned an age. In all eight cases, beads were the items that classified these assemblages as containing ‘jewellery’. It is reasonable to suggest that

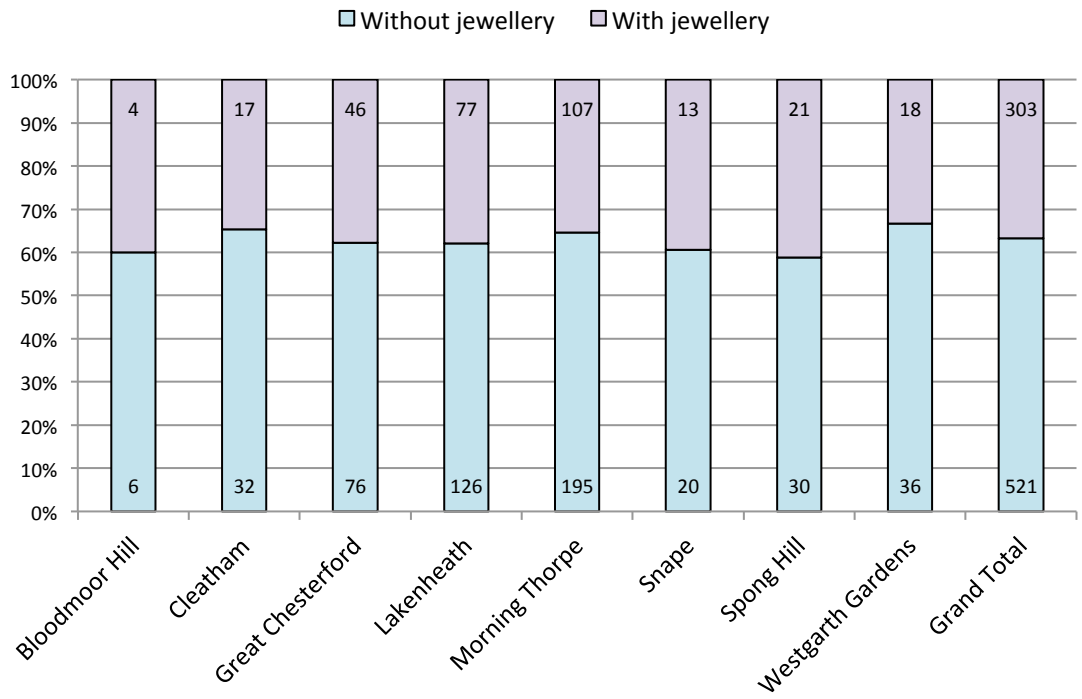
in Grave 218 at Morning Thorpe, the single bead found was once attached to the hilt of the sword recovered in the same assemblage. This feature is believed to have been symbolic or talismanic (Walton-Rogers 2007: 127) and aside from also being 'used as toggles on men's belts… the occurrence of decorative beads in male graves is rare' (Owen-Crocker 2010: 126). If it is accepted that the beads found within the male graves were either originally attached to the accompanying sword or buckles recovered; only three individuals remain unexplained. The first of these, Grave 351a from Morning Thorpe is very difficult to interpret at it is a multiple burial which includes a male, a female and two groups of grave goods. Although traditionally the bead would be subsumed into the female assemblage, it is located between a pin and a spearhead so could potentially be a decorative aspect of the male assemblage.

The remaining two males found with jewellery within their burials were recorded in Graves 9 and 17 at Cleatham cemetery and vary considerably when compared on assemblage contents. The individual deposited in Grave 9 was sexed as female by grave goods but classified as a 'possible male' from the osteological assessments made. The accompanying assemblage contains rings, brooches, a pin, a knife and 32 beads. Given that this amount of beads is very rarely found in the graves of males, it may be more likely that the individual, although female, displayed more male-typical skeletal characteristics and was recovered in a poor condition. Conversely, the male from Grave 17 at Cleatham was found with a much simpler assemblage that included a pot, annular brooch, knife and a glass bead. The bead and brooch were recovered close to each other, above the right shoulder suggesting that the bead may have been attached or suspended from the brooch. This has been seen

in female costume (Owen-Crocker 2010) but not in male graves, so instead may indicate a gift or sentiment from a female griever.

In addition to the sexual categorisation, almost half of the total number of individuals found with jewellery could be aged as adults (44.88%), with 33.99% of the total (103 out of 303) remaining unaged and 21.12% being aged as non-adults. This can be deconstructed to show the similar statistics for each of the age categories, which all averaged around a third of the total population within their age group.

Figure 5.5.19 – Graph showing jewellery across the cemeteries within the population found with grave goods



Personal equipment

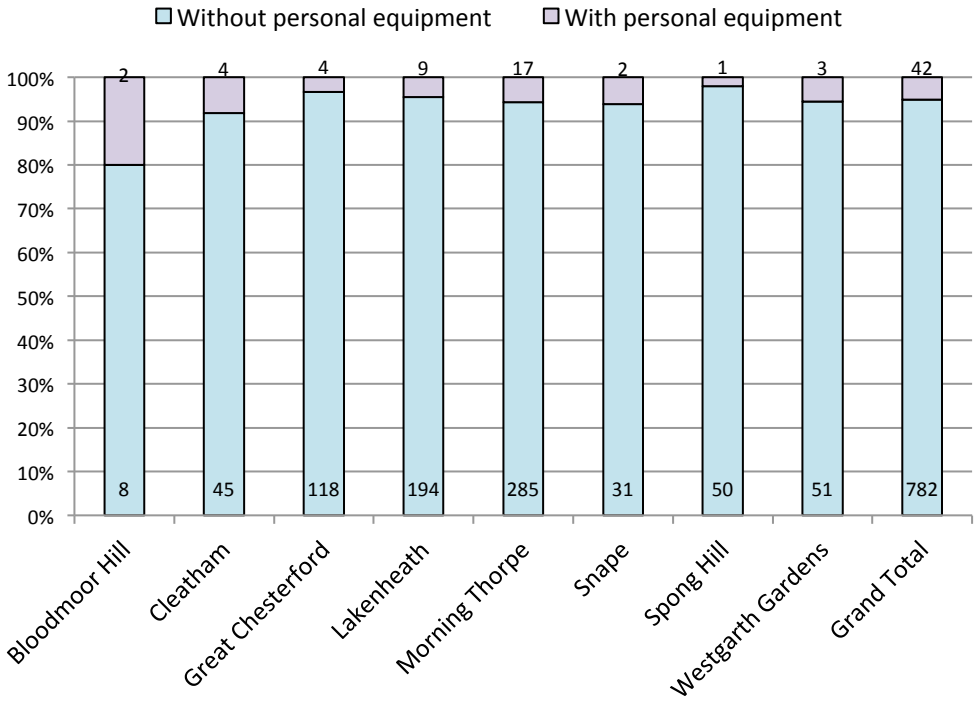
Much lower percentages and figures were recorded for the category of 'personal equipment' when compared to both dress accessories and jewellery. Only 42 individuals were recorded with this type of grave good, which included items used for personal hygiene and grooming, with pairs of tweezers proving the most popular object within the group. Although fewer items within this category were recovered from the cemeteries, an analysis across the sexes can still be made. Interestingly, within the total number of individuals who were found with an item of personal equipment, exactly half could be sexed. More specifically, 10 females and 11 males were inhumed with personal equipment. As such, 21 of the 643 total unsexed population were catalogued with an item of personal equipment.

Such low percentages were matched in the age categories. Non-adults provided the lowest percentage of personal equipment, with only 1.85% (four of the 216 total non-adult population) being associated with this grave good type. Adults were most commonly found with personal equipment amongst the age groups at 5.62%. These 23 adults represented 54.76% of all individuals found with this type of grave good whereas the four non-adults identified with personal equipment represent only 9.52% of this total. 15 out of 391 individuals with unknown age were also found with personal equipment which accounted for only 3.84% of the total unaged population and a 35.71% of all individuals with this grave good type.

Personal equipment was found at all eight sites and unsurprisingly the highest number of goods of this type was recovered from the largest cemetery population: Morning Thorpe. However, the largest proportion of individuals found with personal equipment within the population with grave goods was at Bloodmoor Hill, even

though this was only represented by two individuals (20.00%). The results recorded for personal equipment across the cemeteries showed variance (as seen in Figure 5.5.20 below) but could not be substantiated by statistical significance tests, indicating no relationship could be determined between the grave good type and the different sites.

Figure 5.5.20 – Graph showing personal equipment across the cemeteries within the population found with grave goods



Recreational items

The least-frequently occurring grave good category was recreational items, with only four objects being recovered alongside three individuals from Snape and Westgarth Gardens. This represents only 0.30% of the total database population and comprised two male adults and one unsexed individual of uncertain age. The two male adults, both from Westgarth Gardens were both found with dog figurines. One individual of unknown age from Snape was discovered with the remains of a lyre.

The items classified within this grave good category are rarely discovered within Anglo-Saxon graves. There are few examples of dog figurines being included in grave assemblages, but one such find from Bifrons, Kent, was interpreted as a Roman period knife handle that was deposited without its blade within an Anglo-Saxon grave (Godfrey-Faussett 1876). Dogs are a common motif of power and protection, and dogs or dog-like creatures are encountered variously in Anglo-Saxon artwork, for example as ornamentation on shields (Dickinson 2005). Given that there are only two examples of these ornaments in the database, however, there is little more that can be reasonably posited in terms of their potential symbolism (if any).

Tools

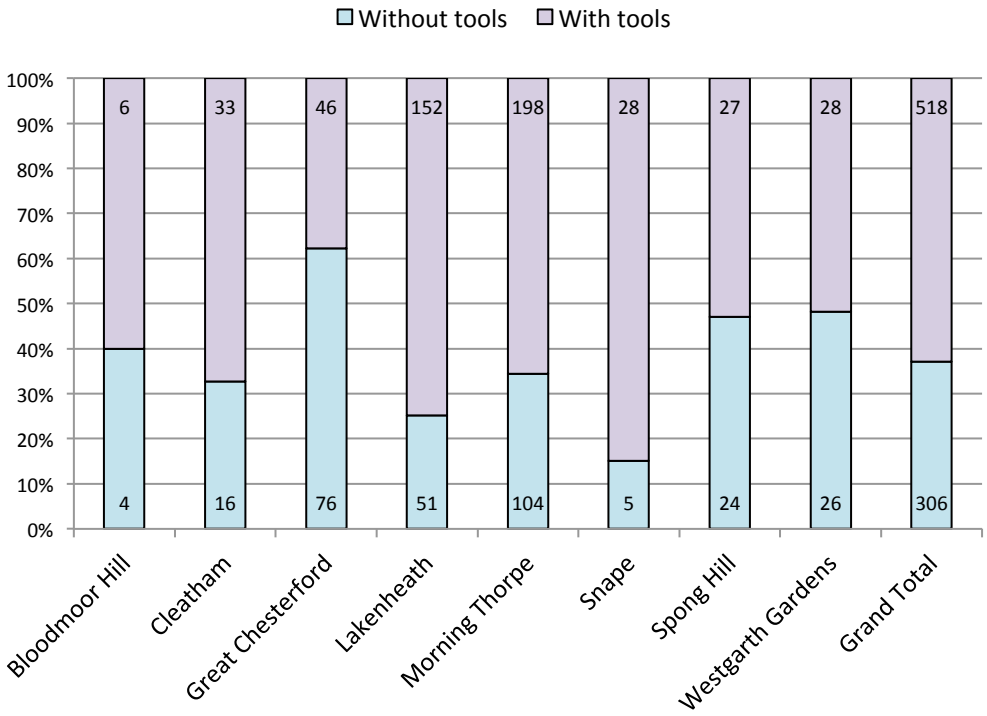
Tools were recovered in the assemblage of 518 individuals and proved to be the most popular group of grave goods recorded. This is namely due to the high proportion of knives found within the database (with 504 individuals), as well as across the early Anglo-Saxon world. Knives have been analysed from many burial contexts and are 'by far the most frequent object in burials of either sex and all age groups' (Hines 2003: 133).

Adults proved to be the most common age group found with tools, representing 49.61% of the total and 62.84% of all adults in the database were found with 'tools' within their burials. 60 non-adults could be identified with this grave good type and occupied 11.58% of the remaining portion as well as 27.78% of all non-adults. 51.41% unaged individuals were discovered with 'tools' as part of their grave assemblage which also represented 38.80% of all individuals found with tools. Similar proportions were recorded for the sexual divisions. The 518 individuals included an almost equal division between the sexes with 121 females and 126 males along with 271 unsexed individuals.

Tools were found at all eight sites with considerable variance between some of the cemeteries. For instance, at Snape, 84.85% of the population found with grave goods were buried with tools, however, the comparable proportion from Great Chesterford produced only 37.70%. When considering that tools were more frequently found in adult graves, it may be tempting to associate this low percentage with the high proportion of non-adults recorded at Great Chesterford. This is validated, to an extent, by the low proportion of non-adults found at the site with tools (15.56% of the total number of non-adults with grave goods). Interestingly, this

may also relate to the large quantities of unidentified items found at the site (discussed in the section below) in cases where individuals may have originally been buried with tools but upon excavation could not be classified as such.

Figure 5.5.21 – Graph showing tools across the cemeteries within the population found with grave goods



Utensils

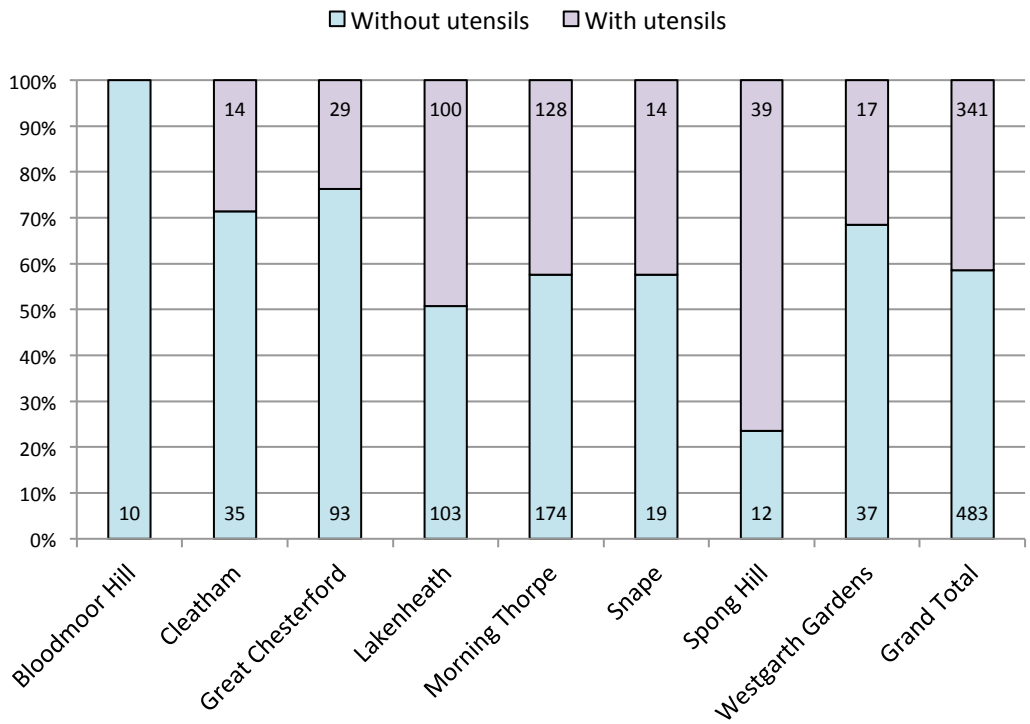
341 individuals were found with utensils included in their assemblage. An equal sex divide was recorded for the grave good category of 'utensils' which included a variety of pottery as its most popular item type. As a proportion of the complete database, 33.56% of the total population were discovered with utensils. This can be deconstructed in terms of sex, with 66 females, 66 males and 209 unsexed individuals being found with utensils.

In relation to age, the largest percentage was discovered within the unaged population, representing 41.94% of the total number of individuals found with utensils. 143 adults were recorded with this grave good type, along with 55 non-adults. The 143 adults recovered within this category constitute 34.96% of the complete adult population. A similar figure (36.57%) was calculated for the unaged individuals found with utensils within the unaged population. 25.46% of non-adults were found with 'utensils', comprising of 55 out of the total non-adult population of 216.

As seen in Figure 5.5.22 below, the proportion of furnished graves including utensils varied between the sites. Spong Hill presented the most anomalous result, as over 75% of individuals with grave goods were found alongside utensils when compared to all other cemeteries, which all provided values below 50%. 39 individuals at Spong Hill were recovered with utensils and, in all but two cases, a pot was found in the burial. This is not unusual when compared to the types of utensils found in the database, as pottery was the most common item recorded from this category. It is, however, important to remember that Spong Hill is predominantly a cremation cemetery and it has been suggested that the cremation and inhumation pots

were ‘part of the same pot making tradition’ (Penn and Brugmann 2007: 38). This may, therefore, indicate that as the two funerary rites were being used simultaneously by the same burial community (as suggested in Hills and Lucy 2013); the inhumation assemblages may have been more likely to have included pottery than inhumation-only sites. Owen (1981: 68) believes that at mixed rite cemeteries, the choice between cremation and inhumation was determined by ‘individual beliefs’ between ‘different family groups’ within the same community. Therefore, the deposition of similar pots within both types of graves could have been used to symbolise union and cohesion.

Figure 5.5.22 – Graph showing utensils across the cemeteries within the population found with grave goods



Weapons

22.74% of the individuals within the study were buried alongside weapons. Spear components were deemed to be the most popular item within this grave good type. Weapons were associated with 231 individuals, including 11 females, 107 males and 113 individuals of unknown sex. Within the female population this equated to 5.39% of the total number of females being buried alongside weapons. Weapons were found in the assemblages of 63.31% of the male population and 17.57% of unsexed individuals were buried alongside weapons.

Adults were the most common age group found with weapons constituting a 51.08% of all individuals with the grave good type. 95 individuals could not be aged definitively but were recovered with accompanying weapons. In contrast, 18 non-adults found with weapons. It must be remembered that the 785 individuals who were recovered without weapons may not necessarily indicate absence. This circumstance may also suggest conditions that are not always archaeologically detectable such as robbery, loss or degradation.

This category also demonstrates the potential issue of sex by grave goods as a very low percentage of the individuals found with weapons were not sexed. This suggests that although not mentioned in the cemetery reports, the individuals may not have been sexed by osteological assessment alone. Conversely, it may also indicate a higher level of preservation for items classified as weapons, perhaps because of their identifiable nature even in partial or highly degraded state. This may be the case at all sites except Bloodmoor Hill, as no weapons were recovered from this cemetery. The other seven sites produced proportions of individuals with weapons from between 14.29% and 40.74% (within the population with grave goods).

When looking at the eight sites in their geographical context, there does not seem to be any spatial patterning with regards to the distribution of weapons between cemeteries. While Lakenheath, Westgarth Gardens and Snape contain the highest number of burials featuring weapons, potentially suggesting that weapons might have been more frequently deposited in cemeteries situated in the south of the study area, Great Chesterford featured relatively few burials with weapons as a percentage of the total population of the cemetery that were provided with grave goods. As such, there are no immediately apparent geo-political factors to explain the higher numbers of weapons at the former three sites. Even though Great Chesterford contained a high number of burials that featured 'unidentified' objects, it seems unlikely that a large quantity of weapons, however badly degraded, would have gone unnoticed by the excavators.

The absence of weapons at Bloodmoor Hill is potentially interesting given the later date of the cemetery when compared to the other seven sites. The popularity of the stereotyped 'male' weapon burial had lessened by the 7th century, especially in eastern England, likely as a result of the increasing influence of Christianity at this time (Lucy *et al.* 2009: 422). This means that there may have been less impetus to incorporate these items into the burial rite at this time, and this potentially explains the anomalous result for Bloodmoor Hill that can be seen in Figure 5.5.23 below (Lucy *et al.* 2009: 422).

Early Anglo-Saxon weapon burials have been discussed at great length by numerous scholars (see Chadwick-Hawkes 1989, Härke 1989, 1990, 2004, Stoodley 1999 and Knüsel 2011 among others), especially with regards to their inclusion in male burial assemblages. Stoodley (1999) for example has noted that although

Anglian weapon burial combinations tend to contain spears or shields and spears, Westgarth Gardens features an unusually high variety of weapon burial combinations, with two sword burials, one also featuring a seax and the other also featuring two spears and a shield. The database reveals that, across the seven cemeteries that featured weapons, the most commonly deposited weapon was the spear, either singly or in combination with a shield. 218 individuals were found with spears, 84 were also provided with a shield. This general pattern correlates with that described by Stoodley (1999). Lakenheath was found to have the largest variation in weapon combinations, including one burial (grave 159), an adult male accompanied by a seax, shield, and spear. Another adult male, in grave 164, was accompanied by a shield, spear and arrowheads. Given the rich array of weapon finds from this and the other sites, further analyses of this material as part of future research should be able to provide a more comprehensive understanding of the martial aspects of early Anglo-Saxon society.

Figure 5.5.23 – Graph showing weapons across the cemeteries within the population found with grave goods

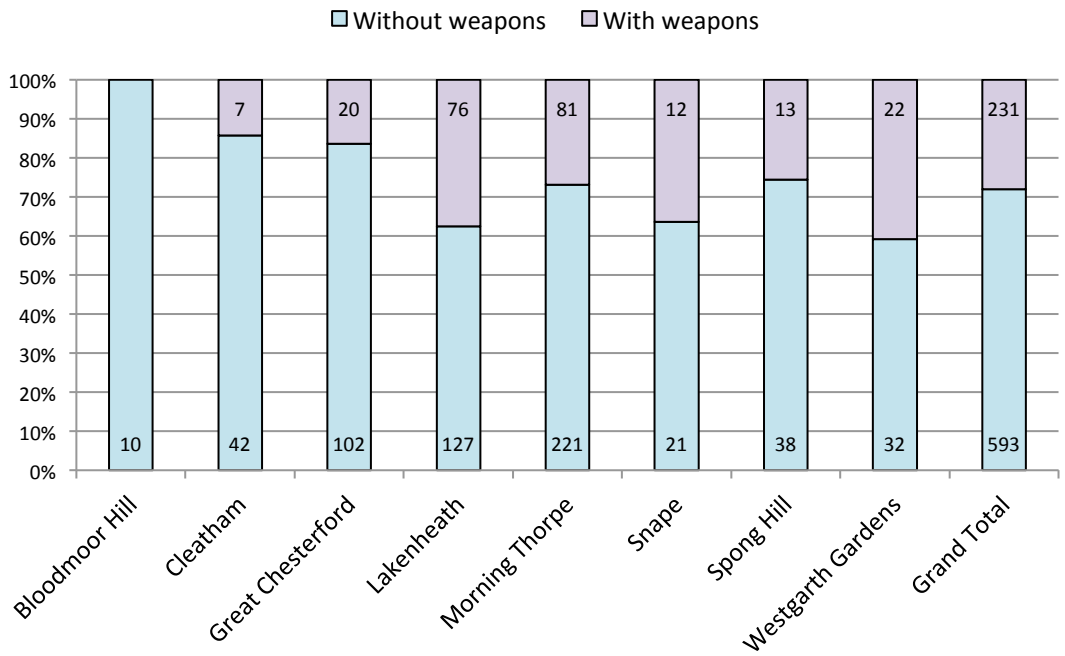


Figure 5.5.24 – Table showing weapon deposition across the demographic groups

Group	Count	Percentage of total
Individuals with weapons	231	22.74% of total database population
Individuals with weapons among population with grave goods	231	28.03% of population with grave goods
Individuals with weapons at Bloodmoor Hill	0	0.00% of cemetery population
Individuals with weapons at Cleatham	7	11.29% of cemetery population
Individuals with weapons at Great Chesterford	20	11.70% of cemetery population
Individuals with weapons at Lakenheath	76	34.55% of cemetery population
Individuals with weapons at Morning Thorpe	81	22.38% of cemetery population
Individuals with weapons at Snape	12	25.00% of cemetery population
Individuals with weapons at Spong Hill	13	22.41% of cemetery population
Individuals with weapons at Westgarth Gardens	22	33.33% of cemetery population
Adults with weapons	118	51.08% of individuals with weapons
Non-adults with weapons	18	7.79% of individuals with weapons
Unaged individuals with weapons	95	41.13% of individuals with weapons
Females with weapons	11	4.76% of individuals with weapons
Males with weapons	107	46.32% of individuals with weapons
Unsexed individuals with weapons	113	48.92% of individuals with weapons
Female adults with weapons	8	3.46% of individuals with weapons
Male adults with weapons	89	38.53% of individuals with weapons
Unsexed adults with weapons	21	9.09% of individuals with weapons
Female non-adults with weapons	0	0.00% of individuals with weapons
Male non-adults with weapons	4	1.73% of individuals with weapons
Unsexed non-adults with weapons	14	6.06% of individuals with weapons
Female unaged individuals with weapons	3	1.30% of individuals with weapons
Male unaged individuals with weapons	14	6.06% of individuals with weapons
Unsexed and unaged individuals with weapons	78	33.77% of individuals with weapons

Textiles

Textile evidence was found in 11 inhumations, with five individuals from Morning Thorpe and Snape cemetery and one individual from Bloodmoor Hill. Textiles were recovered from the graves of one female adult, one female of unknown age, one adult of unknown sex and with eight individuals who could be neither aged nor sexed. Overall, only 0.89% of the total database population had recoverable textile remains.

Textile assemblages were recovered for only 0.93% of the total female population and 1.11% of the unsexed population. It is likely that the lack of surviving textile grave goods is due to the degradation of this material within the graves. Textile remains are generally susceptible to fragmentation within all archaeological contexts, and very often become mineralised, but sometimes textiles themselves can survive (Owen-Crocker 2010). This is usually when they are deposited within an environment featuring high soil acidity and waterlogging (Owen-Crocker 2010). There are also instances, as discussed in reference to 'dress accessories' above, when metallic objects have helped to protect pieces of clothing. As preservation is the main factor determining the preponderance of textiles within Anglo-Saxon burials, it would be expected that the survival of skeletal remains would be proportional to the amount of textile evidence recovered. However, the survival of cloth within burials has been found to be highly variable and affected by many factors including the proximity to the decomposing body, placement within the grave and material composition (Janaway 2002).

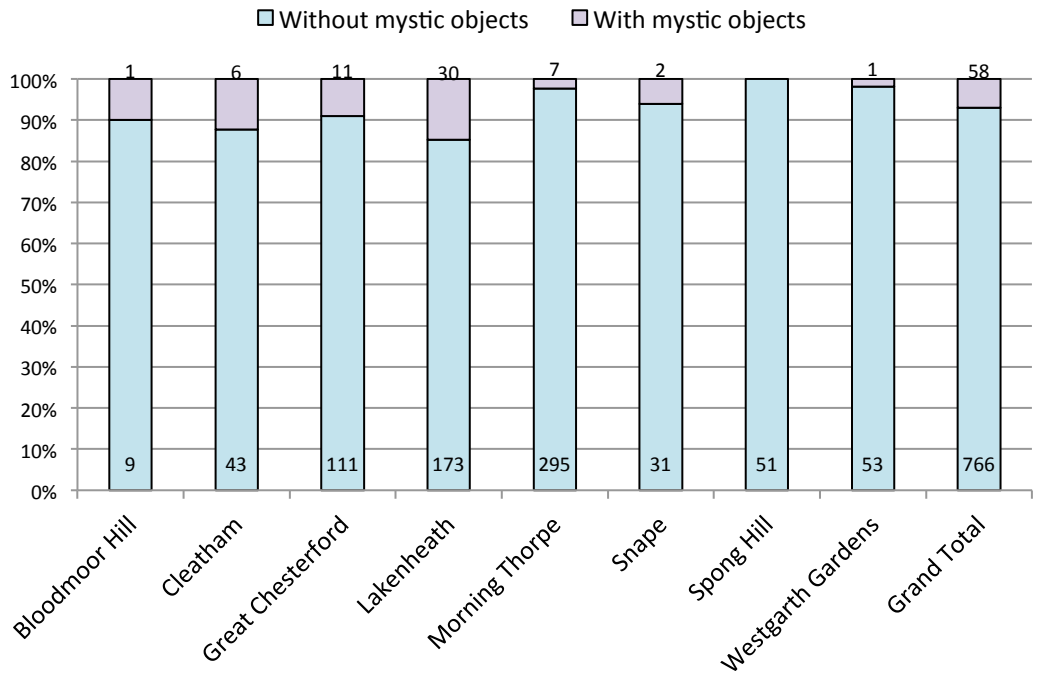
Mystic items

'Mystic' objects proved the most difficult grave good category to define as it included items that could be associated with ritual practices such as amulets and crystal balls (Meaney 1981). Any object which could potentially be used for religious or spiritual purposes was classified under this grouping. Although coins could also be included within this group as links to ritual have been made through the suggestion they were worn as amulets (White 1988 and Gilchrist 2008), it was decided that in this case a separate grave good category would allow a more open analysis. Even though certain grave good types had lower frequencies than mystic items, the unusual objects within this classification demanded a much more in-depth analysis. Mystic items are analysed in detail in the following chapter as they have been classified as possible indicators of deviance.

Mystic items were most commonly identified as depositions of amuletic objects and possible offerings. 58 individuals were found alongside mystic items at all cemeteries except Spong Hill and in largest proportions at Lakenheath and Cleatham (within the population with grave goods). As this cemetery report is yet to be published, an analysis by the excavator is not currently available. It is possible however, that the large proportion of individuals at Lakenheath with mystic items is the result of very detailed recording and an awareness of this type of grave good. Alternatively, this circumstance may indicate that the community at Lakenheath chose to deposit more spiritual items with their dead. At this site in particular, the most popular type of mystic item was animal bone. The deposition of these mystic objects varied from partial to complete animal skeletons, with several individuals also being found alongside amulets. It may be the case that at Lakenheath certain

circumstances existed which prompted the need to offer food or animal sacrifices to either appease or placate a specific deity or spiritual being.

Figure 5.5.25 – Graph showing mystic items across the cemeteries within the population found with grave goods



Unlike the figures calculated for the cemeteries, in terms of sexual division, an almost equal proportion was recorded for males and females. Approximately 10% of both sexes were found with items that can be classified as 'mystic' which included animal bones and teeth, possible offerings and food containers. Females were, however, the only sex to be found with amulets and fossilised shells. It is possible that these items relate to the theory of the Anglo-Saxon 'cunning women' which is discussed in detail in the following chapter.

The statistics for mystic items within the different demographic groups have been presented below. Each group was tested for statistical significance and only those comparing the aged population returned a result of 'extremely statistically

significant' with a two-tailed P value of less than 0.0001. From this it is possible to determine adults were more likely to be buried alongside mystic items than non-adults but the range of objects deposited between the age groups was unaffected. In part, this result could be explained by the theory considered above whereby non-adults may not have been treated as full members of the community and were therefore less likely to be buried with certain types of grave goods (Crawford 2000). This may be especially true of mystic or spiritual items which may have been reserved or limited to certain groups or individuals involved with ritual practices.

Figure 5.5.26 – Table showing mystic item deposition across the demographic groups

Group	Count	Percentage of total	
Individuals with mystic items	58	5.71% of total database population	
Individuals with mystic items among population with grave goods	58	7.04% of population with grave goods	
Individuals with mystic items at Bloodmoor Hill	1	3.45% of cemetery population	
Individuals with mystic items at Cleatham	6	9.68% of cemetery population	
Individuals with mystic items at Great Chesterford	11	6.43% of cemetery population	
Individuals with mystic items at Lakenheath	30	13.64% of cemetery population	
Individuals with mystic items at Morning Thorpe	7	1.93% of cemetery population	
Individuals with mystic items at Snape	2	4.17% of cemetery population	
Individuals with mystic items at Spong Hill	0	0.00% of cemetery population	
Individuals with mystic items at Westgarth Gardens	1	1.52% of cemetery population	
Adults with mystic items	41	70.69% of individuals with mystic items	10.02% of adults
Non-adults with mystic items	11	18.97% of individuals with mystic items	5.09% of non-adults
Unaged individuals with mystic items	6	10.34% of individuals with mystic items	1.53% of unaged individuals
Females with mystic items	20	34.48% of individuals with mystic items	10.05% of females
Males with mystic items	15	25.86% of individuals with mystic items	9.15% of males
Unsexed individuals with mystic items	23	39.66% of individuals with mystic items	3.52% of unsexed individuals
Female adults with mystic items	18	31.03% of individuals with mystic items	
Male adults with mystic items	13	22.41% of individuals with mystic items	
Unsexed adults with mystic items	10	17.24% of individuals with mystic items	
Female non-adults with mystic items	1	1.72% of individuals with mystic items	
Male non-adults with mystic items	2	3.45% of individuals with mystic items	
Unsexed non-adults with mystic items	8	13.79% of individuals with mystic items	
Female unaged individuals with mystic items	1	1.72% of individuals with mystic items	
Male unaged individuals with mystic items	0	0.00%of individuals with mystic items	
Unsexed and unaged individuals with mystic items	5	8.62% of individuals with mystic items	

Coins

Along with recreational items and textiles, very few coins were recovered from the eight cemeteries and the majority of them could be identified as Roman coinage. Only 12 individuals had coins within their assemblages, eight of which were found at Great Chesterford and two individuals at both Lakenheath and Morning Thorpe. This small proportion comprises of three females, two males and seven unsexed individuals. Interestingly, one adult male from Great Chesterford (grave 149), was found with a Roman coin placed on their head. This individual also exhibited other potential traits of atypical burial, and as such they are discussed in further detail in the following chapter.

Non-adults were more likely to be recovered with coins than the two other age groups. Non-adults presented exactly half of the total found and represented 2.78% of the total non-adult population (six non-adults). Five adults were also found alongside coins and occupied a 41.67% portion of the group and 1.22% of the total adult population. Only one unaged individual was found buried with a coin (8.33%) and this single individual represented 0.26% of the total number of individuals of unknown age in the sample.

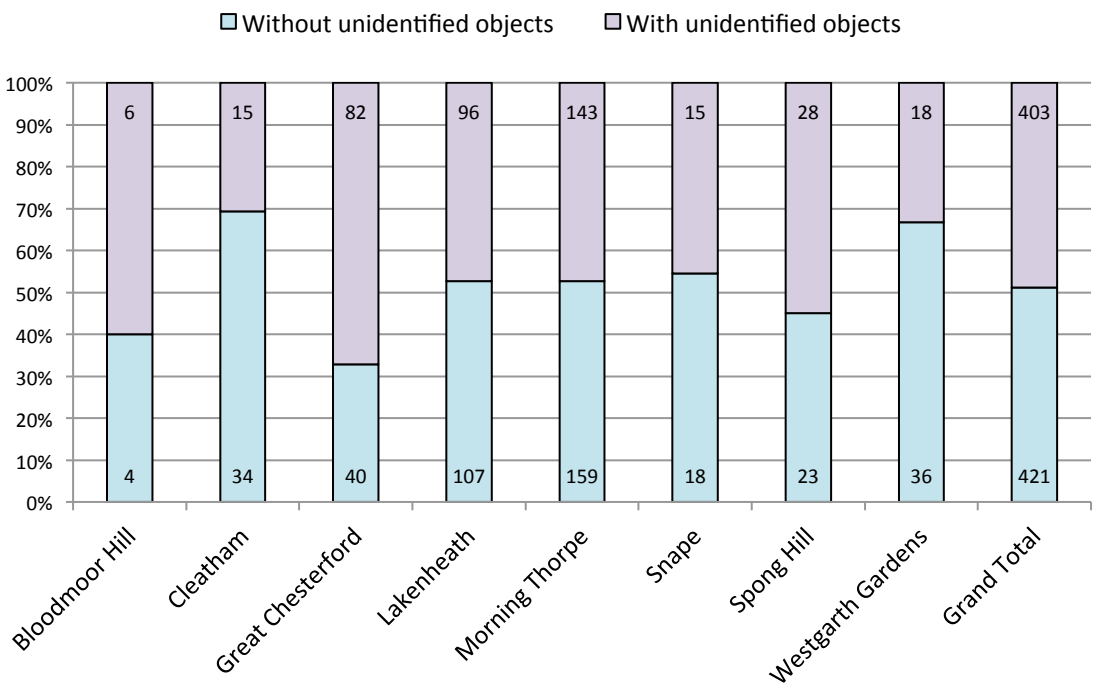
Unidentified objects

Unsurprisingly, many items within the graves examined were unidentifiable due to their degradation, size or ambiguity. In this instance, they were classified as 'unidentified objects' and were discovered alongside 403 individuals. Of these, 204 individuals could not be accorded a sex. 125 females were found with unidentifiable grave goods and represented 31.02% of the total within this grave good type. 74 individuals with unidentified items were deemed male and 18.36% of all assemblages including unidentified objects. Similar to the female proportion, adults were also more frequently found with unidentifiable objects within their graves (191 of the total 403). 70 non-adults and 142 unaged individuals were also recovered with unidentifiable objects.

When compared on a cemetery level, as demonstrated in Figure 5.5.31, it is evident that the highest proportion of unidentified grave goods was recovered from Great Chesterford. Of the 82 individuals found alongside unidentified objects at the site, over half (44) were recovered with nails within their grave. While these nails were of course identifiable in themselves, they imply the presence of a larger or more complex object that no longer survives archaeologically. For example, nails may be indicative of a coffin burial, but in the case of Great Chesterford 'no indisputable traces of coffins such as wood or discolouration indicating decomposed wood, or metal coffin fittings' were found (Evison 1994: 24). Instead, it has been hypothesised that the nails found within the inhumations were associated with wooden structures or features that 'do not seem to be limited to one particular area or orientation' (Evison 1994: 24). It is possible that more of the unidentified items both within Great Chesterford and at the other sites also related to wooden features that could not be

recognised. However, as this cemetery in particular presented a high frequency of this type of grave good, the posited wooden features may signify a site-specific rite.

Figure 5.5.27 – Graph showing unidentified objects across the cemeteries within the population found with grave goods



Grave good variation between sex and age groups

Each of the grave good categories were analysed for patterns within their frequencies between age, sex and cemetery groups and they were all subject to statistical significance tests. It was determined that several of these tests produced extremely statistically significant results when compared between the sexes. Dress accessories, jewellery, weapons and unidentified items all produced biased statistics for one sex. The frequencies of the former three grave good categories were all deemed as extremely statistically significant in their association with females whereas weapons were similarly associated with males.

There is an indisputable tradition between the beautification and adornment of the body and the female sex (Stoodley 1999). This association between females and jewellery is both cross-cultural and cross-period. The database results did not deviate from this convention, as 66.18% of females were found with jewellery compared to 4.73% of the male population.

The affiliation between females and jewellery is widely accepted and the early Anglo-Saxon period adheres to that model even though certain individuals do stray from this pattern both in this study and in related works (Halsall 1996, Lucy 1997, Stoodley 1999, Hadley 2004 and Lucy 2011). Reasons behind the discovery of females without jewellery include the suggestion that these individuals were possibly servants and therefore of lower status within the household (Härke 1997). The database provides evidence for an alternative theory, however, as although 33 females were found without jewellery or dress accessories (another stereotyped 'feminine' grave good) 19 individuals were recovered with a burial assemblage. 2 females within this group were also found with weapons which correspond with the

observation made by Hadley (2004: 302) ‘that weapons and jewellery virtually never appear together [and] confirms the significance of the dichotomy between the two forms of [engendered] burial’.

Similarly, weapons also generated an ‘extremely’ statistically significant result when analysed across the sexes. Unsurprisingly and in line with discussions in previous studies (see Härke 1989 and Whitehouse *forthcoming* for more detail), weapons were much more likely to be recovered from male graves. As with the relationship between females, dress accessories and jewellery, little can be suggested that has not already been offered (for a detailed account see Henderson 1989); however, those individuals who are not associated with these traditional engendered assemblages will be addressed later in the chapter.

The two grave good groups above follow the patterns seen in many publications, with females being found with jewellery and males with weapons (Stoodley 1999). Interestingly, unidentified items were also much more commonly found along female skeletons. Unlike dress accessories and jewellery, which are components of the hypothesised Anglo-Saxon female costume (Lucy 2011), unidentified items are not affiliated with one sex in particular. The fragments and material pieces included in this category may represent a range of very different items that are now indiscernible. As the results were classed as ‘extremely’ statistically significant, it may be that a particular popular good associated with females did not survive the deposition process well in any of the graves. This could potentially involve metalwork or containers for organic produce which would be more prone to an accelerated decomposition rate due to their delicate structure or chemical composition. Similarly, it may be the case that other items commonly

associated with females such as beads and brooches would have complementary items such as trinket boxes that may be small and easily broken down in the burial environment with only the heavier metal elements remaining upon excavation.

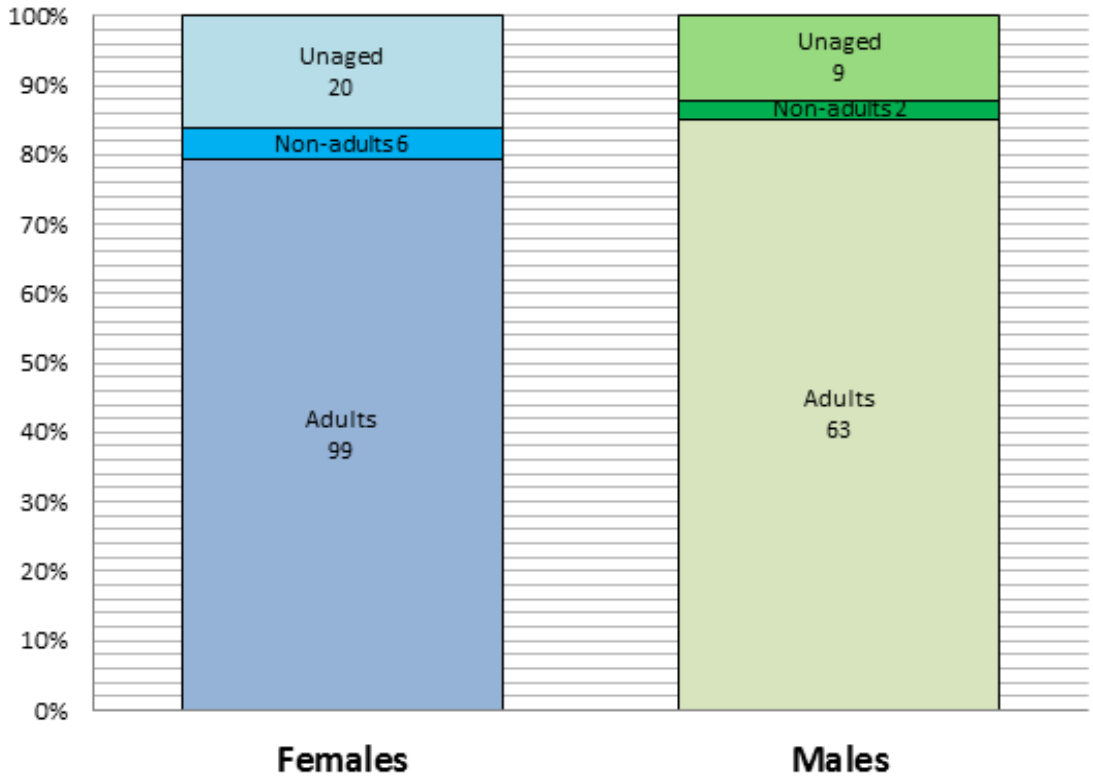
In addition to unidentified items and jewellery, dress accessories were very popular across the database. As with many of the grave good categories within the database, dress accessories were more commonly found within the graves of sexed adults. When analysing this grave good category in reference to the unsexed population, it became apparent that it may not be the case that dress accessories were more commonly deposited with adults, but instead that skeletons with reasonable preservation and dress accessories were more likely to be sexed and aged osteologically. Almost half of the individuals found with dress accessories could not be sexed using osteological evidence alone (252 out of a total of 516). Of these, 97 individuals were attributed sex using only the material evidence within their graves and were therefore recorded as 'unknown sex' within the database. This, in part, could relate to the increased preservation associated with these graves but may also relate to the dress of the buried individuals. Dress accessories were classified by nature of their use and include items such as brooches and pins that were designed to connect pieces of clothing and secure textiles. In certain instances within the database textiles could be recovered successfully and have provided an insight into the type and construction of the buried society's style of dress, access to materials and technological processes (see individual cemetery reports for more detail). In addition to this, it is very possible that individuals who were buried in heavier clothing would have required more dress fixtures. The use of coarser and thicker textiles would have also increased resistance to the decomposition process and

therefore would have protected more of the skeletal remains (Campobasso *et al.* 2001). This may have resulted in an increased chance of sexing and aging the skeleton and may also relate to the large proportion of individuals found with dress accessories being sexed as female as the metal components associated with textiles helped to preserve certain areas of the skeleton (Walton-Rogers 2007). The increased skeletal preservation associated with dress accessories might explain the higher proportion of adults found with dress accessories although it has also been postulated that non-adults may have been buried in items of clothing that did not require as many fasteners or shrouds (Owen-Crocker 2010). It is also interesting to note that the practical utilisation of dress accessories may be affected by the seasonal changes in climate and the deposition of this type of grave good may be determined by factors such as the time of year. Assuming the deceased would be interred in seasonally appropriate attire, in the winter months for example, colder weather would precipitate the need for heavier clothing, which in turn would require the use of more dress accessories. This is, however, subject to the type of textiles used as well as the specific chemical components of the soil within the depositional environment as both of these factors can dramatically alter the preservation of human remains (Walton-Rogers 2007).

The extremely statistically significant grave good types associated with sex (dress accessories, jewellery, weapons and unidentified items) generated similar results within the adult population. Only one difference was noted which downplayed the relationship between unidentified items and females from 'extremely' to 'very' statistically significant in place when considering only the adult population. This, in itself, reveals more information on the high frequency of

unidentified items found in female graves as higher proportions of non-adult and unaged females were found with this type of grave good when compared to the male figures. It is reasonable to assume that within a grave where the skeletal remains could not be aged, the survival of the unidentified items would be less likely. Although the assignation of sex to these females suggests otherwise, it may be solely the result of increased degradation that these items remained unclassified.

Figure 5.5.28 – Graph showing statistically significant sex differentiation within the unidentified objects category



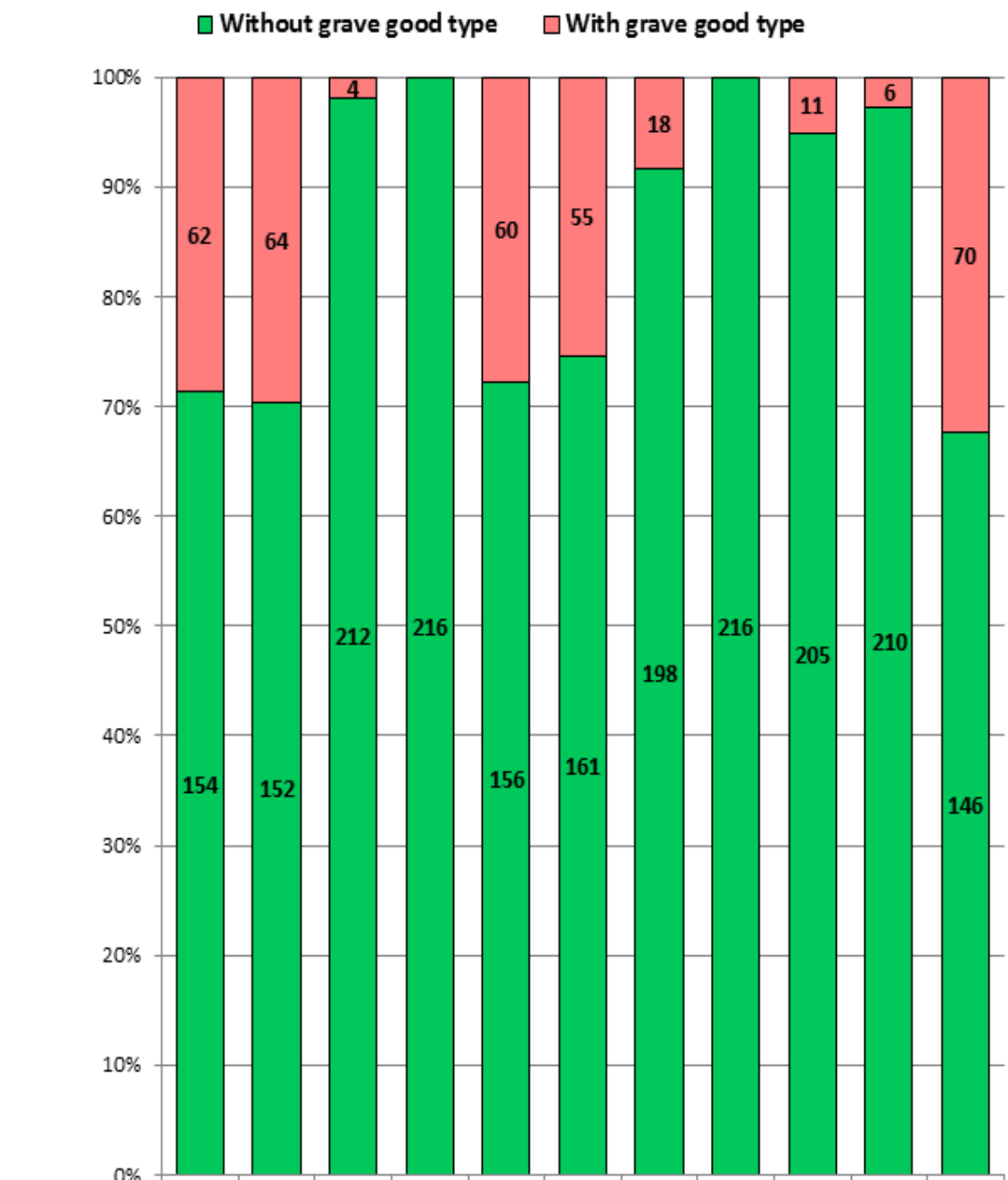
Although not statistically significant, tools were very popular within the database and were the most commonly found item type within the assemblages analysed. As mentioned above, the affiliation between adults and particular grave good categories can also be seen in the distribution of tools across the database.

Adults were much more likely to be found with tools than non-adults, with an age group comparison of 49.61% to 11.58%. This may reflect a similar suggestion made to explain the frequencies of personal equipment, whereby specific age markers were used to determine whether a grave good was deposited with a burial. This is also the case when examining utensils where 41.94% of the goods recovered were from adult graves and 16.13% were found with non-adults. Although it has been argued that non-adults were buried more commonly with 'gender-neutral artefacts such as pots and knives' the database does not support the point (Crawford 2007: 84). Instead non-adults in this study were more likely to be found with jewellery and dress accessories. This may indicate a slightly different attitude whereby non-adults may not have experience of using many of the items within the tools and utensils categories. It is possible that the grave good assemblages chosen for particular individuals were selected as a representation of their life. Hence, the burials of non-adults, especially the younger individuals, would have little if any connection to these items, unless of course they were deposited as a representation of a living relative or future aspiration. This could, in effect, be applied to the Morning Thorpe site, which has very low age at death estimates with only one individual being aged older than 35 years. If the above hypothesis is correct, the younger individuals would have smaller assemblages to represent their years of life. Therefore the adults at Morning Thorpe would have fewer grave goods when compared to the other cemeteries. This, however, is not the case. Morning Thorpe is very similar to the other sites when compared in the grave good analysis. The low average age at death may coincidentally suggest overall poor health at the site. There is room to expand this theory however, as many of the sites could have bespoke rites which were not

replicated elsewhere. In addition, the composition of the assemblages could involve a collection of different donors therefore merging several ‘identities’ within one burial.

Evidence for multiple identities within the same grave was also found within atypical burials as a variety of characteristics were present in each inhumation. This category will be discussed in the next section, along with the other indicators of atypicality, to identify the patterns and anomalies discovered in the database which are associated with ‘deviance’.

Figure 5.5.29 – Graph showing grave good types within non-adult population



	Dress accessories	Jewellery	Personal equipment	Recreational items	Tools	Utensils	Weapons	Textiles	Mystic items	Coins	Unidentified objects
With grave good type	62	64	4	0	60	55	18	0	11	6	70
Without grave good type	154	152	212	216	156	161	198	216	205	210	146

CHAPTER 6: ATYPICAL BURIALS AND A DISCUSSION OF RESULTS

This chapter is designed to provide a general assessment and subsequent analysis of the 244 possible 'deviants' indentified in the database in terms of age, sex, cemetery and atypical classification (see Figure 6.2 below). The classification of these individuals was based on the extent to which they presented certain characteristics associated with unusual burial treatment (typified as 'deviant') in previous studies (Geake 1992, O'Brien 1999, Aspöck 2009 and Reynolds 2009). In order to produce an analysis of the range of suspected 'deviant' burials found within the database, it is first necessary to provide basic demographic information for this population.

'Deviant' totals: age, sex and cemetery

Overall, of the 244 individuals with atypical burial traits within the database, 206 could be aged (84.43%); 123 adults and 83 non-adults. The remaining 38 individuals with unusual burial characteristics could not be accorded an age (15.57% of the total). In contrast, a much larger proportion (48.36%) within this total could not be sexed. The comparatively low numbers of sexed 'deviants' can be linked to the fact that 49.59% of these individuals were either unaged or were aged as non-adults (121 individuals). As discussed in Chapter 4, sex is much less likely to be ascribed to individuals who have not reached skeletal maturity or where skeletal remains are poorly preserved.

51.64% of the 244 individuals found with atypical burial characteristics could be sexed. Within this total, 77 were deemed female, representing 31.56% of the 'deviant' total and 61.11% of the sexed 'deviant' population. The 49 males accounted for 20.08% of all individuals with atypical burial traits and 38.89% of the

'deviants' who could be accorded sex. In terms of statistical significance, the sex differential with the suspected 'deviant' total is considered significant when assuming the expected divide between the sexes should be equal. This is, however, marginalised by the limited proportion of individuals within this total who could be successfully sexed. If this proportion were larger it may be possible to infer more from the results but, in this case, with almost half of the individuals within the group (48.36% of 244 'deviants') not being accorded sex it seems that poor preservation may limit this interpretation. In place of these general totals, the age and sex divides within the atypical burial categories will be examined more closely below to give a more accurate reflection of the demographic statistics within 'deviant burial'.

As seen in Figure 6.1, when compared on a cemetery level, the proportions for atypical burial at each of the sites varied substantially. The average for the prevalence of atypical burials across the database was calculated at 24.02% (244 out of a total of 1016) with similar figures found at Lakenheath (48 from a total of 220 individuals, representing 21.82%) and Snape (10 from a total of 48 individuals, representing 20.83%). Four sites produced figures below the database average with the lowest percentage found at Morning Thorpe (42 out of a total of 362) with only 11.60% and the highest recorded at Westgarth Gardens at 16.67% (11 out of a total of 66 individuals). Bloodmoor Hill (4 out of 29 individuals) and Spong Hill (7 out of a total of 58) sat between these figures at 13.79% and 12.07%.

The highest cemetery population recorded for suspected 'deviants' was 54.39% representing 93 individuals from a total of 171 and found at Great Chesterford. Cleatham presented a similarly high proportion at 41.43% (29 out of a total of 70). As discussed in Chapter 5 and examined in detail in the section titled

‘Multiple Burial’ below, the high proportion of suspected ‘deviants’ from Great Chesterford may very well be linked to the high numbers of multiple interments at the site. This interpretation does not apply to Cleatham however, as no multiple graves were excavated at the site. Instead the high proportion of possible ‘deviants’ found at this cemetery relates to the first category of atypical burial discussed below – atypical orientation.

Figure 6.1 – Table showing all atypical statistics

Deviant characteristic	Unusual treatment of remains	Unusual grave location	Prone placement	Mystic items in assemblage	Multiple burial	Crouched flexure	Atypical orientation	Total deviants	
Total recorded	25	3	10	58	64	10	119	244	
% of database population (n=1016)	2.46%	0.30%	0.98%	7.04%	6.30%	0.98%	11.71%	24.02%	
% of relevant parent group	N/A	N/A	3.60% of total population with known body placement (n=278)	6.80% of total population with grave goods (n=824)	N/A	3.13% of total population with known posture (n=319)	51.52% of total oriented population (n=231)	N/A	
Total females (n=204)	10	0	4	20	16	6	38	37.75% of total females	77
Total males (n=169)	4	1	3	15	10	0	24	28.99% of total males	49
Total unsexed population (n=643)	11	2	3	23	38	4	57	18.35% of total unsexed	118
Total adults (n=409)	18	1	8	41	16	8	60	30.07% of total adults	123
Total non-adults (n=288)	3	2	1	11	25	2	51	38.43% of total non-adults	83
Total unaged population (n=319)	4	0	1	6	23	0	8	9.72% of total unaged	38
Bloodmoor Hill total (n=29)	0	3	0	1	2	0	0	13.79% of total cemetery	4
Cleatham total (n=70)	3	0	3	6	0	4	24	41.43% of total cemetery	29
Great Chesterford total (n=171)	13	0	2	11	15	1	70	54.39% of total cemetery	93
Lakenheath total (n=220)	0	0	0	30	11	0	10	21.82% of total cemetery	48
Morning Thorpe Total (n=362)	0	0	0	7	30	0	7	11.60% of total cemetery	42
Snape total (n=48)	6	0	2	2	2	0	1	20.83% of total cemetery	10
Spong Hill total (n=58)	2	0	1	0	2	5	2	12.07% of total cemetery	7
Westgarth Gardens total (n=66)	1	0	2	1	2	0	5	16.67% of total cemetery	11

Figure 6.2 – List of all 'deviants' within the database

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Bloodmoor Hill	15		Mystic items in assemblage.	W	262°	Unknown	Adult	Supine	Extended
Bloodmoor Hill	27		Location of grave is 50m east of the rest of the cemetery.	WSW	241°	Unknown	Non-adult	Probable supine	Flexed
Bloodmoor Hill	28	a	Multiple burial and location of grave is 50m east of the rest of the cemetery.	WSW	247°	Male	Adult	Supine	One leg flexed
Bloodmoor Hill	28	b	Multiple burial and location of grave is 50m east of the rest of the cemetery.	WSW	247°	Unknown	Non-adult	Supine	Extended
Cleatham	7		Atypical orientation in database population.	NW	306°	Unknown	Non-adult	Supine	Extended
Cleatham	9		Atypical orientation within cemetery and database population.	E	91°	Possible Male	Adult	On left side	Flexed
Cleatham	10		Atypical orientation in database population.	NW	313°	Male	Adult	On left side	Flexed
Cleatham	11		Prone body placement, mystic items in assemblage and atypical orientation in database population.	NW	311°	Female	Adult	Prone	Flexed
Cleatham	12		Atypical orientation within cemetery and database population.	ESE	111°	Male	Adult	On right side	Flexed
Cleatham	13		Atypical orientation within cemetery and database population.	NE	51°	Female	Non-adult	Supine	Extended
Cleatham	14		Atypical orientation in database population.	NW	321°	Male	Adult	Supine	Extended
Cleatham	15		Crouched flexure.	WNW	297°	Unknown	Adult	Unknown	Crouched
Cleatham	17		Atypical orientation in database population.	NW	315°	Male	Adult	On left side	Flexed
Cleatham	19		Atypical orientation in database population.	NW	314°	Female	Adult	On left side	Flexed
Cleatham	20		Mystic items in assemblage.	W	266°	Female	Non-adult	Supine	Extended
Cleatham	22		Atypical orientation within cemetery and database population.	E	88°	Possible Female	Adult	On left side	Flexed
Cleatham	23		Atypical orientation in database population.	NW	313°	Male	Adult	On left side	Flexed
Cleatham	27		Mystic items in assemblage.	WNW	291°	Male	Non-adult	Supine	Extended
Cleatham	29		Atypical orientation in database population.	NW	307°	Male	Adult	Supine	Extended with legs crossed
Cleatham	30		Atypical orientation in database population.	NW	319°	Female	Adult	Unknown	Extended
Cleatham	31		Prone body placement, atypical orientation within cemetery and database population and mystic items in assemblage.	ESE	111°	Male	Adult	Prone	Flexed
Cleatham	32		Crouched flexure and atypical orientation in database population.	NW	326°	Unknown	Adult	On left side	Crouched
Cleatham	35		Crouched flexure.	W	281°	Unknown	Non-adult	On right side	Crouched
Cleatham	36		Atypical orientation within cemetery and database population.	ESE	104°	Possible Female	Adult	On left side	Flexed
Cleatham	38		Atypical orientation in database population.	NW	311°	Female	Adult	Supine	Flexed
Cleatham	44		Mystic items in assemblage and atypical orientation in database population.	NW	314°	Female	Adult	Supine	Extended
Cleatham	49		Atypical orientation in database population.	NW	309°	Male	Adult	Supine	Extended
Cleatham	51		Atypical orientation within cemetery and database population and offering.	NNE	19°	Male	Adult	Supine	Flexed
Cleatham	52		Crouched flexure and atypical orientation within cemetery and database population.	NNE	23°	Unknown	Non-adult	Unknown	Crouched
Cleatham	55		Prone body placement.	NNW	328°	Possible Female	Adult	Prone	Flexed
Cleatham	58		Atypical orientation in database population.	NW	316°	Unknown	Non-adult	On right side	Flexed
Cleatham	61		Atypical orientation in database population.	NW	306°	Female	Non-adult	Supine	Extended with legs crossed
Cleatham	62		Atypical orientation in database population.	NW	323°	Unknown	Adult	Unknown	Unknown
Great Chesterford	1		Atypical orientation within database population.	SSE	156°	Female	Adult	Supine	Extended
Great Chesterford	2	a	Multiple burial and atypical orientation within database population.	SSW	195°	Male	Adult	On right side	Flexed
Great Chesterford	2	b	Multiple burial.	W	264°	Female	Adult	Supine	Flexed

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Great Chesterford	2	c	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	4		Atypical orientation within database population.	S	172°	Male	Adult	Supine	Extended with legs crossed
Great Chesterford	5		Atypical orientation within database population.	SSW	202°	Male	Adult	Supine	Extended
Great Chesterford	9		Intentional inclusion of stones within the grave.	WSW	247°	Female	Adult	Supine	Extended
Great Chesterford	10		Mystic items in assemblage.	WSW	249°	Female	Adult	Supine	Extended
Great Chesterford	13		Mystic items in assemblage.	WSW	257°	Unknown	Adult	Supine	Extended
Great Chesterford	14		Atypical orientation within database population.	SSW	205°	Female	Adult	On left side	Flexed
Great Chesterford	16	a	Multiple burial and atypical orientation within database population.	SSE	165°	Unknown	Non-adult	Supine	Unknown
Great Chesterford	16	b	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	17		Atypical orientation within database population.	SSE	162°	Unknown	Non-adult	Unknown	One leg flexed
Great Chesterford	18		Atypical orientation within database population.	SSE	166°	Female	Adult	Supine	Extended
Great Chesterford	20		Atypical orientation within database population.	S	180°	Female	Adult	On left side	Flexed
Great Chesterford	28		Intentional inclusion of stones within the grave.	W	270°	Unknown	Adult	Unknown	Unknown
Great Chesterford	29		Atypical orientation within database population.	S	174°	Unknown	Non-adult	Supine	Extended with legs crossed
Great Chesterford	30		Atypical orientation within database population.	SSE	163°	Unknown	Non-adult	Supine	Extended
Great Chesterford	31		Mystic items in assemblage and atypical orientation within database population.	SSE	155°	Unknown	Non-adult	Supine	Extended
Great Chesterford	32		Intentional inclusion of stones within the grave and atypical orientation within database population.	S	171°	Female	Adult	On right side	Flexed
Great Chesterford	33		Mystic items in assemblage.	WSW	244°	Male	Adult	Supine	Extended
Great Chesterford	34		Atypical orientation within database population.	SSE	152°	Unknown	Non-adult	On left side	Flexed
Great Chesterford	37		Mystic items in assemblage and atypical orientation within database population.	S	177°	Female	Adult	Supine	Extended
Great Chesterford	38		Atypical orientation within database population.	S	183°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	39		Atypical orientation within cemetery population.	WNW	301°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	40		Atypical orientation within database population.	S	171°	Female	Adult	Unknown	Unknown
Great Chesterford	42		Atypical orientation within cemetery population.	WNW	301°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	43		Atypical orientation within database population.	S	180°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	44		Atypical orientation within database population.	S	180°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	45		Atypical orientation within database population.	S	170°	Female	Adult	Supine	Extended
Great Chesterford	47		Atypical orientation within database population.	S	172°	Unknown	Non-adult	Unknown	Possible extended
Great Chesterford	48		Mystic items in assemblage and unusual grave structure and atypical orientation within database population.	S	189°	Female	Adult	Supine	Extended
Great Chesterford	53		Intentional inclusion of stones within the grave.	WSW	250°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	55		Mystic items in assemblage.	SE	128°	Female	Adult	Supine	One leg flexed
Great Chesterford	57		Atypical orientation within database population.	SSE	149°	Unknown	Non-adult	On left side	Extended
Great Chesterford	58		Atypical orientation within database population.	SSE	166°	Unknown	Non-adult	Unknown	Extended
Great Chesterford	61		Atypical orientation within database population.	SSE	161°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	62		Atypical orientation within database population.	S	169°	Female	Adult	On right side	Flexed
Great Chesterford	64		Atypical orientation within database population.	SSW	204°	Unknown	Non-adult	Unknown	Extended
Great Chesterford	67		Atypical orientation within database population.	S	175°	Unknown	Non-adult	On left side	Extended

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Great Chesterford	69		Mystic items in assemblage.	SE	144°	Unknown	Unknown	Unknown	Unknown
Great Chesterford	70		Atypical orientation within database population.	SSE	152°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	71		Atypical orientation within database population.	S	180°	Unknown	Non-adult	On left side	Unknown
Great Chesterford	75		Atypical orientation within database population.	SSE	167°	Male	Adult	Supine	Extended
Great Chesterford	76		Atypical orientation within database population.	SSE	168°	Male	Adult	Supine	Extended
Great Chesterford	79		Atypical orientation within database population.	S	176°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	80		Unusual body placement and atypical orientation within database population.	SSE	151°	Male	Adult	Supine	Extended
Great Chesterford	81		Atypical orientation within database population.	SSE	150°	Female	Adult	Supine	Extended
Great Chesterford	83	a	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	83	b	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	83	c	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	83	d	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	83	e	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	83	f	Multiple burial.	Unknown	Unknown	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	84		Unusual body placement and atypical orientation within database population.	SSE	153°	Male	Adult	On right side	Flexed
Great Chesterford	85		Atypical orientation within cemetery population.	NNW	346°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	86		Prone body placement and found alongside a canine skeleton (mystic item) and atypical orientation within database population.	SSE	151°	Unknown	Non-adult	Prone	One leg flexed
Great Chesterford	88		Atypical orientation within cemetery and database population.	ENE	59°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	89		Atypical orientation within cemetery and database population.	ENE	68°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	91		Atypical orientation within cemetery and database population.	ENE	70°	Unknown	Non-adult	On left side	Unknown
Great Chesterford	94		Atypical orientation within database population.	SSE	151°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	95	a	Multiple burial and atypical orientation within database population.	SSE	150°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	95	b	Multiple burial and atypical orientation within database population.	SSE	150°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	97		Atypical orientation within database population.	SSW	195°	Female	Adult	On left side	Flexed
Great Chesterford	100		Atypical orientation within database population.	SSE	155°	Female	Adult	Supine	Extended with legs crossed
Great Chesterford	101		Atypical orientation within database population.	SSE	162°	Male	Adult	Supine	Flexed with legs crossed
Great Chesterford	103		Prone body placement and unusual layout of grave goods.	SE	141°	Female	Adult	Prone	One leg flexed
Great Chesterford	105		Atypical orientation within database population.	SSE	154°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	107		Atypical orientation within database population.	S	181°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	111		Atypical orientation within database population.	SSE	154°	Unknown	Non-adult	On left side	Flexed
Great Chesterford	112		Crouched flexure.	SE	142°	Female	Adult	On right side	Crouched
Great Chesterford	113		Atypical orientation within database population.	SSE	152°	Female	Adult	Supine	Extended
Great Chesterford	116		Atypical orientation within database population.	SSE	157°	Female	Adult	Supine	Extended
Great Chesterford	118		Atypical orientation within database population.	S	169°	Unknown	Non-adult	Supine	One leg flexed
Great Chesterford	119		Atypical orientation within database population.	SSE	150°	Unknown	Non-adult	Supine	Extended
Great Chesterford	121		Mystic items in grave assemblage.	WSW	237°	Male	Adult	On right side	Flexed
Great Chesterford	122		Atypical orientation within database population.	SSE	153°	Male	Adult	Supine	Extended

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Great Chesterford	124		Intentional inclusion of stones within the grave and atypical orientation within cemetery population.	WNW	297°	Female	Adult	On left side	Flexed
Great Chesterford	129		Atypical orientation within cemetery and database population.	ENE	68°	Female	Adult	Supine	Extended
Great Chesterford	132		Atypical orientation within database population.	SSE	151°	Female	Adult	Supine	Extended with legs crossed
Great Chesterford	135		Atypical orientation within cemetery population.	NNW	341°	Female	Adult	On left side	Extended
Great Chesterford	137		Atypical orientation within cemetery population.	NNW	341°	Male	Adult	On right side	Flexed
Great Chesterford	142		Intentional inclusion of stones within the grave and grave contained a horse skeleton (mystic) and atypical orientation within database population.	SSE	160°	Unknown	Adult	Supine	Extended
Great Chesterford	143		Atypical orientation within database population.	SSE	156°	Unknown	Non-adult	Supine	Extended
Great Chesterford	146		Atypical orientation within cemetery and database population.	NE	51°	Unknown	Non-adult	Supine	Extended
Great Chesterford	147		Atypical orientation within database population.	S	177°	Unknown	Non-adult	On right side	Extended
Great Chesterford	149		Atypical orientation within cemetery population.	NNW	336°	Male	Adult	On left side	Flexed
Great Chesterford	150	a	Multiple burial.	WSW	256°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	150	b	Multiple burial.	WSW	256°	Unknown	Non-adult	Unknown	Unknown
Great Chesterford	152		Unusual body placement.	WSW	242°	Female	Adult	Supine	Extended with legs crossed
Great Chesterford	154		Atypical orientation within cemetery population.	NNW	333°	Unknown	Non-adult	On right side	Flexed with legs crossed
Great Chesterford	158		Unusual body placement and atypical orientation within database population.	S	171°	Unknown	Non-adult	On right side	Flexed
Great Chesterford	159		Atypical orientation within database population.	S	181°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	2		Mystic items in assemblage.	W	267°	Possible Male	Adult	Supine	Extended
Lakenheath	3		Atypical orientation within cemetery population.	SW	234°	Possible Male	Adult	On left side	Flexed
Lakenheath	4		Atypical orientation within cemetery population.	SW	235.5°	Unknown	Unknown	Unknown	Unknown
Lakenheath	18		Atypical orientation and within cemetery population.	SW	231°	Female	Adult	Unknown	Unknown
Lakenheath	25	a	Multiple burial and mystic items in assemblage.	WSW	251°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	25	b	Multiple burial and mystic items in assemblage.	WSW	251°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	25	c	Multiple burial and mystic items in assemblage.	WSW	251°	Unknown	Adult	Unknown	Unknown
Lakenheath	30		Atypical orientation within cemetery population.	SW	231°	Unknown	Adult	Unknown	Unknown
Lakenheath	36		Mystic items in assemblage.	WSW	248°	Possible Male	Adult	Unknown	Unknown
Lakenheath	47		Mystic items in assemblage.	W	261.5°	Male	Adult	Unknown	Unknown
Lakenheath	49		Mystic items in assemblage.	WSW	256°	Possible Female	Adult	Unknown	Unknown
Lakenheath	59	a	Multiple burial.	WSW	254.5°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	59	b	Multiple burial.	W	266°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	59	c	Multiple burial.	W	260.5°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	62		Mystic items in assemblage.	W	267°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	68		Mystic items in assemblage.	WSW	242°	Unknown	Adult	Unknown	Unknown
Lakenheath	75		Mystic items in assemblage.	W	259.5°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	80		Mystic items in assemblage.	WSW	251.5°	Possible Female	Adult	Unknown	Unknown
Lakenheath	82		Atypical orientation within cemetery population.	SW	232.5°	Unknown	Unknown	Unknown	Unknown
Lakenheath	85		Mystic items in assemblage.	WSW	245.5°	Female	Adult	Unknown	Unknown
Lakenheath	88		Mystic items in assemblage.	W	259°	Possible Male	Adult	Unknown	Unknown
Lakenheath	99		Mystic items in assemblage.	W	278°	Unknown	Adult	Supine	Probable extended
Lakenheath	103		Atypical orientation within cemetery population.	SW	220°	Unknown	Adult	Unknown	Unknown
Lakenheath	109		Mystic items in assemblage.	WSW	247°	Unknown	Unknown	Unknown	Unknown
Lakenheath	113	a	Multiple burial.	WSW	254°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	113	b	Multiple burial.	WSW	254°	Unknown	Non-adult	Unknown	Unknown

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Lakenheath	113	c	Multiple burial.	W	270.5°	Unknown	Non-adult	Supine	Extended
Lakenheath	115		Mystic items in assemblage.	WSW	248°	Male	Adult	Unknown	Unknown
Lakenheath	116		Atypical orientation within cemetery population.	SSW	209°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	118		Atypical orientation within cemetery population.	NW	306°	Unknown	Adult	Unknown	Unknown
Lakenheath	125		Mystic items in assemblage.	W	269°	Female	Adult	Unknown	Unknown
Lakenheath	129		Mystic items in assemblage.	W	270.5°	Unknown	Adult	Unknown	Unknown
Lakenheath	133		Mystic items in assemblage.	W	280°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	136		Mystic items in assemblage.	W	266.5°	Female	Adult	Unknown	Unknown
Lakenheath	140		Mystic items in assemblage.	WSW	256°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	143		Mystic items in assemblage.	W	264°	Male	Adult	Unknown	Unknown
Lakenheath	147		Mystic items in assemblage.	WNW	297.5°	Unknown	Adult	Unknown	Unknown
Lakenheath	149	a	Multiple burial.	W	277.5°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	149	b	Multiple burial.	W	277.5°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	156		Mystic items in assemblage.	W	264°	Unknown	Adult	Unknown	Unknown
Lakenheath	163		Atypical orientation within cemetery population.	NW	304.5°	Possible Female	Adult	Unknown	Unknown
Lakenheath	170		Mystic items in assemblage.	W	270°	Female	Adult	Unknown	Unknown
Lakenheath	171		Mystic items in assemblage.	W	264.5°	Male	Adult	Unknown	Unknown
Lakenheath	178		Atypical orientation within cemetery population.	S	191°	Unknown	Non-adult	Unknown	Unknown
Lakenheath	189		Mystic items in assemblage.	W	265.5°	Possible Female	Adult	Unknown	Unknown
Lakenheath	204		Mystic items in assemblage.	WNW	297.5°	Female	Adult	Unknown	Unknown
Lakenheath	205		Mystic items in assemblage.	W	259°	Female	Adult	Unknown	Unknown
Lakenheath	210		Mystic items in assemblage.	W	280°	Male	Adult	Unknown	Unknown
Morning Thorpe	20		Atypical orientation within cemetery population.	SW	236°	Female	Unknown	Unknown	Unknown
Morning Thorpe	37		Mystic items in assemblage.	W	270°	Possible male	Adult	Supine	Flexed
Morning Thorpe	38		Mystic items in assemblage.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	106		Mystic items in assemblage.	W	279°	Female	Adult	Unknown	Unknown
Morning Thorpe	108	a	Multiple burial.	W	280°	Female	Adult	Unknown	Unknown
Morning Thorpe	108	b	Multiple burial.	W	280°	Female	Adult	Unknown	Unknown
Morning Thorpe	110	a	Multiple burial.	W	269°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	110	b	Multiple burial.	W	269°	Possible Female	Adult	Supine	Extended
Morning Thorpe	129	a	Multiple burial.	W	265°	Female	Adult	Unknown	Unknown
Morning Thorpe	129	b	Multiple burial.	W	265°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	140		Mystic items. Organic material possibly an offering.	Unknown	Unknown	Female	Unknown	Unknown	Unknown
Morning Thorpe	148	a	Multiple burial.	W	272°	Female	Adult	Unknown	Unknown
Morning Thorpe	148	b	Multiple burial.	W	272°	Male	Adult	Unknown	Unknown
Morning Thorpe	153		Atypical orientation within cemetery and database population.	E	100°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	200		Mystic items in assemblage.	W	267°	Male	Adult	Unknown	Unknown
Morning Thorpe	207		Atypical orientation within cemetery and database population.	E	87°	Female	Non-adult	Unknown	Unknown
Morning Thorpe	238	a	Multiple burial and atypical orientation within cemetery population.	SE	140°	Female	Unknown	Unknown	Unknown
Morning Thorpe	238	b	Multiple burial and atypical orientation within cemetery population.	SE	140°	Male	Unknown	Unknown	Unknown
Morning Thorpe	255		Atypical orientation within cemetery population.	SW	233°	Male	Unknown	On left side	Extended
Morning Thorpe	256		Atypical orientation within cemetery population.	NW	312°	Female	Non-adult	Unknown	Unknown
Morning Thorpe	293	a	Multiple burial.	W	266°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	293	b	Multiple burial.	W	266°	Unknown	Unknown	Unknown	Unknown

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Morning Thorpe	304	a	Multiple burial.	WSW	256°	Male	Unknown	Unknown	Unknown
Morning Thorpe	304	b	Multiple burial.	WSW	256°	Female	Unknown	Unknown	Unknown
Morning Thorpe	337	a	Multiple burial.	W	266°	Female	Unknown	Unknown	Unknown
Morning Thorpe	337	b	Multiple burial.	W	266°	Male	Adult	Unknown	Unknown
Morning Thorpe	351	a	Multiple burial.	W	265°	Male	Adult	Unknown	Unknown
Morning Thorpe	351	b	Multiple burial.	W	265°	Female	Unknown	Unknown	Unknown
Morning Thorpe	358	a	Multiple burial.	W	266°	Female	Adult	Unknown	Unknown
Morning Thorpe	358	b	Multiple burial.	W	266°	Female	Adult	Unknown	Unknown
Morning Thorpe	362	a	Multiple burial.	W	267°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	362	b	Multiple burial.	W	267°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	367	a	Multiple burial.	W	268°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	367	b	Multiple burial.	W	268°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	369	a	Multiple burial.	W	263°	Female	Unknown	Unknown	Unknown
Morning Thorpe	369	b	Multiple burial.	W	263°	Female	Unknown	Unknown	Unknown
Morning Thorpe	370	a	Multiple burial.	W	270°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	370	b	Multiple burial.	W	270°	Unknown	Unknown	Unknown	Unknown
Morning Thorpe	371	a	Multiple burial.	W	270°	Female	Adult	Unknown	Unknown
Morning Thorpe	371	b	Multiple burial.	W	270°	Female	Unknown	Unknown	Unknown
Morning Thorpe	385		Mystic items in assemblage.	W	263°	Female	Adult	Unknown	Unknown
Snape	11		Buried with a layer of cremated human bone indicating a contemporaneous burial.	WSW	258°	Unknown	Unknown	Supine	Flexed
Snape	17		Buried with two urned juvenile cremations.	WNW	284°	Unknown	Unknown	Supine	Flexed
Snape	19	a	Multiple burial.	WNW	295°	Unknown	Unknown	On left side	One leg flexed
Snape	19	b	Multiple burial.	WNW	295°	Unknown	Unknown	Unknown	Extended
Snape	32		Mystic items found in assemblage and insect puparia recovered to suggest decomposition of human remains before burial.	W	274°	Unknown	Unknown	Supine	One leg flexed
Snape	38		Prone body placement.	W	267°	Unknown	Unknown	Possible prone	Probable flexed
Snape	44		Prone body placement and possible criminal treatment.	W	270°	Unknown	Adult	Prone	Extended
Snape	45		Atypical orientation within cemetery population.	NW	309°	Unknown	Unknown	Supine	Extended
Snape	46		Unusual grave structure.	WSW	248°	Unknown	Adult	Supine	Extended
Snape	47		Mystic items in assemblage.	WNW	289°	Unknown	Unknown	Unknown	Unknown
Spong Hill	5		Crouched flexure.	W	268°	Female	Adult	On right side	Probable crouched
Spong Hill	19		Crouched flexure and atypical orientation within cemetery and database population.	E	95°	Probable Female	Adult	Unknown	Crouched
Spong Hill	31	a	Multiple burial.	W	280°	Male	Adult	Unknown	Unknown
Spong Hill	31	b	Multiple burial.	W	280°	Unknown	Non-adult	Unknown	Unknown
Spong Hill	42		Crouched flexure and prone body placement with possible restraints.	WSW	251°	Female	Adult	Possible prone	Possible crouched
Spong Hill	44		Crouched flexure and atypical orientation within cemetery and database population.	ESE	105°	Female	Adult	Unknown	Crouched
Spong Hill	47		Crouched flexure.	W	260°	Female	Adult	Unknown	Crouched
Westgarth Gardens	8		It is possible the skull was placed on the chest and even though in cemetery report refutes decapitation, in later passage it is found that skull has trauma.	W	277°	Male	Adult	Supine	One leg flexed

Cemetery	Grave No. & Annexation		Reasons For Deviance	Orientation Cardinal and degree		Sex	Age	Body Placement	Flexure
Westgarth Gardens	28		Atypical orientation within cemetery population.	NW	307°	Female	Adult	Supine	Extended with legs crossed
Westgarth Gardens	30	a	Multiple burial.	Unknown	Unknown	Male	Unknown	Supine	Extended
Westgarth Gardens	30	b	Multiple burial.	Unknown	Unknown	Male	Unknown	Unknown	Flexed
Westgarth Gardens	34		Atypical orientation within cemetery population.	NW	305°	Female	Adult	Supine	Extended with legs crossed
Westgarth Gardens	38		Atypical orientation within cemetery population.	NW	308°	Unknown	Non-adult	Unknown	Unknown
Westgarth Gardens	44		Atypical orientation within cemetery population.	NW	305°	Unknown	Non-adult	On left side	Flexed
Westgarth Gardens	48		Mystic items in assemblage.	WNW	297°	Female	Adult	On left side	Extended with legs crossed
Westgarth Gardens	57		Atypical orientation within cemetery population.	NW	305°	Unknown	Non-adult	Unknown	Unknown
Westgarth Gardens	60		Prone body placement.	W	278°	Male	Adult	Prone	Extended with legs crossed

Types of atypical burial

Seven main types of atypical burial were highlighted in the statistical analysis: atypical orientation, crouched burial, multiple burial, burials with mystic items, prone burials, unusual grave location and unusual treatment of remains. In certain instances, it was necessary to use cemetery records not included within the database in order to give points of comparison. This is especially useful when identifying 'deviants' through behaviours assumed to be atypical but that may have been replicated at sites not included in this study. This is also an important step as although a particular burial practice may be atypical, it may not necessarily indicate 'deviance' if it is rare within a cemetery but nevertheless present at many cemeteries. In essence, there is perhaps little difference between unpopular but widespread rites and 'deviant' behaviour. This is discussed in Chapter 3, but the application is clearer to see with the examples below, especially in terms of crouched burial and atypical orientation which have debatable affiliations with 'deviant' behaviour (Reynolds 2009). Although some atypical burial types were identified in the above table and accompanying statistical analysis, it is only with additional evidence and reference to the wider context that the term 'deviant' can be discussed confidently.

The purpose of this section is not to typecast 'deviants' within the database but to better understand why certain individuals may not conform to the 'norm' in relation to certain burial attributes. In some cases, the evidence may indicate the status of merely one individual burial as deviating substantially from the norm and thus being worthy of further investigation. Certain burial traits have been well publicised as indicative of 'deviant' behaviour, such as the discovery of prone burial involving punishment and criminality (Reynolds 2009). The analysis of other burial

features such as grave orientation may be less clear due to the uncertain range of 'normality' within this category. Grave orientation will be examined first as it produced the most number of potential 'deviants' from the analysis of the database.

Even at this stage, it is clear that certain individuals were not accorded the same burial rites as the majority within and across their cemeteries, sex divisions or age groups. The next phase of the discussion will focus on the identification of 'deviant burial' through the examination of patterns and irregularities within and across the data categories. A summary of the totals recorded for these categories can be found in Figure 6.1. From the statistics generated above, it is possible to identify individuals who present one or more of the 'deviant' attributes outlined. As we have seen, these attributes or characteristics were identified from an assessment of the most and least common burial features across the database, and with additional reference to scholarly work on deviancy, including Reynolds (2009), Murphy (2008) and Shay (1985) (see Chapter Literature review for more detail).

It is necessary at this point to reiterate the definition of this classification. 'Deviant' in this study is not used as a label for subcultural behaviour or societal outcasts, and is not intended to carry a negative connotation, although in practice the individuals concerned may have been seen in such ways by their contemporaries. The term is used here simply as a marker for individuals and practices which do not match the characteristics of the group majority. The individuals who were classified as having some form of 'deviant' burial traits are detailed below both in reference to their cemeteries, ages, sexes, orientations and body positions but also the specifics of their atypical characteristics.

1.) Atypical orientation

The first and largest of the 'deviant' groups was compiled from the examination of the orientation of all individuals within the database. The cemetery reports were used in conjunction with the statistical analysis to record any orientations identified by the excavators and interpreters as unusual. The analysis conducted within the cemetery reports was also considered in reference to the results from the statistical tests. The individuals included in these categories were labelled within the database and some were classified as both atypical within their cemetery and when compared to the rest of the database population. As a consequence, a much greater proportion of individuals with atypical orientations were identified, as the cemetery reports were obviously supplemented by the database-wide statistics.

As briefly discussed above, grave orientation is the alignment of the burial that is determined using either cardinal directions or angles of degree. The database produced a range of 15 cardinal alignments which were accompanied by the angle of direction in respect to due north. The sixteenth cardinal point, 'North' was not recorded within the database. There was considerable variance amongst the data both on an individual cemetery level and when compared between sites. The results were far from homogenous in terms of frequency with some definitive orientations proving unusual on all levels of analysis.

With the purpose of determining orientation frequency, several tables were created to display the figures produced using the data analysis. Firstly, as shown in the preceding chapter, the straightforward presentation of frequencies were compiled and compared to demographic data. Then, in order to develop an approach for analysing atypical orientation, more complex figures were designed to examine

patterns that were not automatically obvious from the primary statistics. Three levels were set for the parameters of atypical orientation to be used to identify possible 'deviants'. As seen in Figure 6.3 below, a ranking system was used for the cardinal points in reference to their frequency both within individual cemeteries and across the database as a whole. This provided an insight into which orientations were the most commonly recorded within each cemetery and therefore indicated which cemeteries deviated from any established patterns. These parameters were designed to allow cemetery-based traditions to be taken into account without disturbing the results for the other sites when analysing all records.

Figure 6.3 – Table showing the most popular orientations within the database

	Bloodmoor Hill	Ranked frequency	**Cleatham**	Ranked frequency	**Great Chesterford**	Ranked frequency	**Lakenheath**	Ranked frequency	**Morning Thorpe**	Ranked frequency	**Snape**	Ranked frequency	**Spong Hill**	Ranked frequency	**Westgarth Gardens**	Ranked frequency	**Total**	Ranked frequency
W	**10**	2nd	**7**	3rd	**13**	4th	**99**	1st	**155**	1st	**19**	1st	**29**	1st	**18**	2nd	**350**	1st
WSW	**19**	1st	**0**	X	**45**	1st	**81**	2nd	**38**	2nd	**4**	3rd	**2**	3rd	**1**	3rd	**190**	2nd
WNW	**Only W & WSW recorded**		**24**	1st	**3**	8th	**24**	3rd	**10**	3rd	**12**	2nd	**5**	2nd	**26**	1st	**104**	3rd

Atypical orientation was the most common characteristic used to identify 'deviants'. As Figure 6.4 shows, 119 individuals in total were classified as such due to the various orientations of their graves, which deviated from the most common

orientations recorded (51.52% of the total 231 individuals found with identifiable orientation). Generally, there was no significant correlation between the sex or age of an individual, and the accordance of atypical orientation. However, as will be shown below, when considered within the context of the individual cemeteries, some potential links between orientation and demography emerge.

Figure 6.4 – Table showing demographic details for 119 individuals with atypical orientation

119 individuals with atypical orientation		
Adults	60	50.42%
Non-adults	51	42.86%
Unaged individuals	8	6.72%
Females	38	31.93%
Males	24	20.17%
Unsexed individuals	57	47.90%
Individuals with grave goods	98	82.35%
Individuals without grave goods	21	17.65%

It is also worth noting that, when viewed within the database as a whole, 90 individuals were shown to possess unusual orientations, and 46 individuals were found buried on an atypical alignment when compared to others within their cemetery. Only 17 individuals were 'deviant' on both grounds and were all found on alignments between ESE and NNE (19º-111º).

As seen in Figure 6.5, below, atypical orientation was recorded at all sites except for Bloodmoor Hill. This is an interesting point considering Bloodmoor Hill is the only site to include individuals buried at a distance from the main cemetery group (as discussed later) but who were all accorded a similar general orientation. This may indicate that spatial isolation of the graves, rather than their orientation, may have been used to indicate 'deviants' at this site. Conversely, as a proportion of the total

cemetery population, Great Chesterford and Cleatham had markedly more incidences of atypical orientation when compared to the other sites. The more popular alignments within these two cemeteries did not match the results found at any of the other sites or across the database as a whole, indicating a definitive divergence from the expected outcomes.

Applying ranked frequencies to each of the orientation directions both within the individual cemeteries and across the database as a whole provided a clear and unbiased perspective of the range of alignments recorded. The same three orientations (W, WNW and WSW) were the most popular at six of the eight cemeteries. Cleatham and Great Chesterford did not match this pattern and produced very different results to those expected from the analysis of the remaining sites. Cleatham deviated slightly from the projected results with two of the three most popular alignments (W and WNW) and with the second most common orientation determined as NW. In terms of general direction, the latter is not a substantial variation from the popular alignments. It is, however, calculated as the fifth most popular orientation within the database as a whole, making it an unexpected result. Great Chesterford shared only one of the top three orientations, with WSW proving the most commonly recorded alignment at the cemetery. The second and third highest frequencies of orientation were SSE and S. Unlike those from Cleatham, these results are more difficult to argue away as these two orientations are distinctive when compared to the expected results. As Cleatham is the only site chosen from outside of East Anglia it is very possible that regional variation could be responsible for these outcomes, having a local tradition that determined the orientation of the grave that would not be replicated at the other sites.

The variations in orientation found within and between sites can be explained using a variety of theories, many involving celestial movements and an appreciation for the rising and falling of the sun. There are, however, more specific suggestions made in several of the cemetery reports which support the premise that individual grave orientation 'can be seen most profitably as relating to the topography of the site than any detailed discussion of their relationship to the solar arc (Filmer-Sankey and Pestell 2001: 248). This is demonstrated at Snape where graves 18 and 21 were affected by a ring-ditch and graves 45 and 47 were aligned in accordance with Mound 4 on the site. A similar practice can be seen at Spong Hill, where grave 43 is believed to be oriented to fit the ring-ditch around grave 40. The interpretation offered here involves an appreciation for the 'prominent features in the cemetery, such as paths or walls, or simply on previous burials (Hills *et al*. 1984: 2). It is very possible that the alignments recorded at the Bloodmoor Hill site present similar considerations. For example it seems that 'the burials were arranged at right-angles to, although stratigraphically later than, a post-built structure' (Dickens *et al*. 2006: 74). Finally, at Great Chesterford, several groups of burials were found with orientations respecting four Roman period tumuli, and 'those who favoured W-E burial and cremation deposited their dead on the barrows, and particularly on their perimeters' (Evison 1994: 41). In contrast, the south-north oriented burials were placed in the spaces between the tumuli, while 'the few for whom a reverse burial was appropriate were placed in the centre of the barrows' (Evison 1994: 41). The consideration shown for topographic features and structures at these sites may indicate respect for previous generations and an acknowledgement of the significance of certain areas.

Figure 6.5, below, provides a breakdown of atypical orientations by demography. This shows that adults were generally more frequently interred on an atypical orientation. The exception to this rule was Great Chesterford, where more non-adults than adults possessed an atypical orientation. This cemetery held the highest number of non-adults with this atypical trait. Additionally, neither sex seems to have been more associated with atypical orientation than the other. Therefore, any demographic correlation with orientation must lie within the individual cemeteries, rather than being readily apparent within the database as a whole.

Figure 6.5 – Table showing demographic details for 119 individuals with atypical orientation within the cemeteries

	Cleatham	Great Chesterford	Lakenheath	Morning Thorpe	Snape	Spong Hill	Westgarth Gardens	Total
Adults	19	31	6	0	0	2	2	60
Non-adults	5	39	2	2	0	0	3	51
Unaged individuals	0	0	2	5	1	0	0	8
Females	9	19	2	4	0	2	2	38
Males	10	11	1	2	0	0	0	24
Unsexed individuals	5	40	7	1	1	0	3	57
Total	24	70	10	7	1	2	5	119

As noted above, it has been posited that the demography of certain cemeteries may have played a part in determining the orientation of graves. At Westgarth gardens, for example, it was believed that a general orientation was followed for most of the graves, and the presence of other features was not associated with these alignments (West 1988). Instead, it was suggested that sex and age categories could be identified within the orientation of the graves. Pader (1982: 145), for example,

argued that ‘there is a significant difference among the adult males and females which cross-cut other factors, whereas children, as a category, do not appear to be specially differentiated’. However, it should be noted that the orientations at Westgarth Gardens were generally not to be considered atypical when viewed within the context of this study. In fact, only five burials were considered to have an atypical orientation – two females, and three unsexed individuals. Therefore, for the purposes of this study, atypical orientation at Westgarth gardens was not dependent on demographic factors. At Great Chesterford, in contrast, it has been argued that in addition to topographic features, grave orientation was influenced by demographic factors. For instance, one particular group of infant burials was clustered together and ‘dated to the second half of the fifth century [with an] east-west orientation’ (Lee 2008: 26). In other cases, there were no clear reasons as to why individuals had been buried on any particular alignment. For instance, at Cleatham, ‘no correlation between the alignment of graves and the age, sex or dating of the burials could be found’ (Leahy 2007: 33). While the graves at Cleatham were generally oriented west-east, it is clear that some general variation in this was not uncommon (Leahy 2007: 33). This also seems to have been the case at Morning Thorpe cemetery, where there was no visible correlation between the orientation of graves and the demographic characteristics of the cemetery population, or any particular alignment with topographic features.

Needless to say, there are a variety of factors both within and between cemeteries (many of which may never be known) that may have influenced grave alignments and consequently may have affected the way atypical orientation is perceived. This is especially relevant when considering certain sites may have been

multi-phasal, such as Great Chesterford (Evison 1994), where different burial rites, including orientation, may have changed over time. The most and least popular grave alignments may, therefore, have altered significantly at and between sites, making atypical and potentially 'deviant' orientations a much more complex phenomenon to identify. This may, in part, help to explain why such a large number of individuals were found with atypical orientation within the database.

As so many individuals were classified as such, they can also be profiled in respect to all other burial traits. As seen in Figure 6.6 below, the most pronounced result from this analysis is the deposition of grave goods in the burials that were classified as having atypical orientation. Interestingly, this may suggest that grave orientation was an indicator of difference but not necessarily 'deviance' as it has been argued that true 'deviants' were treated with disrespect during burial and were usually therefore buried without grave goods (Geake 1992). It may be useful here to look closer at the 21 individuals within this group who were not accorded grave goods.

Figure 6.6 – Table showing the popularities of each orientation at the cemeteries

	Bloodmoor Hill	Ranked frequency	Cleatham	Ranked frequency	Great Chesterford	Ranked frequency	Lakenheath	Ranked frequency	Morning Thorpe	Ranked frequency	Snape	Ranked frequency	Spong Hill	Ranked frequency	Westgarth Gardens	Ranked frequency	Total	Ranked frequency
W	10	2nd	7	3rd	13	4th	99	1st	155	1st	19	1st	29	1st	18	2nd	350	1st
WSW	19	1st			45	1st	81	2nd	38	2nd	4	3rd	2	3rd	1	3rd	190	2nd
WNW			24	1st	3	8th	24	3rd	10	3rd	12	2nd	5	2nd	26	1st	104	3rd
SSE					31	2nd											31	4th
NW			16	2nd			2	5th	1	5th	1	4			5	4th	25	5th
S					21	3rd	1	6th									22	6th
SE					10	5th			2	4th							12	7th
SW					4	7th	6	4th	2	4th							12	7th
NNW			5	4th	5	6th											10	8th
SSW					5	6th	1	6th									6	9th
E			2	6th					2	4th			1	4th			5	10th
ENE					4	7th											4	11th
ESE			3	5th									1	4th			4	11th
NE			1	7th	1	9th											2	12th
NNE			2	6th													2	12th
Unknown			2		29		6		152		12		20		16		237	
Grand Total	29		62		171		220		362		48		58		66		1016	

Atypical compared to cemetery Atypical compared to database Atypical orientation for both parameters

Figure 6.7 – Table showing demographic details for 21 individuals with atypical orientation and no grave goods

21 individuals with atypical orientation and no grave goods		
Adults	5	23.81%
Non-adults	16	76.19%
Unaged individuals	0	0.00%
Females	3	14.29%
Males	2	9.52%
Unsexed individuals	16	76.19%
Individuals with other 'deviant' traits	4	19.05%
Crouched	1	4.76%
Multiple burial	2	9.52%
Unusual treatment of remains	1	4.76%

Overall, it is very clear from these results that non-adults were much more likely to be buried on an atypical alignment without grave goods. If this set of burial rites were accorded to adults, it is very possible that they would be interpreted as 'deviants' or 'criminals' as suggested by Geake (1992). However, this is unlikely due to the young age of the individuals. It has been suggested that instances where non-adults were accorded these seemingly disrespectful burials may be linked to the punishment of their parents or relatives. For example, illegitimate children or those with adulterous parents may have been marked this way by burial as penance for their parent's wrongdoings (Kyll 1964). Even so, the proportion of non-adults within this category does indicate a particular practice that was associated with this age group and not necessarily related to the same interpretation that has been accorded to adults with similar grave attributes.

The large portion of unsexed individuals within this group also correlates to the number of non-adults as sexual categories were only assigned to adult skeletons. Although tempting, it may be unwise to use these statistics to interpret non-adult burial practices as this may alter the perception of these results. For instance, 51 non-adults were found with atypical orientation and as outlined above, 16 were found

without an assemblage. However, this then leaves 35 individuals who were found with grave goods. If not the result of poor preservation, a different characteristic must have determined whether grave goods were deposited. To add to the layers of differentiation, it is interesting that only Great Chesterford and Cleatham had non-adults with atypical orientation and no grave goods (16 individuals in total). Of this number, only one individual was found at Cleatham and the remaining 15 non-adults were recorded at Great Chesterford. This could therefore indicate a practice dominant at this cemetery which is only seen as 'deviant' in reference to comparable sites, as such, there is no reason to assume homogeneity.

In sum, aside from the unusual results calculated from Great Chesterford and Cleatham, there is little that can be taken from the assessment of atypical orientation unless it is accompanied by another unusual trait (see discussion below). The variance possible in terms of burial alignment may overemphasise the level of difference between two orientations. In order to better understand the relevance of grave alignment on the identification of 'deviance', it is necessary to analyse the results in terms of the other traits associated with this atypicality. It may then be easier to isolate individuals who present more pronounced difference from the remaining database and cemetery populations.

In total, 36 individuals were found with more than one 'deviant' trait. Interestingly, of these 36 individuals, 24 were identified as having atypical orientation. This group of individuals were not only aligned on an unusual orientation when compared to their cemetery or across the database but were also found with one or more of the other 'deviant' identifiers. The combinations are listed in Figure 6.8 below.

Figure 6.8 – Table showing 24 individuals with combinations of multiple 'deviant' traits including atypical orientation

Combinations with multiple 'deviant' traits including atypical orientation from 24 individuals				
Atypical orientation within cemetery and database population		crouched flexure	unusual treatment of remains	1
Atypical orientation within cemetery and database population		unusual treatment of remains		1
Atypical orientation within cemetery and database population		crouched flexure		2
Atypical orientation within cemetery and database population		mystic items	prone position	1
Atypical orientation within cemetery population		unusual treatment of remains		1
Atypical orientation within cemetery population		multiple burial		2
Atypical orientation within database population		multiple burial		4
Atypical orientation within database population		crouched flexure	mystic items	1
Atypical orientation within database population		mystic items		3
Atypical orientation within database population		unusual treatment of remains		4
Atypical orientation within database population		mystic items	unusual treatment of remains	2
Atypical orientation within database population		mystic items	prone position	1
Atypical orientation within database population	mystic items	prone position	unusual treatment of remains	1

There is a definite polarity within burial analysis over the significance of orientation. It can be argued that such a diverse trait as orientation could never be sufficiently analysed, not only due to the difficulties with measurement and recording but the variation in explanation offered. These include difficult to prove theories such as those that emphasise the role of specific celestial and astronomical events in influencing grave orientation (Rahtz 1978). Essentially, the issue with analysing orientation is the range in results recorded that can be interpreted to support a particular hypothesis. Scholars have variously highlights concerns with religion and spirituality (Chadwick Hawkes 1982), celestial cycles and the rise and setting of the sun, and the influence of landscape topography and sacred places (Parfitt 2012). It must be recognised, however, that there may have been no defined purpose behind the alignment of a grave (for a summary see Chapter 3 and Rahtz 1978).

Grave orientation can instead correlate to demographic patterns, as at Sewerby, Yorkshire, where only females were buried on a west-east orientation (Hirst 1985). Nonetheless, regardless of the above mentioned explanations, it may still be reasonable to interpret the variable orientations both across the database and within the cemeteries as atypical and unusual. It is generally accepted that the most popular orientation observed during the early Anglo-Saxon period involves the head being placed in the west end of the grave on a roughly east-west alignment, with some graves also tending towards the northern cardinal points (Faull 1977). As seen in the database and the figures above, there are many cases within the sample that suggest completely alternative burial alignments. These not only include alignments which are directly opposite and may therefore be misconstrued as misinterpreted popular orientations but some recordings that are perpendicular to the most commonly found directions.

The assignation of orientation may be a subjective process. It is possible that both the decision to align a grave in the past and the recording of the orientation during the excavation process were not as accurate as they could be. It may be due to seasonal variation of the sun on the horizon which would affect the projected cardinal directions for the construction of a grave. It is also possible that the consistency of recording may not be as precise as the analysis assumes. We cannot know whether burying communities prescribed only a general, homogenous orientation for their burials, and if so it is then possible that minute differentiations in burial alignment may have been over-scrutinised and over-emphasised by interpreters. It may be that as such a wide variety of orientations have been recorded, little more than overall popularities and general patterns can be discerned (Reynolds

2009). Moreover, as some of the theories associated with grave orientation involve astronomical observations and celestial movements, interpretations can prove somewhat subjective (Rahtz 1978). This is especially relevant in terms of burial analysis, as evidence for influences that may have affected grave orientation may not always be observable upon excavation.

As with many of the indicators used to establish 'deviancy' there is a definite hesitation when determining whether a burial possesses an atypical orientation. Sample size and cemetery preference are understandably very influential, as unusual alignments can only be ascertained through difference from the majority or deviation from tradition. In this case, where a group of cemeteries has been chosen, these sites may all demonstrate high frequencies for orientations that have been considered as uncommon for early Anglo-Saxon burials. Therefore, any atypical orientation of graves may only be established by comparing the results to similar sites. This may be a helpful step to develop a more accurate means of identifying this as an atypical trait. However, due to the variable nature of grave orientation, there is no reason to assume that any cemeteries should produce similar results, regardless of geographical or chronological proximity (Lucy 1998).

2.) Crouched Burial

Unlike atypical orientation, evidence for crouched burial was much easier to identify within the database. As the term implies, a 'crouched' position within the grave implies that the skeletal remains are tightly flexed with the knees raised (Sprague 2005). 10 individuals, six females and four unsexed individuals were recovered in this position or in a state indicative of a crouched pose. This type of burial could suggest a practical consideration made at the time of burial to dig a smaller grave and essentially 'squash' the individual into it by raising the knees to the chest. Therefore, crouched burials dug to a standard length (for extended bodies) may be indicative of a much more intentional ritual flexure.

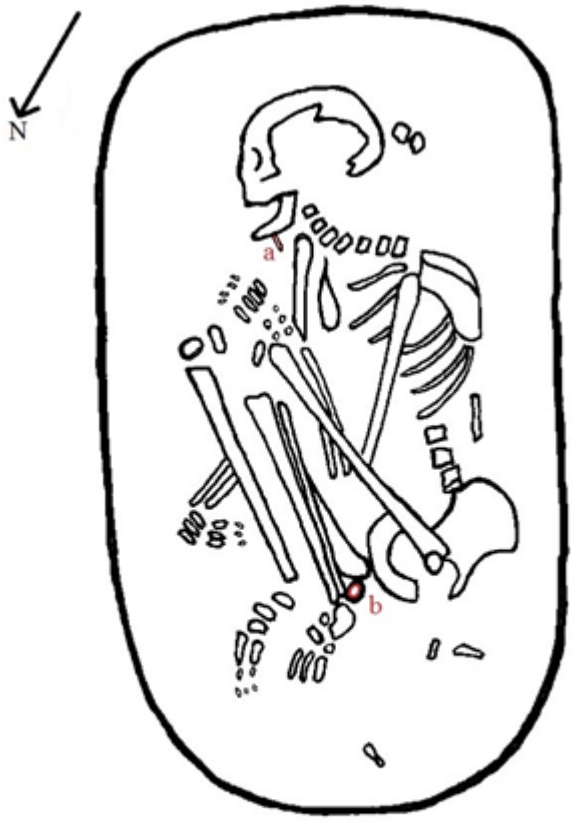
While it is not possible to definitely analyse crouched individuals from a statistical perspective, some broad observations can be made. It is potentially significant, for example, that all of the six sexed individuals buried in a crouched position were female. While some or all of the four remaining unsexed individuals might have been male, there are no data that could be used to substantiate this. Tentatively, therefore, it might be argued that females were more likely to have been buried in a crouched position. It is also worth noting that eight of the ten individuals were aged as adults, while two were non-adults. This again may indicate that crouched burials were reserved for older individuals, especially when considering that this form of burial has been associated with 'rebirth' or a return to the womb (see discussion in Reynolds 2009).

However, one of the more popular interpretations of this flexure type involves the perpetuation of a 'native' burial tradition. It is suggested that crouched burials have been recovered in the early Anglo-Saxon period because of the

continued use of the Romano-British burial rite of laying the body in the foetal position in respect to a specific spiritual belief (Faull 1977, Reynolds 2009 and Austin 2013). This theory is also reinforced by the low numbers of recorded crouched burials within cemeteries from this time period and may also be supported by the dietary isotopic analysis conducted by Hull and O'Connell (2011). This research found that a marked difference was recorded in individuals buried in a crouched position from all over early Anglo-Saxon England. The isotopic evidence has suggested that the individuals found in these positions could also be distinguished from the rest of their cemetery population by their dietary intakes. This could support the above theory of a 'native' burial rite as the social and cultural practices of these individuals could also have included the consumption of specific foodstuffs. In contrast to this, however, nine out of the 10 crouched burials were found with grave goods unlike typically unfurnished Romano-British burials (O'Brien 1999). This could, in practical terms, imply a process of acculturation whereby the burial pose of past tradition has been merged with the rites of the burying society, especially considering that crouched burials with grave goods were recorded at three different sites within the database.

Although it is relatively easy to dismiss crouched burial as a remnant feature of traditional 'native' burial, several of the graves identified from the database have features that may be worth investigating. For example, the female adult in Grave 112 at Great Chesterford is described as being laid in an extreme crouched position with her knees tucked up beneath her chin (Evison 1994). In most circumstances this would be taken as an unusual burial due to the extent to which the body must have been contorted in order produce this intense attitude (as seen in the plan below).

Figure 6.9 – Plan of Great Chesterford Grave 112 (After Evison 1994: 200)

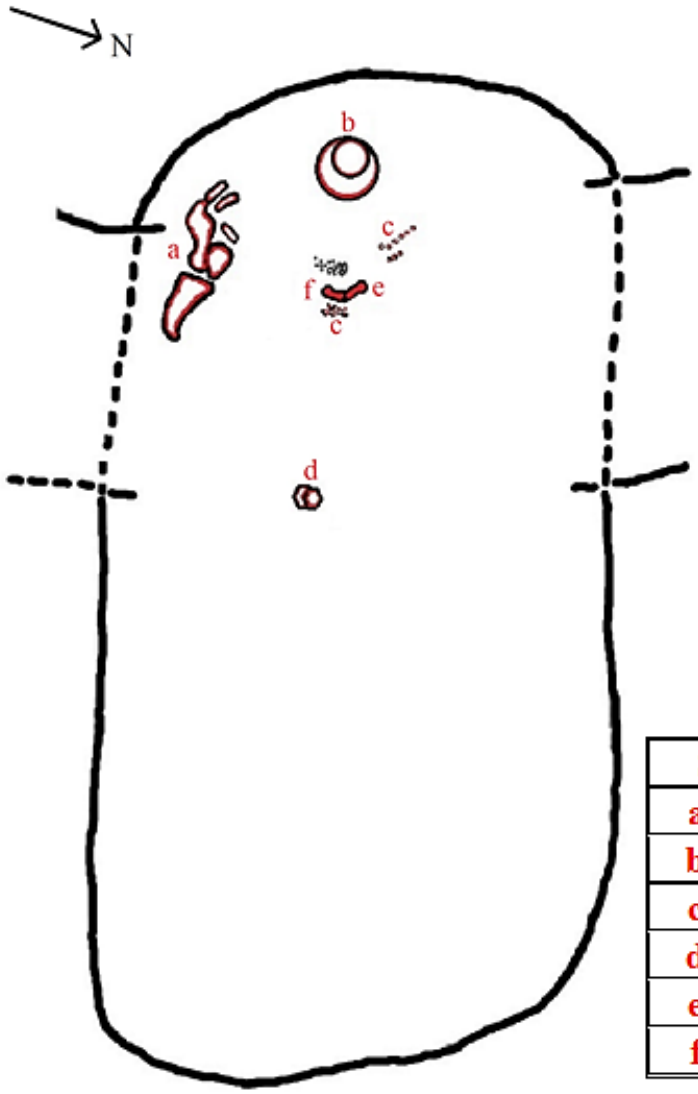


SCALE NOT AVAILABLE

Great Chesterford Grave 112	
a	Bronze pin
b	Iron ring

In addition to this peculiar burial, although Grave 42 at Spong Hill contained no remaining bones, the individual was recorded as being in a 'possible crouched' state or even laid prone with restraints. This was inferred from the 'upside down' brooches which were found within the grave along with the wrist-clasps which were found together (Hills *et al*. 1984: 95). Even excluding the information on body flexure, this individual may have been subjected to very unusual burial rites that were not accorded to many others within the database.

Figure 6.10 – Plan of Spong Hill Grave 42 (After Hills *et al.* 1984: 96)



Spong Hill Grave 42	
a	Pot
b	Pot
c	23 beads
d	Wrist-clasps
e	Small-long brooch
f	Small-long brooch

SCALE NOT AVAILABLE

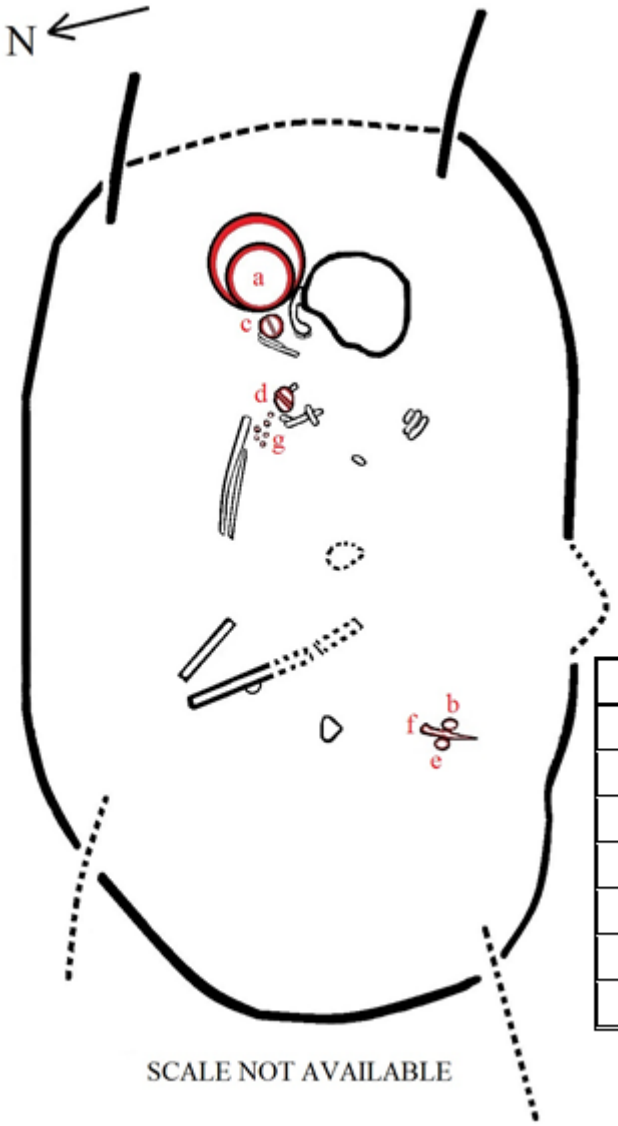
One crouched burial in particular highlights the rarity of this flexure as it is suggested in the cemetery report that the individual is thought to be a 'native' woman with a very different burial ritual when compared to the rest of Spong Hill cemetery. This adult female, found in Grave 44 at Spong Hill, was thought to have no similar burials at any Anglo-Saxon cemeteries and can be seen in Figure 6.11 below (Hills *et al.* 1984). Not only was this female adult buried in a crouched attitude, she had also been buried in the opposite orientation to the general population at the cemetery. In addition to this, it was also suggested by Macalister (unpublished) that the skeletal remains included a Romano-British 'coffin-shaped' skull (Hills *et al.* 1984: 98). This assessment was based on a visual interpretation only as the specimen was not complete enough for an anthropometric analysis. This does, therefore, cast doubt on the reliability of the analysis as inferring ethnicity (Romano-British and Anglo-Saxon traits) from skeletal remains, as this is a challenging process even with craniometric data (Russell 2007). The burial evidence for this individual may indeed support the theory for Romano-British influence in this case and may therefore strengthen the argument for a link between crouched burial and a continuation of older practices, but multidisciplinary research and a much larger dataset would be required to further support this hypothesis.

It must be remembered that every burial should be interpreted independently and the discovery of one particular typological trait does not automatically confirm a related theory. This can be seen very clearly in the following example from Grave 47 at the same site. This burial also contained a crouched adult female but was found with evidence of unusual treatment accorded to the deceased. The grave contained several very large flints that had been purposely deposited in the layers above the

body. As discussed later in the section, this practice has been associated with apotropaic rituals in later medieval burials that were designed to prevent the dead from rising (Gilchrist 2008). In this case, instead of only signifying Romano-British associations through the position of the body and deposition of a pot as the only grave good (Quensel-von Kalbern 2000), the burial may project a fear of this individual returning. Therefore, though this female adult may have identified with elements of Romano-British culture, considerations of the spiritual beliefs of the burial party may have taken precedence during the burial process.

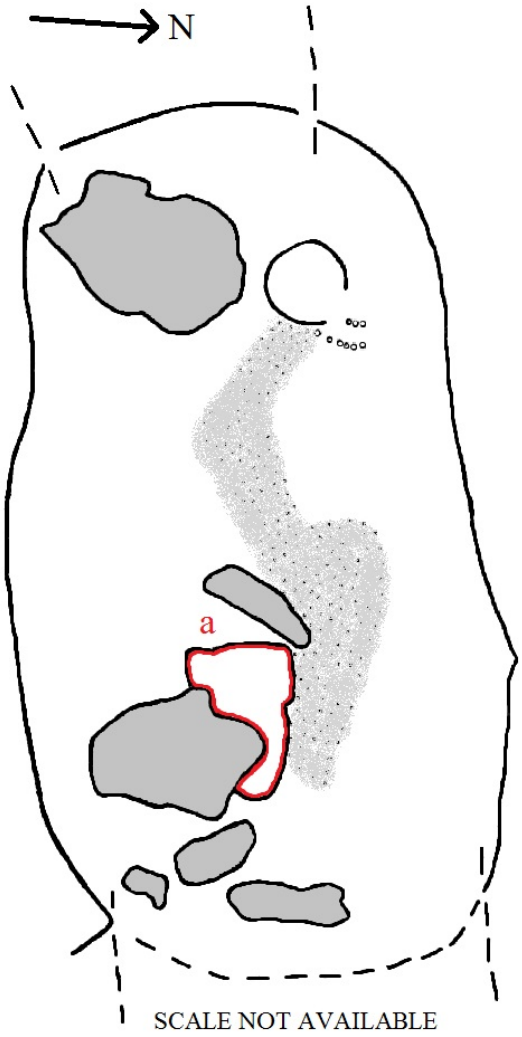
It may also be possible that this burial indicates a cemetery-specific rite which uses large flints as grave markers in the layers above the body. As commented by Hills and Lucy (2013: 269) 'the piles of flints in situ above the better-preserved cremations suggest that burials were marked. Many more burials may once have had such stone markers, ploughed out in recent centuries'. This is reinforced by the absence of stones in the majority of inhumations at the site as well as the recovery of the flints from Grave 47 not being placed directly on the body. This is unlike the practices seen at other cemeteries in this study (as discussed in the section on unusual treatment below).

Figure 6.11 – Plan of Spong Hill Grave 44(After Hills *et al.* 1984: 98)



Spong Hill Grave 44	
a	Pot
b	3 iron rings
c	Annular brooch
d	Annular brooch
e	Iron loop
f	Knife
g	7 beads

Figure 6.12 – Plan of Spong Hill Grave 47 (After Hills *et al.* 1984: 102)



Spong Hill Grave 47	
a	Pot

In general, the discovery of a crouched burial within this database can be labelled as atypical but cannot automatically be used as evidence for 'deviance' as the rare but widespread application of this rite suggests it was uncommon but not necessarily disrespectful (Reynolds 2009). This is supported by the above statistical analysis which highlights the range of individuals found with this flexure type as including adults, non-adults, females and unsexed individuals within three of the eight cemeteries examined. From this, as noted above, it was only possible to suggest a potential relationship between females and crouched burial. Consequently, as all six individuals were found alongside grave goods it is very difficult to argue that the crouched rite may be associated with disrespect or poor treatment and therefore indicative of 'deviant burial'.

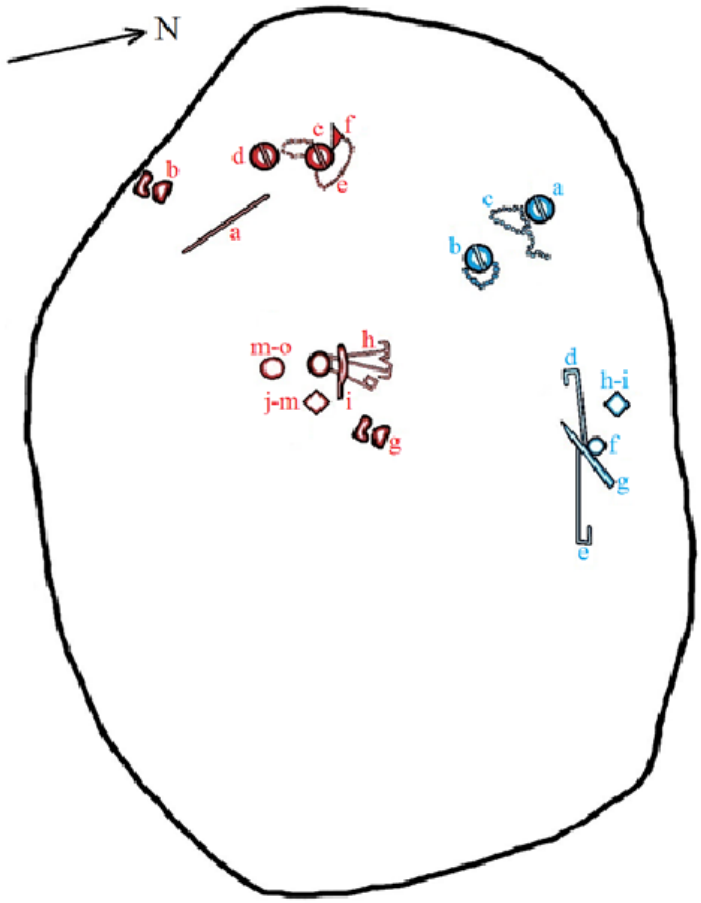
3.) Multiple Burial

The analysis of early Anglo-Saxon multiple burial has produced few definitive explanations as, essentially, instances where more than one individual was deposited in the same grave could involve a myriad of motives.

As discussed in Chapter 5, 64 individuals were buried alongside at least one other one set of skeletal remains, at all sites except for Cleatham. The demographic analysis of individuals in multiple burials produced no statistically significant results, but the preponderance of non-adults within this type of grave was noted.

In terms of 'deviance', the details for each multiple burial can be compared and contrasted in the same way as the single inhumations. A considerable range of combinations existed within these graves from the recovery of at least six foetuses buried within one grave (Great Chesterford Graves 83a - f) to the discovery of two female adults with large assemblages (Morning Thorpe Graves 108a and b) as seen in Figure 6.13 below.

Figure 6.13 – Plan of Morning Thorpe Graves 108a and 108b (After Green *et al.* 1987: 65)



SCALE NOT AVAILABLE

Morning Thorpe Grave 108a	
a	Large iron pin
b	Wrist-clasp
c	Annular brooch
d	Annular brooch
e	95 beads
f	Triangular sectioned object with possible punched bead
g	Wrist-clasp
h	Copper loop and fragments of 3 keys
i	Knife
j	Copper sheet plates
k	Copper repair strip
l	2 copper tag-ends
m	2 girdle-hangers
n	Iron ring
o	Iron ring fragment

Morning Thorpe Grave 108b	
a	Annular brooch
b	Annular brooch
c	82 beads
d	Iron key
e	Iron key
f	Iron ring
g	Knife
h	2 copper sheets
i	2 copper strips

Although potentially easy to identify, multiple burial can prove difficult to interpret where two or more individuals are recovered in positions that do not suggest a relationship between them and where grave cuts are not apparent. This may result in the classification of 'multiple burial' being applied to the grave but may, in fact, represent two or more separate depositions. To confuse this issue further, it is possible that certain individuals may appear as contemporaneous burials from the positioning of the bodies and grave goods but instead were inhumed at different times. All possibilities were considered when analysing the data within the sample and all instances of multiple burial were recorded as such but depending upon the original intentions of the burying party, these may not necessarily indicate the existence of 'deviants'.

Instead of indicating 'deviance' because of the infrequency of this type of burial, there may be a sentimental consideration behind this practice such as the deposition of a couple or of a parent and child. Conversely, there is evidence in the database for multiple interments that indicate the negative treatment of individuals. As discussed in detail below, Graves 19a and b at Snape present a double burial of a suspected slave who had been thrown in above her owner (Filmer-Sankey and Pestell 2001 and Reynolds 2009). Without substantial elements of surviving skeletal material, however, it is difficult to substantiate this interpretation. Potential slave burials in other Anglo-Saxon contexts have been identified through evidence of violent trauma and possible evidence for the restraint of hypothesised victims (Reynolds 2009). More recently, in Viking-Age contexts, isotopic analysis has been used to identify potential nutritional differentiations between individuals interred within a grave (Nauman *et al*. 2014). In the case of Snape Grave 19, there is very

little to no skeletal evidence that can provide insights into any of these potential indicators of sacrificial killing. If not for the unusual 'thrown-in' placement of the above individual (as seen in Figure 6.26), the interpretation would have perhaps indicated a vertical multiple burial. As such, this hypothesis must be treated with caution, although it cannot arbitrarily be ruled out. The example of Snape Grave 19 therefore demonstrates that the intricacies of burial may not always be apparent due to the limitation of preservation and reasonable interpretation.

In terms of 'deviant burial' however, as with the six other traits, the discovery of an individual presenting more than one identifying characteristic is a much more convincing case of potential 'deviance'. In this instance the number of multiple burials found with alternative 'deviant' traits amounts to 13 individuals. The combinations within this group of multiple interments include all potentially atypical traits discussed in this study except for those found crouched or prone. Incidentally, six individuals from multiple burials were found in graves with atypical orientation, three individuals were recovered with mystic items within their assemblage, two individuals were found in an unusual burial location whereas two more individuals showed evidence of unusual treatment of remains. The fact that 13 individuals recovered from multiple burials with evidence of other atypical traits may potentially link this rite to 'deviance'. However, in the same way, the variance within multiple burials may instead demonstrate that the other 'deviant' traits were not restricted to single inhumations. Therefore, the discovery of multiple burials and the associated interpretations can neither confirm nor deny an affiliation with 'deviants'. It can only be stated that the deposition of an individual alongside one or more other sets of

remains does not remove the possibility that they were classified and treated as 'deviants' in life or death.

4.) Mystic Items

To the same extent, the discovery of mystic objects such as cauldrons and food offerings may be subject to harsher critique due to the contemporary predisposition of interpreters. Modern-day assessments of these types of grave goods associate them with ritual activity such as witchcraft and mysticism but it is very possible that the actual motivations behind the deposition of these items may be far detached from these suspicions (Gilchrist 2008).

There are issues that surround the assignation of the term 'mystic' as a clear definition is both difficult to construct and to interpret. This then poses difficulties when attributing this subtext to objects as the conclusions made by one interpreter may vary wildly from the assessments made by another. This does highlight a key consideration within this study as approaching archaeological evidence always involves a bias or perspective of the observer. Personal beliefs, religious influences or goals of the project may all be incorporated into the process of interpretation. This is especially relevant when discussing the meaning behind mystic items as although they may be hard to define and even more difficult to interpret, the database did include individuals that were buried with unusual items or where objects were deposited in a curious way.

These were recorded in 58 cases and were found across all cemeteries except for Spong Hill (see Figure 6.13, below). Lakenheath held the highest proportion of individuals with mystic items and this represented 14.78% of the total cemetery population found with grave goods. Very low proportions were found at Westgarth Gardens and at Morning Thorpe. Overall it seems that adults were more frequently buried with mystic items than non-adults, with the greatest differentiation between

the age groups being at Lakenheath. A Chi-square test showed this ratio to be very statistically significant, with a P value of 0.0016. As noted in Chapter 5, the adult to non-adult ratio of individuals with mystic items was shown to be of statistical significance when the cemeteries are considered together. In contrast, there is little differentiation between the number of males and females provided with mystic items. However, of the range of goods identified as mystic (see Figure 6.14, below), only females were found with amulets and fossilised shells. As noted above, these items may specifically be linked with the motif of the 'cunning woman', and as such graves featuring these are discussed in detail below.

Figure 6.14 – Table showing demographic details for 119 individuals with atypical orientation within the cemeteries

	Bloodmoor Hill	Cleatham	Great Chesterford	Lakenheath	Morning Thorpe	Snape	Spong Hill	Westgarth Gardens	Total
Adults	1	4	8	23	4	0	0	1	41
Non-adults	0	2	2	6	1	0	0	0	11
Unaged individuals	0	0	1	1	2	2	0	0	6
Females	0	3	4	9	3	0	0	1	20
Males	0	2	2	8	3	0	0	0	15
Unsexed individuals	1	1	5	13	1	2	0	0	23
Total	1	6	11	30	7	2	0	1	58

Unlike more practical and utilitarian items such as knives and tools, the identification of items that relate to belief and spirituality can prove very difficult to define (Meaney 1981). Even after the adoption of institutionalised religion, the burial traditions employed by a community may not alter immediately, if at all. Instead it is very possible that the two practices would have merged to show respect to ancestors but to also embrace the rites of a new religion. It is for this reason, amongst others, that establishing a range of grave goods that can be identified as 'mystic' can be a tricky process. This is especially true of the early Anglo-Saxon period as there is limited information available on the religious or spiritual beliefs of the Anglo-Saxons before the adoption of Christianity (Wilson 1992). Therefore the specific rites and rituals of each burial before this religious change may have been spurred by a belief system of which little is known (Carver *et al*. 2010). There are, however, certain cases within the cemetery records for the period that suggest spiritual considerations were involved in the decision to conduct a specific burial rite. For instance, within the database there are instances of individuals being buried alongside caskets and boxes containing animal or bird bones and semi-precious stones (see grave plans below). Although seen as strange by our eyes it may be that this collection of apparently 'mystic' items may be completely detached from the supernatural or spiritual and instead represent an ad hoc set of rational actions.

The hesitancy associated with the interpretation of mystic items is in part the reason behind the large range of goods included within the category (see Figure 6.14). Items such as amulets and cauldrons were classified as 'mystic' after Meaney (1981), with a suggested association with 'cunning women', but depositions such as animal bone were also used as a signifier for ritual actions that may include sacrifices

or offerings. It was also accepted that every animal bone recovered may not be an intentional inclusion as the grave fill may include natural interments. There were indications in some burials that deliberate animal offerings had been made due to the stratigraphy within the grave and the relationships with the other inclusions. In addition, in several cases very obvious food offerings had been positioned in the grave. For instance, in Graves 10 and 13 at Great Chesterford, the remnants of a meat stew were found within a black pot (Evison 1994). This may indicate a belief that the individual required sustenance during the journey or destination in the afterlife. Alternatively, it may be a gift for a deity or may perhaps represent a potion or tincture designed for the grave.

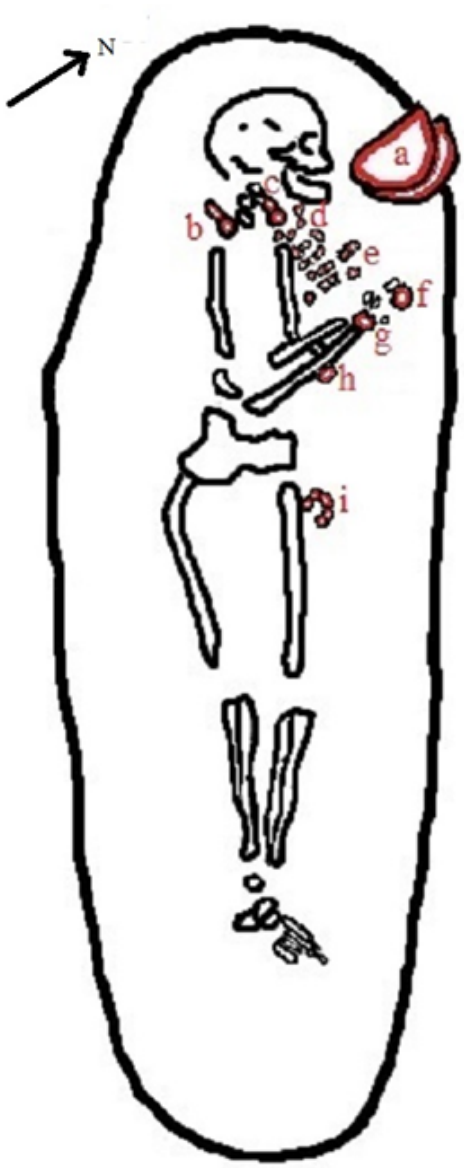
Figure 6.15 – Table showing all goods included in the category of mystic items and totals from the database

Range of mystic items included in category	Total no. of individuals
Animal bone(s) and fragments	29
Animal tooth/teeth and fragments	2
Perforated dog or wolf tooth	1
Boar's tusk	1
Remains of horse's head	1
Horse skeleton	1
Horse fittings	1
Sheep skeleton	1
Dog skeleton	1
Bird bones (fragments)	1
Goose bone	1
Plum stone	1
Organic material	1
Possible body stain of animal offering	1
Black pot with animal bone fragments	2
Glass bowl with animal bone fragments	1
Black bowl with 3 eggs	1
Cauldron fragments	1
Hanging bowl	1
Miniature pottery platter, miniature 3 lugged pot, 2 miniature cups	1
Fossilised shell and fragments	2
Fossil echinoid	1
Fossil sponge	1
Amulet	5
Claw shaped stone	1
Lumps of brown glass	1
Metal fittings from a Maplewood box or casket	1

Suggested offerings were identified in six graves and included items such as eggs and fruit as well as animal bone fragments which were sometimes recovered inside black pots or bowls. These containers were collected from nine graves whereas animal bone, teeth or complete animal skeletons were present in 38 burials. The animals ranged from horse and cows to dogs and geese. In addition to the animal teeth and bones, fossils and shells were also recovered from several graves, one which included a fossilised sponge and one echinoid which was found in the right hand of the individual in Grave 48 at Westgarth Gardens (as seen in the Figure 6.15 below).This individual was also found with a bowl pot laid alongside the skull in a position suggesting consumption of the contents.

McNamara (2007: 289) has discussed the spiritual significance of echinoids in the Anglo-Saxon period as possible amulets, apotropaic or protective charms (‘thunderstones’). Gilchrist (2008: 137) adds that the term ‘thunderstone’ may have originated from their use for keeping an individual safe during a thunderstorm as well as the belief that the fossils were formed from the grounding of a lightning strike. It is also possible that echinoids may have been thought to hold healing properties as one was recovered in a grave near Cambridge with an adult female suffering with leprosy (McNamara 2012).

Figure 6.16 – Plan of Westgarth Gardens Grave 48 (After West 1988: 32)

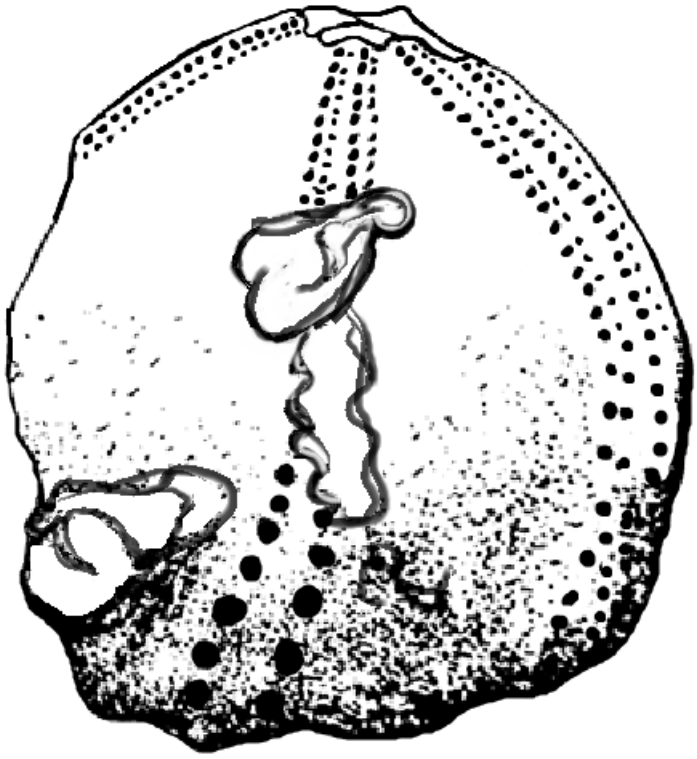


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Westgarth Gardens Grave 48	
a	Bowl pot
b	Small-long brooch
c	Small-long brooch
d	Bronze scoop
e	22 beads
f	Fossil echinoid (found in right hand)
g	Wrist-clasps
h	Wrist-clasps
i	14 beads

In total, four shells were recorded in the database, along with the echinoid in Westgarth Gardens Grave 48 (as seen in Figure 6.16 below), one ormer shell was found in Bloodmoor Hill Grave 15 as well as two gibbithyris shells from Great Chesterford Graves 48 and 69. The ormer shell has been discussed by Skinner *et al.* (2005: 10) who believe it may have been chosen for deposition because of 'its iridescent mother-of-pearl surface' making it a visually attractive possession. This interpretation may not, however, be applicable for all shell types and it is difficult to assign a theory that is suitable to all finds of this sort.

Figure 6.17 – Fossil echinoid from Westgarth Gardens Grave 48 (After West 1988: 55)



Several objects were categorised under mystic items and were the only grave good of that type in the database. For example, the adult in Grave 32 at Cleatham was found alongside a miniature pottery platter, miniature cups and pot. It may be that these miniature items did not belong to the deceased but were, instead, a toy deposited by a young child as a gift. Alternatively, the deposition of these miniature objects may be similar to the origins of crouched burial, in that it reveals the continuation of Romano-British funerary customs (Henig 1995). The discovery of these 'tiny votive pots' may indicate the perpetuation of earlier burial offerings (Henig 1995: 137). The cemetery report interprets these items as ritual objects and offers similar finds at other early Anglo-Saxon cemeteries such as Mucking, Essex and West Stow, Suffolk. In each case, however, there is no offer of explanation for this phenomenon other than its probable association with ritual (Leahy 2007a: 213).

The main issue with this category of 'deviance' is the enigmatic concept of 'ritual' within archaeology. Merrifield (1987: 5) explains that the hesitation by archaeologists to use such terms can almost be classed as 'ritual-phobia'. Inevitably, words such as 'ritual' have been used to describe archaeological evidence that is difficult to interpret but suggest 'deliberate human action for a wholly non-practical purpose' (Merrifield 1987: 6). There is a clear distaste for using terms such as 'mystic' and 'spiritual' as the definition is not only vague but the application is always open to criticism. It is, however, necessary to offer some form of explanation for discoveries that are made and so such terms are required. The most perceptive approach, and the one implemented in this study, is offered by Merrifield (1987: 6), that essentially the complex and somewhat dubious terms we use to describe these practices and artefacts, mean 'little more than something we do not understand'.

With this in mind, the term ‘mystic’ was chosen as the title of this grave good category as it cannot be defined clearly. As the array of grave goods included in the group attest, there is no firm interpretation for their existence or indeed their explanation, instead they are simply either previously highlighted objects of ritual interest or particular items added for their peculiarity. Although, as Hamerow (2006: 27) concludes ‘there are very few surviving Anglo-Saxon texts that preserve elements of pagan practices’, there is a collection of written evidence for related subjects, such as herb lore and healing cures (Meaney 1992). The *Lacnunga*is a good example of this type of text and while dating from the later Anglo-Saxon period (c. 10^{th} – 11^{th} century), it suggests the integration of spiritual belief and tradition in everyday contexts (Grattan and Singer 1952). Even considering the support from written texts, it remains very difficult to determine what, if any, archaeological evidence is indicative of ritual or religious practices. Instead, assumptions are made on an amalgamation of the information available and so sweeping terms such as ‘mystic’ become not only necessary but also appropriately assigned.

5.) Prone Burial

In contrast to the interpretation of 'mystic' items, the discovery of individuals buried prone was a much more obvious indicator of difference within the database. Overall, 10 individuals were found face down in their graves from five of the eight cemeteries studied (Cleatham, Great Chesterford, Snape, Spong Hill and Westgarth Gardens). The statistical analysis of these burials in Chapter 5 showed that no differentiation could be noted between the sexes of individuals buried in a prone position, but of the 10 individuals buried in this manner, eight were aged as adults.

There is a very strong subtext to the act of burying an individual prone which transcends archaeological and anthropological interpretations. It has been interpreted in the past as a very clear display of dislike or distaste by the burying party and is recorded across locations and time periods (Arcini 2009). The instinctual reaction to the discovery of an individual buried prone is a feeling of disrespect having been accorded to the deceased. The reasons behind this treatment may vary but certain hypotheses are universal, such as, the punishment of a wrongdoer, the disposal of a disliked/disrespected individual or the fear of the dead returning. Logically, such individuals are much more likely to be adults than non-adults. Interestingly, in the one example of a prone child burial in this study (Great Chesterford grave 86), the body placement is not definitive and other aspects of the burial do not necessarily indicate negative treatment of the body (as discussed below).

There have been many studies on the interpretation of prone burial from many different contexts. For instance, prone burials were recovered from first dynasty Egypt and interpreted as the rite accorded at the court of a pharaoh (Arcini 2009). This demonstrates the possible breadth of interpretation as the act of burying

an individual face down may not always indicate indignity even if that is the automatic reaction by the interpreter. In place of disrespect, it is possible that a portion of prone burials were purely representing the subordinate nature of their social status. The 10 individuals recovered in placements interpreted as prone include two inhumations that could only be classified as 'possible' prone burials. Grave 38 at Snape had only a body stain remaining making it very difficult to assign body placement confidently. Alternatively, the female found within Grave 42 at Spong Hill was also deemed as a 'possible' prone buried due to the confusing position she was recovered in. Regardless of the confidence of this assessment, it is clear to see in Figure 6.10 above that the individual deposited in this grave was not treated with the respect or care that was shown others at the same site.

The seven additional prone burials varied substantially in their composition and attributes. For example, Grave 11 at Cleatham cemetery contained a female adult buried face down without her skull. A disarticulated skull was found 2.2m south of the body but could not be definitively linked to the postcranial skeleton regardless of the plausibility. In addition to the possible decapitation and prone placement, the individual also had her left arm folded up under the thorax, bird bones found at the right hip and was accorded atypical orientation both in terms of the cemetery population and when compared to the database as a whole. It is very possible that this grave presents the type of evidence that has previously been associated with the burials of 'cunning women' (Meaney 1989). In this instance, it is reasonable to understand the unusual set of burial rites accorded here if the living were cautious of a powerful mystical individual returning after death. Nevertheless, there are alternative theories, for example, in addition to the mystic and ritual associations

attached to the depositions of bird bones in Anglo-Saxon graves, it has also been suggested as the continuation of a Romano-British rite (Green 2012).

The complexity of this burial does, indeed, make an interpretation more difficult, but, in contrast, three of the 10 individuals found prone had little evidence relating to 'deviance' except for their body placement (Grave 38 at Snape examined above and Grave 60 at Westgarth Gardens). The latter of these two contained a male adult found face down but presented no other atypical characteristics as seen in Figure 6.17 below and as detailed in the database. Interestingly, the evidence from this grave did suggest that this individual was buried face down within a coffin before being interred. It is feasible that the coffin was overturned at some point during the burial process, but if not, this shows a clear intention for this individual to be laid prone. This may be as a form of punishment or reflect a particular preference of the deceased or the burial party.

Similarly, the individual from Grave 55 was found face down with legs flexed but without the additional atypical characteristics found in the other examples. This possible female adult demonstrates that the interpretation of prone burial may not always include assumptions of negative treatment. This individual, though buried face down was not buried any differently from others at the site with usual orientation and grave goods. Therefore, this may indicate that in some instances prone burial may simply be another type of placement that was chosen for certain individuals without the slur that is usually associated with this rite.

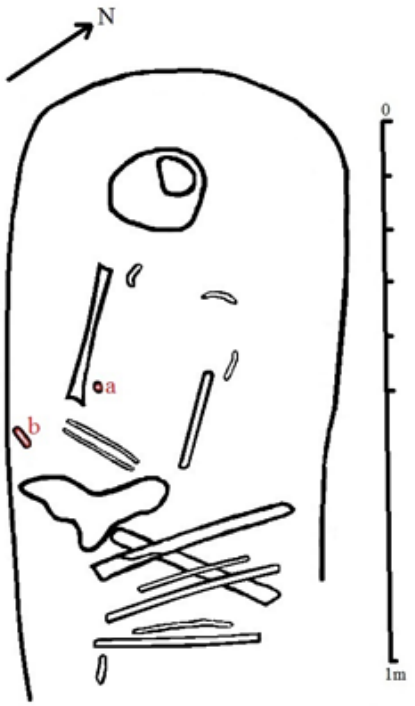
Figure 6.18 – Plan of Westgarth Gardens Grave 60 (After West 1988: 35)



SCALE NOT AVAILABLE

Westgarth Gardens Grave 60	
a	Shield studs
b	Shield boss
c	Shield studs
d	Bronze sheet
e	Buckle
f	Knife

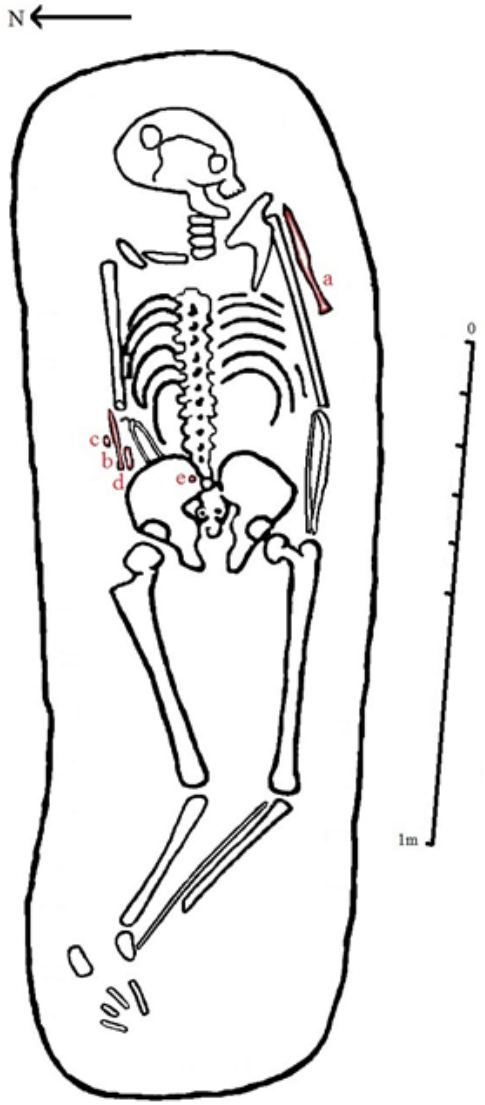
Figure 6.19 – Plan of Cleatham Grave 55 (After Leahy 2007a: 52)



Cleatham Grave 55	
a	Bead
b	Annular brooch fragment
c	Roman greyware potsherd (in fill)

Grave 31 from Cleatham also contained a prone individual but presented additional attributes which could be interpreted as 'deviant'. These included atypical orientation and mystic items. The individual found in Grave 31 at Cleatham was found in a flexed position with a sheep's jaw bone in the fill above the body. This male adult was also recorded as having atypical orientation when compared to the rest of the cemetery population but also within the database as a whole. Although not automatically indicative of negative treatment, the accordance of prone burial along with a differentiated grave orientation suggests this individual was not treated in the same way as his contemporaries.

Figure 6.20 – Plan of Cleatham Grave 31 (After Leahy 2007a: 44)

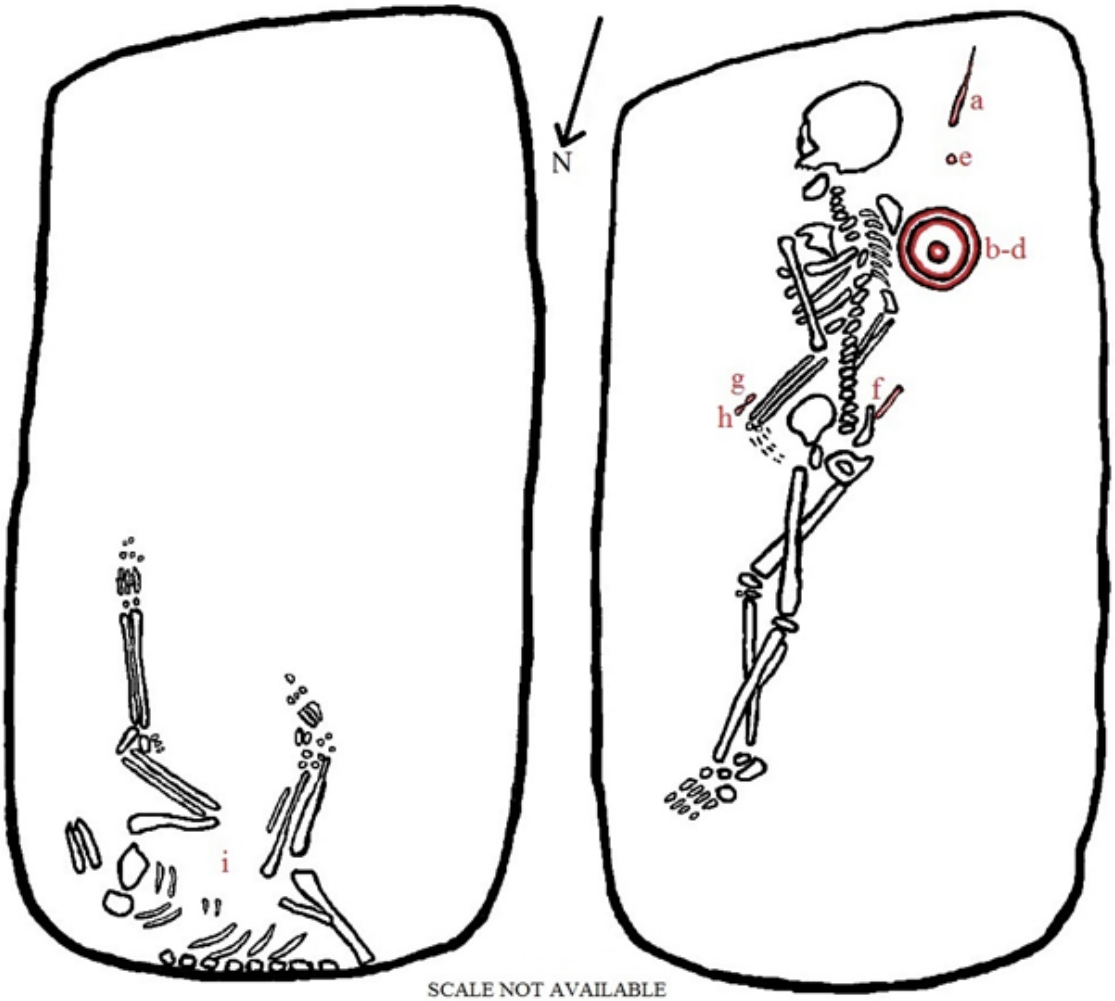


Cleatham Grave 31	
a	Spearhead
b	Knife
c	2 iron fragments
d	Buckle
e	Burnt iron fragment
f	Sheep's jaw bone (in fill)

Great Chesterford provided two very complex prone burials (Graves 86 and 103). Both presented a collection of attributes that prove difficult to interpret and were unavoidably classified as potential 'deviants' due to the particular nature of the burials. Grave 86 contained a non-adult placed prone with a complete dog skeleton buried next to the individual. The grave goods were used to sex the individual as male and included items classified as mystic. The interpretation offered in the cemetery report suggests the dog was perhaps a pet that was deposited for sentimental reasons. This does, however, sit in contrast to the possible 'deviant' characteristics which also included atypical grave orientation when compared to the rest of the database. In addition to this, the individual was not only laid face down but also with the right arm bent up under the spine. As seen in Figure 6.20 below, this appears to be a very peculiar position for a seemingly sentimental burial which in other circumstances could be seen as evidence of negative treatment.

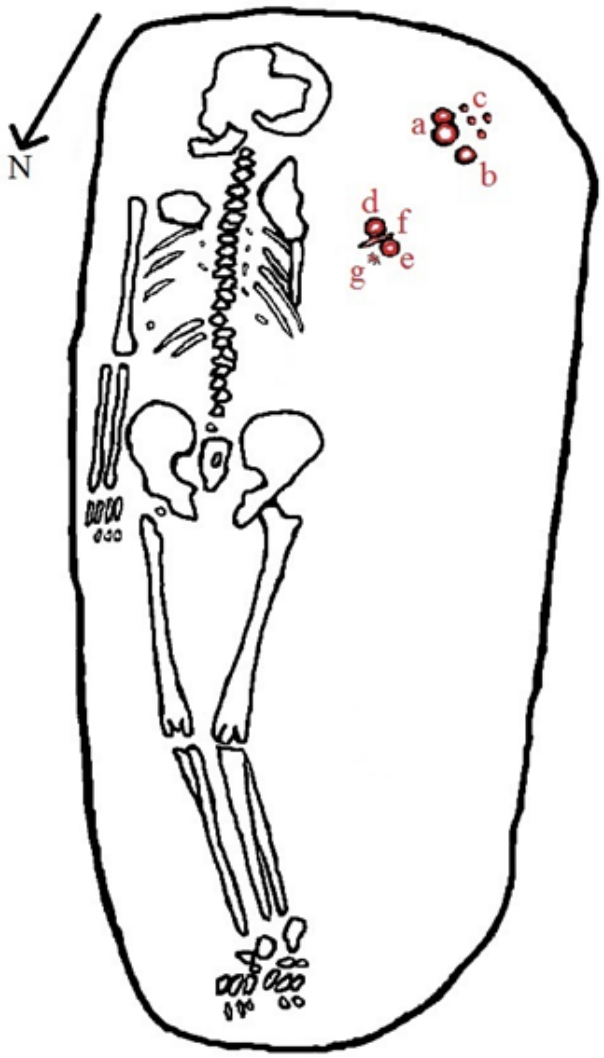
At the same site, Grave 103 included a prone burial but also provided an example of the unusual treatment of remains with the beads and brooches deposited away from the body (as seen in Figure 6.21 below). The objects were found between the corner of the grave and the back of the skull. This behaviour may reveal an insight into the circumstance surrounding this burial. The deposition of grave goods is an active expression of the treatment of the deceased and therefore the unusual placement of these grave goods may indicate a clandestine act or an offering by a member of the burying party. Regardless, this burial does not show standard practice and therefore by nature of its characteristics has been classified as 'deviant'.

Figure 6.21 – Plan of Great Chesterford Grave 86 (After Evison 1994: 198)



Great Chesterford Grave 86	
a	Spearhead
b	Shield boss
c	Flat strap grip
d	Iron rivet
e	Small iron disc-headed rivet
f	Knife fragments
g	Nail
h	Nail
i	Dog skeleton

Figure 6.22 – Plan of Great Chesterford Grave 103 (After Evison 1994: 199)



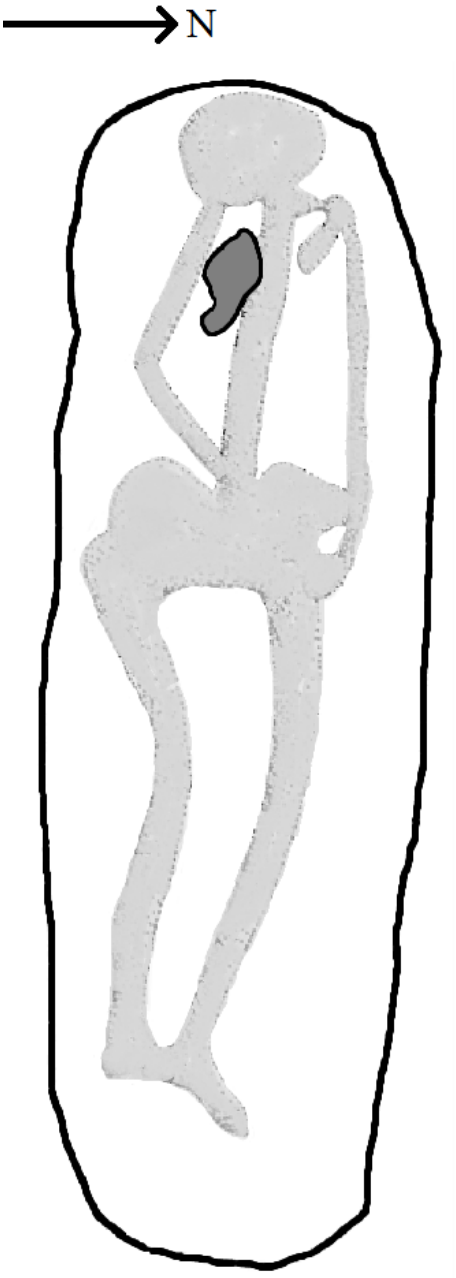
SCALE NOT AVAILABLE

Great Chesterford Grave 103	
a	Bronze applied brooch
b	Bronze applied brooch
c	41 beads
d	Bronze ring
e	Bronze ring
f	Iron fragments
g	Iron rust

In a similar way, Grave 44 at Snape cemetery (Figure 6.22) can be identified by the atypical rites found within the burial. Along with the individual being placed prone, the body was pushed up against the west end of the grave with the neck at an acute angle. It has been suggested that this attitude could be the result of the individual being thrown in from the east end of the grave. In addition to the peculiar positioning of the body, a large flint stone was also found placed on the upper back. This action has been interpreted by a variety of scholars, including the authors of the cemetery report, as indicating criminal status of the deceased. It is believed that this type of treatment was accorded to wrongdoers within society who the living population did not want to rise again, thereby weighting the individual with large stones and sometimes restraints (Gilchrist 2008). This behaviour has been witnessed from a variety of cultures and time periods and has, in some instances, been linked to the interpretation of vampire burials (Gardeła and Kajkowski 2013). Whether this indicates a criminal or supernatural affiliation or not, the rites accorded this individual and other like graves suggest a very distinct treatment accorded to certain individuals. As mentioned above, in reference to crouched burials, the isotopic analysis conducted by Hull and O'Connell (2011) enabled different groups of individuals to be identified from their diets. Interestingly, prone or decapitation burials produced results which distinguished them from the rest of the cemetery population. The authors associate this differentiated practice with a different diet being consumed by these prone and decapitated individuals possibly due to lower status in life. Regardless of the speculative theories that surround this type of 'deviant' behaviour, it is reasonable to suggest that the act of burying an individual face down and with evidence of mistreatment shows a dislike and possible fear from

the burial community. Although subjective, it is also possible that this fear was great enough for them to take measures to avoid those individuals returning to the living.

Figure 6.23 – Plan of Snape Grave 44 (After Filmer-Sankey and Pestell 2001: 97)



SCALE NOT AVAILABLE

6.) Unusual burial location

Bloodmoor Hill was the only site to contain burials found in unusual locations, away from the main cemetery population. This site was also fully excavated and so it is possible to say with some certainty that the three individuals buried 50m east of the other graves were purposefully placed at such a distance. The three individuals were found in one single and one double inhumation. The single inhumation (Grave 27) contained a non-adult of unknown sex and was found without grave goods. The double burial (Grave 28) also included a non-adult of unknown sex and was accompanied by a male adult with a knife. It is unclear whether Grave 28a and b were contemporaneous burials thereby representing intentional multiple interments and possible 'deviance'. However, the decision to space these inhumations at a distance from the main burial areas must have involved a conscious decision. This may have entailed an intentional act of segregation or the rites of an alternative burying group, yet the time of burial was recorded as contemporaneous with the other graves at the site. Placing burials in unusual locations can be seen as a visual portrayal of 'deviance' with the isolation of particular individuals. There is a definite division between the major population and the deposition of these individuals and although there may be practical considerations involved, there is a clear representation of difference where a choice was made to isolate or exclude certain members of the cemetery society. It is possible that these three individuals are not the only burials found in unusual locations across the database but others were either not highlighted in the cemetery reports or were not recovered during the excavation at the sites. All eight cemetery plans show it is possible that other burials were placed at a distance from the main population but this cannot be verified at

present. As only Bloodmoor Hill and Spong Hill were completely excavated, this study can only validate the burials buried in unusual locations at these sites. Although, the three individuals mentioned above remain the only ones within this 'deviant' category from the database it is worth noting here that one individual from Spong Hill may have also be included within in this group. When considering the cemetery plan showing only inhumations at the site (see Figure 1.7) Grave 1 is found at a distance from the main population. This is, however, remedied once the cremation burials are taken into account, as they fill the area between this grave and the other inhumations (see Hills *et al*. 1984: 3), and as Hills and Lucy (2013: 270) state, all the inhumations at the site seem 'to have belonged to the same broad phase… at the end of the use of the cemetery'. It may, therefore, be the case that future analyses of early Anglo-Saxon cemeteries would benefit from marrying the interpretations of inhumations and cremations.

In the case of Bloodmoor Hill, it may be possible that the three individuals found at the 'unusual' locations were deposited here because of a difference in chronology compared to the rest of the buried community. Radiocarbon dating of the burials showed that the outlying graves did not belong from a later period of cemetery use, but were instead contemporaneous with the remainder of the cemetery (Scull 2009). The most obvious explanation for the location of these graves, therefore, is that the individuals interred within were deliberately isolated from the main burial area. This idea may be supported by the fact that grave 28 contained multiple individuals – another indicator of atypicality. Whether a conscious decision was made to exclude these three individuals, or whether alternative reasons led to

their isolation, when viewing the cemetery plan (Figure 1.2) it is hard to imagine that these individuals were not treated differently by their society.

7.) Unusual treatment of remains

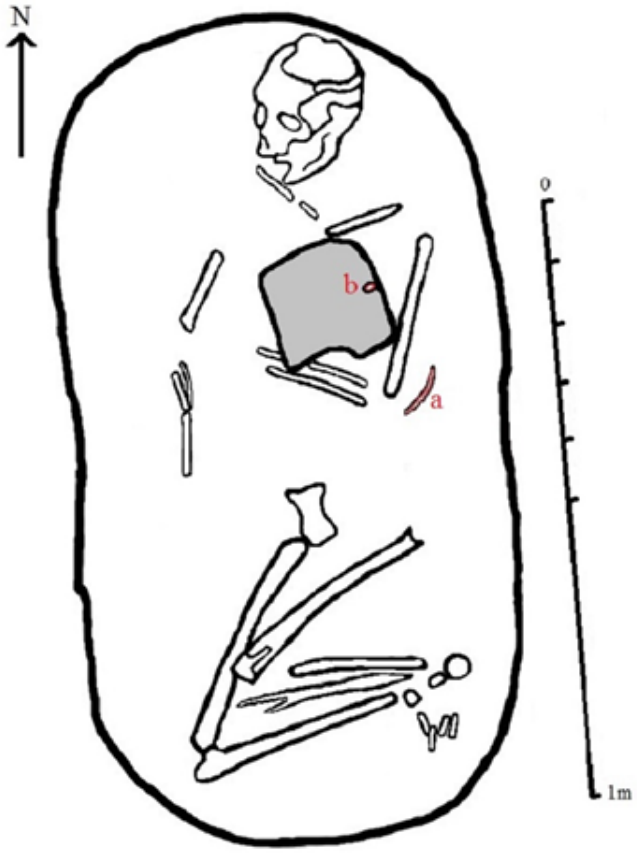
Some individuals can be identified by the atypical treatment of their remains. Unlike other indicators used for the identification of 'deviants', this category includes a variety of different rites. This group of 27 individuals provided evidence for a range of unusual burial rites that differentiated them from the rest of the database population. These rites can be grouped into several broad categories which include the intentional inclusions of stones, the deposition of offerings and cremations, the unusual positioning of remains and grave goods as well as any other atypical characteristics that differentiate individuals from the remainder of the database.

Because of the large variety of rites employed within this category, there is no reason to assume any demographic correlations between the individuals. It is important to recognise that numerous treatments of the dead may not have been socially sanctioned or universally recognised as a legitimate form of burial rite.

The discovery of graves with the intentional deposition of stones could indicate a circumstance where the burying party feared the return of the dead (Tsaliki 2008). Many graves included stones within them, however, only those with stones found placed on, under and around the body were selected for indications of 'deviance'. The individuals detailed here were selected for the conspicuous placement of the stones; some were found beneath the shoulders and head, several stones were recovered on the backs of prone individuals and others were positioned on the chests of graves with supine placements. A clear example of this is Grave 51 at Cleatham as presented below in Figure 6.23. The adult male was found with a large stone positioned on his chest and a buckle placed upon it. In terms of interpretation, the ambiguity of the burial rites accorded this individual and the fact

that this grave was also recorded with atypical orientation, make the attribution of 'deviance' very straightforward. As with many of the suspected 'deviants' identified in the database, there is very little interpretation that can be offered with any degree of certainty, especially as our parameters for identifying individuals with unusual burial behaviours may only be classified that way by the observers and not by their contemporaries. Regardless, the attribution of 'deviance' is made, even if the reasoning behind it cannot be fully understood or recognised.

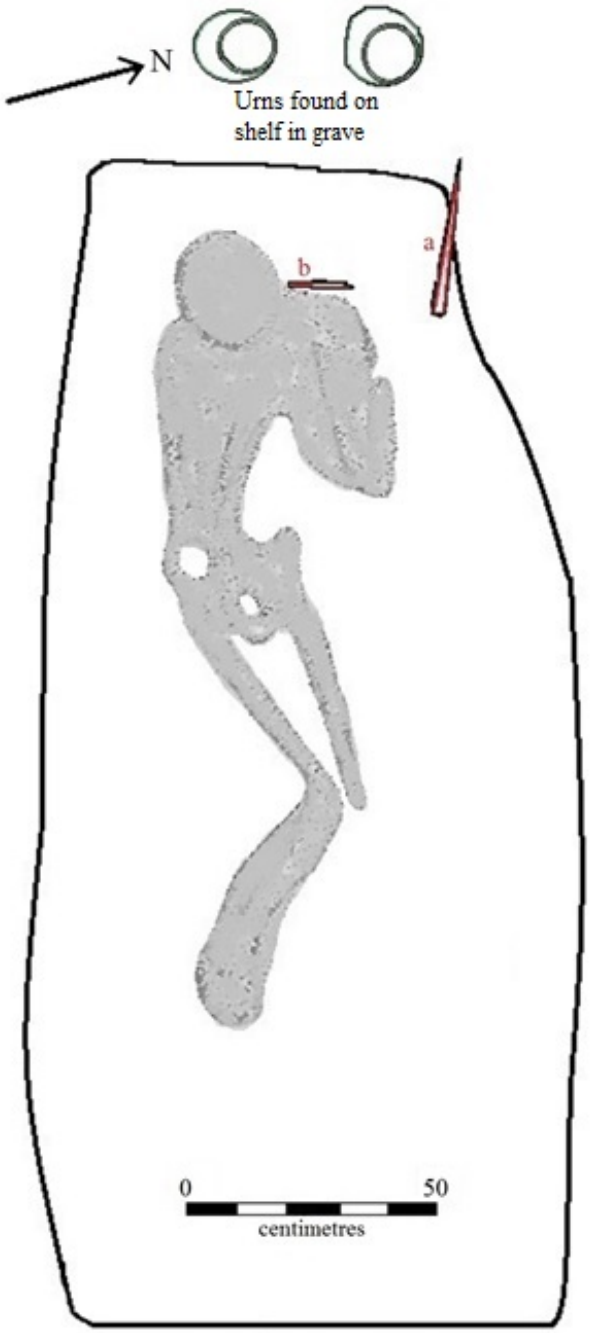
Figure 6.24 – Plan of Cleatham Grave 51 (After Leahy 2007a: 51)



Cleatham Grave 51	
a	Knife
b	Buckle

In addition to stone inclusions, a group of graves were recovered with evidence of cremated human remains within them. Some of the cremated remains were found encased in urns whereas others were found scattered within the deposition layers. For instance, Grave 17 at Snape was uncovered with a shelf above the body which housed two urned cremations of juvenile humans (Figure 6.24). A second example of this can be seen in Figure 5.4.20, which involved the scattered cremated remains of a foetus above an inhumation at Great Chesterford (Graves 2c and 2a respectively). This type of grave indicates an intentional action that distinguishes certain individuals from others within the same cemetery. There may be similar graves where the scattering of human cremations may have also occurred but poor preservation and difficulties in recovery they have not been recorded.

Figure 6.25 – Plan of Snape Grave 17 (After Filmer-Sankey and Pestell 2001: 53)

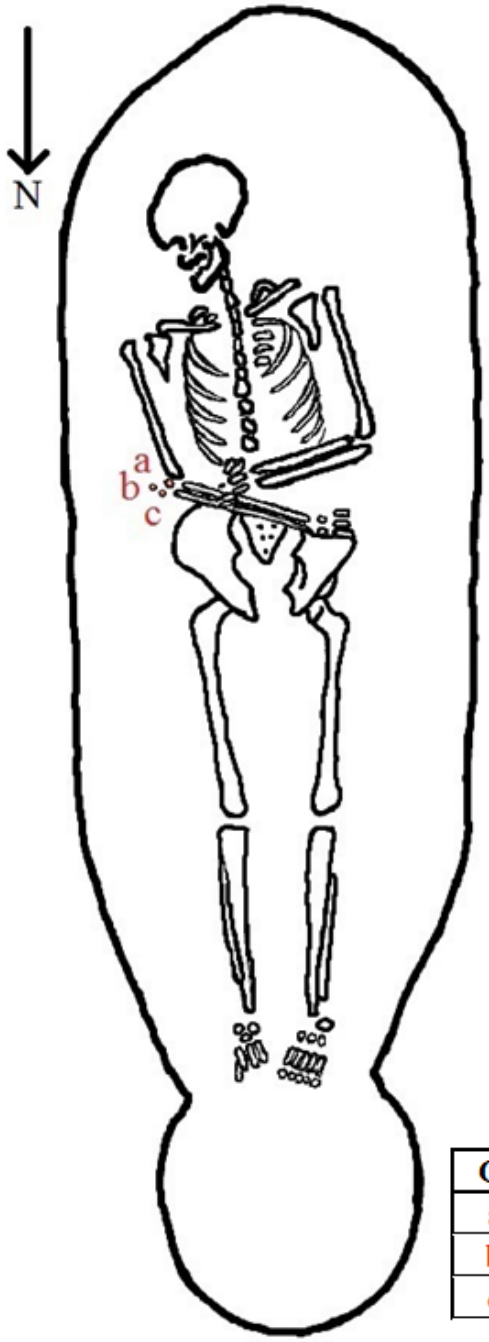


Snape Grave 17	
a	Spear
b	Knife

In addition, some individuals were uncovered in attitudes other than those previously discussed. For instance, unlike any other grave in the database, the individual found in Grave 48 at Great Chesterford was recovered with a posthole at the foot of the grave which suggests the deposition of pillars against which the feet would have rested (as seen below in Figure 6.25). This could be associated with a grave marker or structure designed to stand above the grave which by definition would differentiate this individual from others around them (Evison 1994).

Equally unusually, Grave 19a at Snape included an individual who had possibly been thrown into the grave. The cemetery report suggests that this treatment may have been accorded to a slave who was killed to accompany the burial of their owner, possibly buried in Grave 19b below (Filmer-Sankey and Pestell 2001). As seen clearly in Figure 6.26 below, the body placement in Grave 19a does seem to suggest disregard and disrespect, unlike the majority of the burials within the database and so this theory may be more easily accepted.

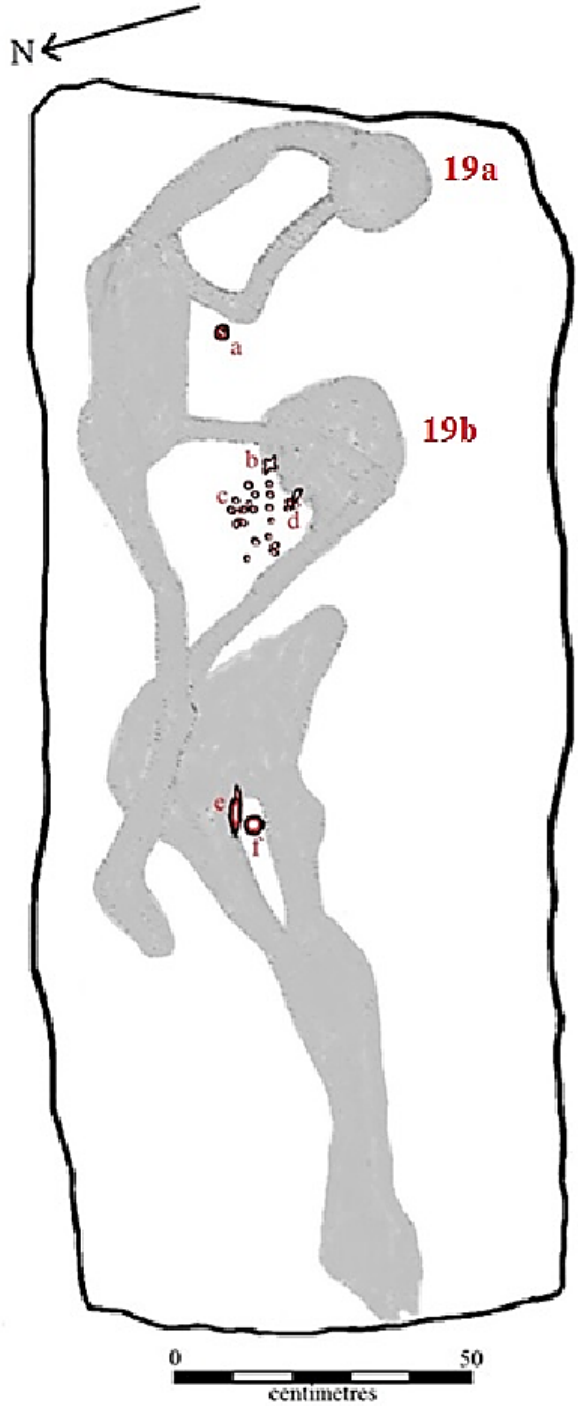
Figure 6.26 – Plan of Great Chesterford Grave 48 (After Evison 1994: 194)



Great Chesterford Grave 48	
a	2 beads
b	Spindle whorl
c	Small fossilized shell

SCALE NOT AVAILABLE

Figure 6.27 – Plan of Snape Graves 19a and 19b (After Filmer-Sankey and Pestell 2001: 59)



Snape Grave 19a & 19b	
a	Buckle
b	Small-long brooch
c	81 beads
d	Small-long brooch
e	Knife
f	Iron ring

Two very peculiar graves within the database were found with displaced skulls. One individual was found with the skull placed on the chest at Westgarth Gardens Grave 8 (Figure 6.27) and another burial (Cleatham Grave 11 discussed above) was found without a skull in the grave (Figure 6.28). These burials can be offered as examples of possible decapitations and feasibly linked to apotropaic rituals designed to prevent the dead from rising. This may have involved ostracised individuals (such as criminals) who had reason to resent the burying society and therefore seek vengeance after death (Reynolds 2009). It is also possible that decapitation burials indicate instances of judicial punishment or involvement in warfare (Carty 2015). As from around the 7th century these types of burials were usually interred at execution cemeteries, the examples here may support the theory that earlier criminals were buried amongst the general population (Geake 1992 and Buckberry 2014).

The punishment of possible criminals may also be indicated by the treatment of the individual from Grave 32 at Westgarth Gardens (as seen in Figure 6.29). This burial contained a male adult laid prone with only one grave good (a knife). The skeleton was in a good condition and displayed evidence of multiple healed trauma to the skull from a possible sword cut and spear hole. The left hand of the individual was also missing and has been interpreted as a probable amputation (Reynolds 2009), although there is no record of cut-marks in the osteological report (Buckberry and Hadley 2008). If the hand was amputated, then this treatment potentially has a strong subtext of punishment, one that is usually associated with crimes such as theft. It is difficult in this case not to judge the individual as 'deviant' given that the osteological evidence and prone placement indicate a clear differentiation from

contemporary and proximal burials. There are alternative interpretations that suggest the absence of extremities such as hands and feet may indicate loss of remains post-mortem instead of intentional removal of a body part (Felix 2009), however this seems unlikely in this case as the rest of the skeleton is so well preserved.

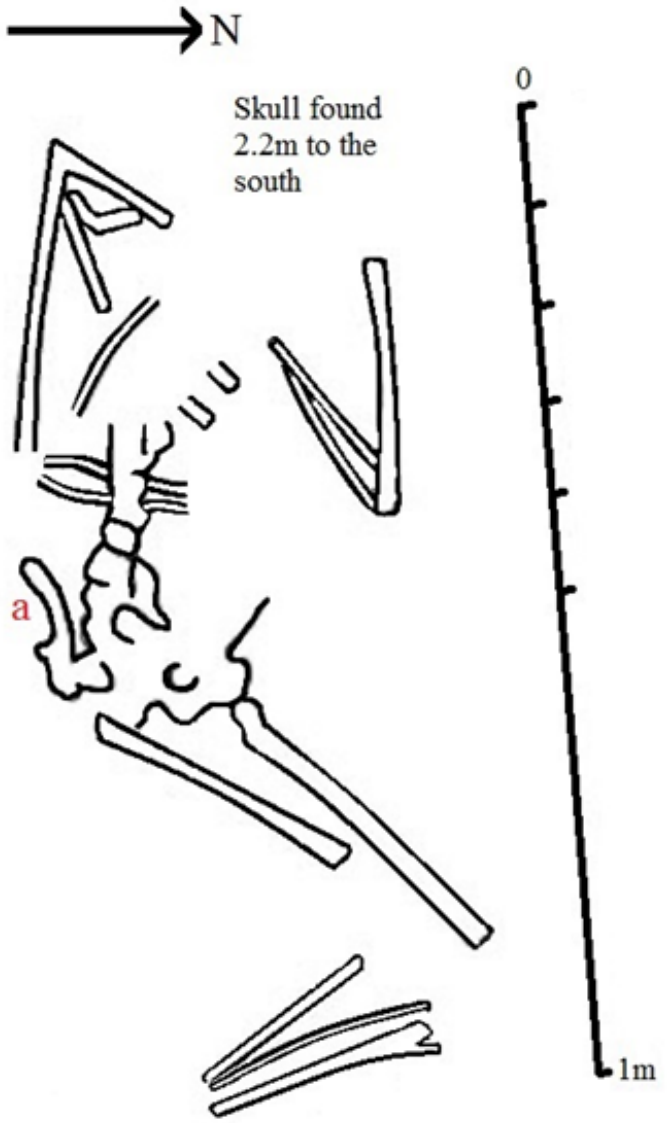
Figure 6.28 – Plan of Westgarth Gardens Grave 8 (After West 1988: 21)



Westgarth Gardens Grave 8	
a	Bronze stud
b	Buckle
c	Knife
d	Buckle
e	Iron studs
f	Shield boss
g	Iron studs

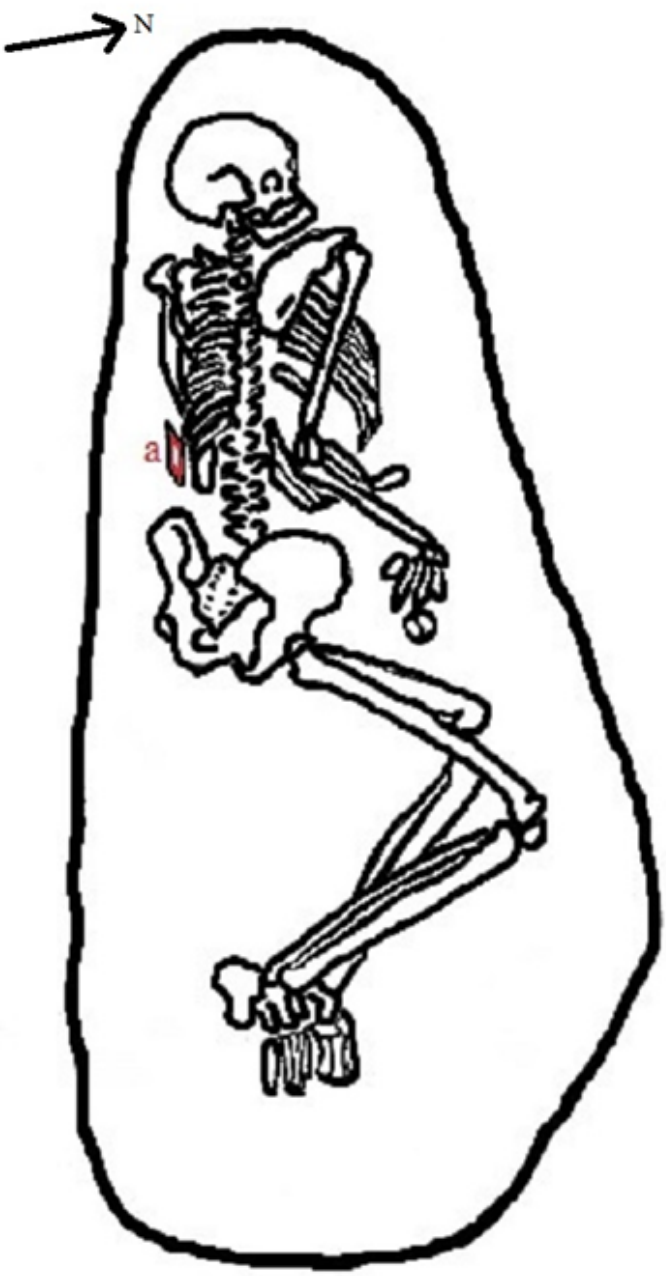
SCALE NOT AVAILABLE

Figure 6.29 – Plan of Cleatham Grave 11 (After Leahy 2007a: 36)



Cleatham Grave 11	
a	Fragmentary bird bones

Figure 6.30 – Plan of Westgarth Gardens Grave 32 (After West 1988: 28)



SCALE NOT AVAILABLE

Westgarth Gardens Grave 32	
a	Knife

Within this group there were also several graves which housed uncommon inclusions such as animal skeletons. Although not traditionally associated with 'deviance' some individuals found with horse remains were included here as they represent a very small minority who were buried with animals within their graves. The deposition of a horse skeleton with a burial has been interpreted as an indication of high status due to the value of horses during the early Anglo-Saxon period (Cross 2011). Interestingly, this interpretation may also apply to the burial of cows and sheep, examples of which can be seen in the figures below, as they would have been very valuable within society.

It has been suggested by Poole (2013) that the meaning behind deposition of animals may have varied considerably depending upon the specificities of the burial. This includes the animal species recovered, the particular body parts of the animal deposited and the details of placement within the grave. It is also possible that the demographic profile of the human individual may have altered the meaning of animal deposition. An example of this may be seen from the variance in the database as in Grave 86 at Great Chesterford which included the remains of a non-adult and a dog skeleton. In this instance it is possible the animal was a loved pet and therefore included in the grave for sentimental reasons. In contrast, Grave 10 at the same site included animal remains in a black pot which were interpreted as possible evidence of a meat stew (both graves seen in Figures 6.20 and 6.30). Therefore, in addition to the theory of animal companionship and the inclusion of animal meats in food offerings, there are strong links between the use of animal bones and teeth in spiritual practices and talismans (Meaney 1981).

Figure 6.31 – Plan of Great Chesterford Grave 10 (After Evison 1994: 191)



SCALE NOT AVAILABLE

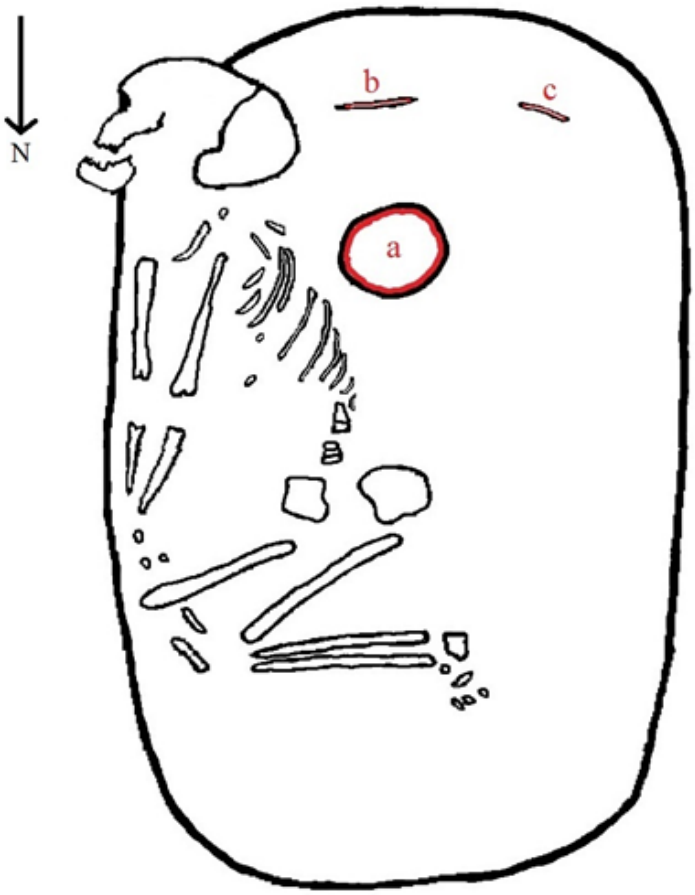
Great Chesterford Grave 10	
a	Black pot with animal bone fragments
b	Hobnail (inside pot)
c	Nail
d	Nail

The association with spiritual practices and the unusual treatment of remains is demonstrated by the particular burial at Great Chesterford, Grave 149. The adult male within this grave was found in a flexed position, lying on his right side with an atypical orientation and was recorded with a Roman coin placed on the side of his head. The deposition of coins within Anglo-Saxon burials is not unusual for the period; it is the placement of the coin that instead puts this grave within this category. It has been suggested that this type of practice may be linked to a payment for the journey to the afterlife based loosely on the practice of Charon's 'obul' (Ramirez 2015). It is, however, argued by Biddle (*et al*. 1986) that the deposition of single coins within Anglo-Saxon graves is not a consistent enough practice to apply an interpretation that is valid in every case. Nonetheless, although this individual demonstrates a practice that may, indeed, not have been regarded as unusual in its particular context, it is identified as such here due to the limited number of similar burials recovered.

In a sense, the individuals within this group share a common condition which differentiates them from the others in the database because of their unusual treatment. There are, however, such huge differences between each of the cases studied that it is very difficult to see them as similar. This can be said for many of the suspected 'deviants' within this section who only share the same atypical rite and no other demographic or cultural affiliations. This can be demonstrated clearly with the comparison of the female adult buried in Grave 11 at Cleatham who was found prone and without a skull. A skull, suggested to have belonged to this individual, was found 2.2m south of the body (seen in Figure 6.28 above), but this cannot definitively be associated with the burial. Another individual who seems to have been subject to

unusual treatment was the non-adult found in Grave 158 at Great Chesterford, who was placed on an uneven floor with head, arms and knees on an elevated level of gravel (as shown in Figure 6.31 below).

Figure 6.32 – Plan of Great Chesterford Grave 158 (After Evison 1994: 205)



SCALE NOT AVAILABLE

Great Chesterford Grave 158	
a	Small pot
b	Nail
c	Nail

These examples emphasise the extreme range of burial treatment that was accorded Anglo-Saxon individuals, not only across the entire group of cemeteries examined here, but within individual cemeteries, age groups and sex categories. There is little help offered to try and explain reasons behind this differential treatment other than the realisation that the individual is an entity that cannot always be classified and pigeonholed in archaeology or indeed everyday life.

Although a collection of the burials highlighted in this section can be challenged on the degree of their atypicality, especially in reference to the individuals found with alternative orientations, there are many examples both within this chapter and in the database which demonstrate how unusual certain burial rites were at these sites. If we exclude the category of atypical orientation (as it can be considerably subjective as discussed above) there still remain 150 individuals who display some form of atypical treatment. This equates to 14.76% of the total database population who have been accorded atypical burial rites in comparison to others within the same cemetery site, time period or region.

Of course, we cannot expect all forms of 'atypical' treatment to have been broadly applicable to any group or sub-group of society. The treatment of a body may be specific to the circumstances of an individual's death, their actions in life, or to their social standing among both immediate family and wider society. More than any other category of atypicality examined in this study, the unusual treatment of human remains in particular highlights the diversity and idiosyncratic nature of 'deviance' as it might have been perceived in the past. This chapter, therefore, serves as a reminder that 'there was simply a number of different ways of burying people, some of which were similar to the practices employed in other parts of the country,

and some of which were different' (Lucy 1998: 105). Consequently, the reasons behind the differential treatment at death between these individuals may only become clearer with future excavations and reanalyses of data.

CHAPTER 7: CONCLUSIONS

This thesis proposed to demonstrate how atypical burial in early Anglo-Saxon England might be better understood and how the predisposed 'negative' treatment of suspected 'deviants' may have overshadowed other individuals with unusual burial rites. In addition to the production of the database, this project embodies a new methodological approach to 'deviant burials' in their most literal form – as individuals with atypical (but not necessarily negative) rites that were in the minority when compared to the more normative grave attributes. Rather than assuming a negative connotation, the burials with non-normative burial practices were analysed for their suspected 'deviant' traits and considered with reference to the commonly suggested characteristics associated with 'deviants', such as prone burial and atypical grave orientation. Instead of being narrowly used to classify criminals, wrongdoers, or the mistreated, this thesis offers an alternative version of the term 'deviant' derived from a statistical characterisation. This was achieved through the frequency-based analysis and comparison of burial attributes across sites, demographic groups and within the broader early Anglo-Saxon content. The concept of 'deviance' has been modified and applied as an indicator of individuals who deviate from the norm, in a similar fashion to the way eccentricities are considered from a social and cultural perspective. As a result, this study has offered an insight into the 'eccentric' dead.

The thesis database was designed to identify traits of atypical burials that lie outside of our current understanding of the term 'deviant'. In order to approach this query thoroughly and objectively, a multi-site analysis was proposed which focused on inhumation burial. This decision was two-fold, as not only do inhumations contain more tangible osteological material and widespread grave assemblages, but

are also less popular than cremation during the early Anglo-Saxon period in East Anglia and Lindsey. Thus, in a sense, inhumation itself was arguably a 'deviant' process. This is reflected in the current literature from the region and time period, as many of the multi-site analyses concentrate on the interpretation of cremation burial (Leahy 2007a and Squires 2012).

The main component of this thesis proved to be the statistical analyses, which stimulated a reanalysis of demography and material evidence from the eight cemetery sites. The results were generated from a wide range of queries and filters applied to the dataset. The database has provided a new archive of cemetery data which compares sites that have not previously been discussed together. In addition to facilitating a substantial statistical analysis, the database also functions as a useful resource for future researchers due to the wealth of information and workable template that it provides. It also maintains integrity in its data analysis that is mathematically and methodologically sound as it is comprised of quantitative data making it suitable for statistical testing. The interpretation of the analyses did not focus on diagnosing the cause of the non-normative burial but instead delivered a realisation that difference is present in every society. The seemingly outlandish practices that were found in the database, such as the burial of human remains alongside animals or the deposition of multiple neonates within one grave, could only be judged as peculiar by the perceptions of a modern day observer. This not only relates to the importance of context in the analysis of past practices but also the recognition that modern perspectives and experience will always influence interpretation.

Success of the study

The thesis was designed with three outputs in mind; the production of the database was the first of these. The second was to undertake a comprehensive statistical analysis on the variation of burial rites across a variety of filters. The third output involved the interpretation of these results to determine the extent of atypicality and 'deviance' in these eight cemeteries but also to understand the difference between the two classifications – atypical and 'deviant'.

The key element in compiling a comprehensive cemetery database including information from a variety of sites (such as a settlement cemetery and a predominant cremation site) was to standardise the data to accommodate a range of statistical analyses. In order to facilitate interpretation, a fundamental requirement of the database was that it should be capable of holding a large amount of data that could be compared and contrasted across any parameter. This was successfully achieved and the resulting database is a very potent resource that can be used to formulate any number of statistical analyses across a wide range of filters. Its flexibility is demonstrated in the way that both very broad and simplistic results can be produced – for example, it is possible to display all of the individuals buried alongside grave goods. Equally, it allows very specific queries to be run which can reveal, for instance, the individuals who were found in multiple burials with tools and identifiable orientation, which can all be displayed and analysed accordingly. The thesis has thus resulted in a key research tool that can be used to structure the gathering of data in future excavations, automatically facilitating comparisons. The outline of the database is given in Chapter 2.

The significance of the database lies in its comprehensive nature, especially as comparable resources have, thus far, only been produced for Kent (the ASKED database; Harrington and Brookes 2008). Although, this project has been extended (EASCP and the *ieldran database* [Meyers and Austin 2014]) it will be many years before all of the national data are compiled. This study, therefore, offers a demonstrable contribution to the practical utilisation of Anglo-Saxon cemetery records and may be used to facilitate large-scale research endeavours in the future.

As the database has the potential to generate a large volume of statistical data, one challenge was determining which queries would provide the most relevant results in reference to the scope of this study. The general statistics for ages, sexes, grave goods and burial characteristics were all calculated first to give an overview of the database population to provide a point of reference for later, more complicated queries that included more than one filter such as sex and flexure type. There was also consideration of the primary demographic statistics in each set of results that were most important, for example, the number of males with grave goods is inconsequential without either the total number of males in the group or the total number of individuals with grave goods. As expected, the level of complexity within these statistical statements grew with the development of the study, especially when 'deviant' traits were analysed and used to differentiate between individuals.

The second objective was to analyse the data to reveal patterns and anomalies in the dataset that could be used to define the most popular and most unusual burial traits across the database, between the cemeteries and in any sub-groups within them. For example, the analysis was not only used to identify original statistics but also to

test whether the observed correlations seen in similar datasets were present (Lucy 1998, Stoodley 1999 and Lucy and Reynolds 2002).

The third aim of the study was to provide a reanalysis of 'atypical' graves in early Anglo-Saxon England. This was undertaken by first establishing which burial attributes were considered 'typical' within the cemeteries, across the database and recorded for the time period as a whole. Although this helped to identify general patterns, there was a very distinct level of divergence across all database parameters. What was considered the 'norm' for one site or one social group was not necessarily applicable to similar groups across the database or within other studies. For example, the deposition of children within cemeteries proved a complex topic to discuss as no other site showed similar rites to those found at Great Chesterford. However, the widespread nature of this practice at the site may indicate that, in this case, it was a normative practice within the community. This perfectly illustrates the variety and relativity of 'deviance' that was apparent within the analyses especially where atypical rites could be interpreted differently depending upon their context. This also highlights the breadth of atypical burial rites that were not necessarily associated with 'negative' treatment and therefore not traditionally 'deviant'. Inevitably, the analysis of this study's data shows that interpreter perception as well as relativity and context may all alter what is perceived as 'deviant burial'.

Methodological conclusions

The approach used when collating and analysing the burial records was designed to enable the cemetery data to be presented in a purely quantitative form to allow any patterns and anomalies to be highlighted. This approach was developed during the author's undergraduate dissertation which revealed a number of unusual burials from Kent that were outside the scope of study but were curious nonetheless (Whitehouse 2008). In addition, as one of the first prompts to undertake this study was stimulated by the discovery of unusual burial characteristics in this previous database, statistics have always been central to the construction of this study as they provide an unbiased test of the evidence. This included the double burial in Grave 96a and b from Dover Buckland which contained two individuals osteologically sexed as one possible male and one definite female with two weapon assemblages which remained outside of the 'deviant' classification but presented rites that were idiosyncratic and highly unusual (Evison 1987). Nonetheless, many of these burials were overlooked and left uninterpreted, and thus spurred the formation of this study with a focus on the peculiar intricacies of individual burials regardless of their previous interpretations or suggested circumstances.

From the beginning of this project, there was a well-defined set of rubrics that was designed to maintain a high level of integrity within the database. This method was informed by approaches employed in similar past studies (e.g. Lucy 1998, Stoodley 1999, Gowland 2002, Aspöck 2009 and Lucy 2009). For example, under no circumstances was sex to be ascertained from the assessment of material culture as practiced in many of the older cemetery reports (such as Westgarth Gardens [West 1988]). In the same way, assumptions were not made of individuals based on aspects

of their demographic profile. They may have been classified within these groups for parts of the statistical analysis but this by no means restricted the interpretation of them as individuals. Age was also carefully categorised with a very straightforward adult and non-adult classification that could incorporate all of the different standards used in the cemetery reports, as well as a purely osteological assessment of skeletal maturation which can in no way be seen to reflect social or cultural ages. This enabled the analysis to be based on a more elastic approach to age which did not involve presupposition for any category. This, in turn, has allowed certain widespread commonalities to be indicated as well as the divergent statistics which have been used as potential markers for 'deviance' but also as reminders of the variety of individuals.

Overall, it is possible to outline conclusions from this initial analysis that could be used to guide the discussion and evaluation at later points in the study. These include the acceptance that the meaning behind burial, including atypical and 'deviant' may include more than aspects of an assumed identity of the deceased but instead may represent a much larger tableau of evidence. Furthermore, due to the practical utility the database provides, the scope of this thesis is much larger than the specific research topic considered here, and therefore, it may facilitate future studies.

Assessment of results against the literature

Prior to the construction of the database itself, a comprehensive review of past and current literature (Chapter 3) was undertaken. This informed aspects of the database construction and contributed considerably to its aims and content. This review in itself produced a number of conclusions and comprehensions that helped to shape the interpretative frameworks included here, as it highlighted certain gaps within the knowledge that could be addressed. This can, essentially, be defined as an area of study which is not covered by the general publications on 'deviant burial' (such as Murphy 2008), included in case studies of unusual burials (such as the settlement burials analysed in Sofield [2015]), or sufficiently examined in the cemetery reports. Accordingly, an amalgamation of these elements was required which could take cemetery data and analyse it on an individual basis before subjecting it to the interpretation of 'deviance' with reference to the theories offered in the available texts.

Numerous scholars have offered reasonable, rational and astute conclusions as to the meaning behind burial rites. For instance, the proposal that weapon burial may relate to ethnic relations is feasible and defensible (Härke 2004), as is the intimation that crouched burial may have resulted from a continuation of a 'native' burial tradition (Faull 1977). Although the concentration on demographic identity may have channelled the interpretation of cemetery evidence, a substantial amount of research has provided insight into the meaning of burial even where very little tangible evidence exists. Grave orientation, for instance, cannot be interpreted with any certainty without being analysed as part a much larger matrix of burial evidence. This is especially relevant where one non-normative component of the burial is used

to typify the inhumed individual, perhaps as a ‘deviant’, when all other evidence is typical.

In a sense, this argument raises an issue with the literature consulted here, as there seems to be a lack of cohesion and collaboration between theorists and the researchers examining ‘deviant burial’. To begin with, there is no fixed definition of the term ‘deviance’ in terms of burial (Shay 1985). There are a collection of publications which define their own version of ‘deviant burial’ which support their particular avenue of research. Geake (1992), for example, interprets a ‘deviant’ as any individual who was buried without grave goods, with other rites that possibly show negative treatment. In a strictly etymological sense, the word ‘deviance’ means a divergence from the norm with reference to subcultural activity in sociological and psychological contexts (Franzese 2015). There is also the original definition of the term as formulated by Shay (1985:223) when examining anthropological and archaeological case studies. Shay applies the sociological definition of ‘deviance’ to archaeological data, in that deviancy is a marker for ‘the boundaries of group experience… providing the group with a contrast to the accepted norms of conduct’. To maintain a position outside of any archaeologically-constructed limits, this study has adapted the same definition of ‘deviance’ that Shay (1985) employed in order to reduce the restriction on the number of individuals subject to unusual burial treatment that were not automatically included under the negative assumption of criminality or punishment for ‘deviance’.

It became apparent that a reconsideration of burial interpretation as a whole was needed to present a well-rounded study on atypical graves but also to ensure that the confines of pre-existing theories did not restrict the outcome of the analyses. This

is especially useful for the Anglo-Saxon period as many of the works produced that cover unusual burial are preoccupied with 'deviance' in terms of criminality and execution as opposed to a broader perspective of difference in burial and individuality in death.

The literature on 'deviant burial' offers a range of interpretations that serve to justify the atypical treatment accorded certain individuals. These vary from theories of criminality and exclusion, to obscure references of local traditions and folklore (see Gregoricka *et al*. 2014 and Chapter 3 for a summary). However, the study would find that when applied to many of the individuals identified as suspected 'deviants' in the database, the theories did not 'fit' with the stereotyped version of 'deviants' that the research produced. Instead, there was a very clear conclusion made from the literature review, that predisposed ideas can dramatically limit the range of interpretation that is possible. Although the analysis of unusual burial data has benefitted greatly from the hypotheses made in previous literature, it is very important to acknowledge the individuality of each burial and the limited role that personal choice may have played in the organisation of a grave. This can be seen in the range of burial profiles included in the database which deviate not only from expected patterns within sites and demographic groups but also across the early Anglo-Saxon world.

Essentially the literature review presented a broad overview of burial archaeology and expressed the relative nature of the interpretation of burial. In reference to 'deviance', the literature review offers a summary of the works available but also demonstrates the differentiation in the perception of unusual and atypical burial. The main works on 'deviant burial' have been consulted and discussed to

produce an outline of the general traits that are used to indicate 'deviance' in the early Anglo-Saxon period. They were, however, not exclusively used to identify types of unusual burial; atypical rites were also recognised on an individual level whereby it was possible that only one individual within the complete database would display a particular rite. This can be seen, for example, in the discovery of Grave 48 at Westgarth Garden where the individual was buried with a fossil echinoid in their right hand and legs crossed (West 1988). This has helped to highlight how this study 'fits' into the current literature by incorporating atypicality and 'deviance' into a single analysis.

Conclusions from the discussion of 'deviant' and atypical burial

The approach used to collate and compare burial data has allowed varied pieces of information to be analysed simultaneously and for patterns and statistical anomalies to be identified. This has indicated certain widespread commonalities as well as anomalous statistics which have been used as potential markers for 'deviance' but also as reminders of the variety of individuals. This variety can be seen in the contrasts and comparisons that can be made across the database with individuals who share an atypical trait but share no demographic characteristics and alternatively where individuals of the same sex and similar age have no other matching burial conditions. The success of this analysis rests on the ability to determine what is 'normal' in reference to different conditions such as age groups, sex divisions, cemetery sites, time periods and social classes. These groups may not always be obvious and may be concealed by poor preservation or recording. Burial treatment may inevitably be affected by situation-specific contexts which could invariably influence the interpretation of these traits but without adequate information this may not be possible. For instance, one burial characteristic, such as atypical orientation, may be typical for a particular set of individuals but may indicate 'deviance' in a different group. Indeed, sometimes perceived 'deviance' may be the norm. The widespread application of prone burial may be indicative of difference in some instances where other 'normal' traits are identified, such as a 'typical' grave kit/assemblage (as seen in Grave 60 in Westgarth Gardens). This is representative of the varying degrees of 'deviance' in burial that can alter the perception of atypical graves away from the assumption of negative treatment. In part, this represents a

main conclusion for this study, whereby the spectrum of atypical burial can be indicated but not necessarily associated with disrespectful treatment or punishment.

A range of burial treatments identified across the database was extensive, with very different rites being practised with both positive (as suggested by the deposition of the female adult at Grave 48 at Westgarth Gardens discussed above) and negative connotations (seen in Grave 46 at Snape where the individual was squeezed into a very narrow grave). Differential treatment and deviation from the 'norm' was discovered at all eight sites, for both sexes, all ages and was associated with individuals with each of the grave good categories. As the classifications for 'deviance' were devised in reference to a range of publications, namely Meaney (1981), Aspöck (2009) and Reynolds (2009), the resulting list of suspected 'deviants' is considerably larger than the groups identified in previous studies. This approach was designed to ensure no individuals were excluded from the 'deviant' group, as they presented atypical burial rites but were not necessarily accorded negative treatment. This method indicated that atypical burial traits may be as uncommon as the traditionally negative 'deviant' characteristics but can nonetheless be grouped together as a broader group of individuals marked by alterative burial rites.

The study has added to the growing wealth of information on burial interpretation by broadening the scope of individual identity. This has been achieved by generating profiles for individuals and groups within the database through the discovery of patterns and anomalies within the statistical analysis. In effect this original dataset has provided a window into early Anglo-Saxon society that had not be opened previously, especially in reference to the breadth of 'deviant burial' and the misconceptions that surround the 'typical' burial rites. This thesis has questioned

the value of generalisations and stereotypes when interpreting the past. While it is unreasonable to tailor the interpretation of burial to each individual, in future it may be useful to add disclaimers for limited evidence, speculation, and chronological or geographical contexts. There is, of course, no problem with presenting an interpretation of archaeological evidence that correlates with previously defined identity types such as females with jewellery and males with tools, or indeed, non-adults with multiple burial. This thesis, does however, challenge those cases where osteological or material evidence does not survive in good enough condition to be used in conjunction with each other. A sexual stereotype by its basic definition can only be attributed with the osteological attribution of sex, similarly the assumption that only a particular age group is accorded a specific rite, must too be corroborated by skeletal analyses. Essentially this thesis calls for an acceptance that there are limits to archaeological data and that generating a definitive interpretation is not always necessary or even useful. In some instances it may benefit our overall perception of the past to accept an old cliché and not force the square peg of evidence into the circular hole in our preconceptions. This is evident when analysing atypical burial as there are modern-day philosophies of why certain people are seen as different and those reasons are projected onto the individuals of the past without an acknowledgement of the context.

Conclusions from the interpretation of 'deviant' and atypical burial

Once the primary and secondary statistics were produced it was necessary to analyse any anomalous results to try and develop an interpretation of why certain individuals were treated differently in comparison to others. This part of the study was also designed to understand why certain traits were affiliated with 'deviant' behaviour when other grave characteristics of an individual were similar to comparable graves. There was an effort made to determine the classification of 'deviance' through the variety of individuals identified with the same characteristics. Individuals were classified first by the atypical rite before they could be statistically analysed to determine if any demographic conditions such as age or sex may have affected the accordance of this treatment. Regardless of the extent to which individuals corresponded or diverged from this sense of 'deviance', there were elements of certain burials that made interpretation challenging. This can be demonstrated by the burial of miniature objects alongside the adult in Grave 32 at Cleatham (as discussed in the previous chapter). The assemblage contained small versions of a pottery platter, two miniature cups and a three lugged pot. Although similar items have been recorded from other sites (Grave 65 at Shudy Camps, Cambridgeshire [Lethbridge 1936]), these occurrences are very rare in Anglo-Saxon burial and have thus far defied explanation. The cemetery report classifies these grave goods as associated with ritual (Leahy 2007a). Although understandable, this interpretation offers little in terms of comprehension, as the use of religion or ritual is called upon to blanket the rite as some kind of spiritual practice for which no explanation is obvious.

Whereas some burial traits can be attributed to this cause, the overuse of the term 'ritual' does little for archaeological interpretation as a whole. Any action can be seen as ritual when a practical purpose does not exist; especially in reference to burial as there is such a vast range of situations possible. The rituals and routines that individuals practice and maintain are not always associated with cosmology or religious ideology: they may be purely idiosyncratic, sentimental or habitual. These actions may not and need not necessarily make sense to others. Alternatively these rites may be interpreted where no explanation is relevant; where chance, inaction or accident has produced an outcome that has been classified as a burial trait. It is this mentality that may help retune the interpretation of burial to avoid applying presuppositions of identity to the buried individual. This is important with reference to the analyses of grave goods which are often seen as straightforwardly representing the death of the individual as opposed to providing an insight into the life of those involved in the burial (Fahlander and Oestigaard 2008). This assessment has developed from the restrictions associated with generalised assumptions based on the contents of the assemblage. Instead, this thesis offers that grave goods provide part of an identity constructed as a 'death set', which may not necessarily reflect the life of the deceased. As Lucy (1998: 102) suggests, material culture may have been 'something that the mourners manipulate' with the meanings of objects that 'are not inherent, but are rather given by their context'. Consequently the acknowledgement that seems obvious from the outset but is not explicit in the literature is the simple statement that burial reveals an insight into the death of a person. There are overlapping aspects of the identity at death which could reflect elements of life, but these are not static. It seems archaeologists spend an inordinate amount of time

assigning life conditions to burial rites, but few concede that the conclusions of early Anglo-Saxon life from cemetery analyses are formulated from nothing more than a snapshot of death. Indeed, the preparation, organisation and performance of these burial rites for certain individuals, such as the burial at Sutton Hoo to name one example (Carver 2005b), will undoubtedly have included much more than the assembly of several items and the deposition of a body within the grave. There is no limit to the potential involvement of the funerary party, to the practices employed and the rites undertaken (Williams 2014). The only limit is that placed on the extent to which this whole process can be pieced together from the tangible burial evidence that remains.

One of the key components of this thesis is the need to distinguish between the concepts of 'deviance' and atypicality in cemetery archaeology. The early Anglo-Saxon period is used as a canvas on which to present the framework of this thesis and is not meant to limit the applicability of the conclusions to this context. Essentially this study is designed to highlight the need to emphasise the existence of unusual burials that may not have a negative connotation. The discovery of atypical burial traits has been offered as a means to identify 'deviants' within the archaeological record but in this study were mostly found included in a common burial site. This is one of the more peculiar observations made from the thesis as only three individuals were possibly excluded from the main burial groups (Bloodmoor Hill Graves 27, 28a and 28b). There is an underlying impression that although a collection of these individuals were classified by this research as 'atypical', they remained buried in the community cemetery. They were not deposited in an execution cemetery, disposed of in an alternate manner or outside the cemetery or

left untreated at death. Instead, they were handled by the community, whether through fear, respect or sentiment these individuals were buried with their peers and it is reasonable to assume that many individuals were not even accorded that courtesy. This point, in particular, highlights the need to reassess evidence for idiosyncratic rites and rituals that were specific to a locality or social group. There is a concern that the emphasis placed on burial and its interpretation can distort the overall picture of early Anglo-Saxon life. It may be that the details of treatment after death reveal principles that were central to that past society or community. Alternatively, and to play devil's advocate, it may be the case that the elements of the burial process that are not visible to the interpreter (such as degraded remains or funerary activities) may be the most representative aspects of early Anglo-Saxon ideology and identity but remain out-of-reach. In this case, the value of research rests on the accuracy and quantity of burial data recorded. Accordingly, the identification of individuals who were treated differently in death may help us to appreciate the minutiae in every burial that may yet reveal details that have not been previously analysed.

Recommendations for future study

Improvements to the approaches used in this thesis involve tackling the time and accessibility obstacles that were encountered. In terms of cemetery evidence, this study would have benefitted from the practical assessment of skeletal material but due to limited recovery and preservation of much of the data, along with difficulties locating some of the burial contents, the limits of the study precluded such an approach. However, this thesis highlights that a trade-off should not exist between determining activity and experience from the skeleton and identifying as much information as possible from scrutinising the associated artefacts. Although funding and time are often scarce resources during archaeological investigations, in some ways original burial data is much more useful than interpretation as it is less subjective. This is especially evident in cases of poor preservation where much of the information that could be ascertained from the osteological and material evidence has been lost. This is unfortunate considering the additional insight osteological interpretation could provide, such as determining whether the buried individual had the physical capacity to use all of the tools and weapons deposited within their grave. There are also elements of scientific analyses which would help this approach, such as the integration of intensive pathological, isotopic and DNA analyses within a standard osteological examination of a set of human remains. An example of the wealth of information that skeletal remains can provide with the application of some of these techniques is demonstrated in the analysis of the Viking-Age mass grave site at Ridgeway Hill, Weymouth. The very detailed examinations of the basic osteological data as well as the pathology, trauma and isotope testing produced a very insightful and comprehensive report on the individuals found at this site (Loe *et*

al. 2014). However, accepting that preservation and expense might hinder these new approaches is central to the understanding that the level of recording at any given grave site must be to the highest standards achievable as this may be all the information that can be afforded to that particular individual. This is, nevertheless, easier to suggest in a theoretical sense than implement in a practical way as it may be very difficult to implement due to the time and financial constraints involved.

Where possible, there is much to be gained from the in-depth study of burial evidence, even where the data has been analysed previously. The value of reanalysis can be seen in the case of leprosy identified in Great Chesterford remains which were not identified during the initial osteological examinations (Inskip *et al.* 2015). This finding also highlights the potential information that new techniques could produce when re-examining older material from previous excavations. These could include isotope testing which could help chart the movement of people through regions as well as determine the origin of certain traditions and elements of cultural diffusion. A recent example of this can be seen in the study on the 7^{th} – 8^{th} century Bowl Hole cemetery burials in Bamburgh, Northumberland. This project involved strontium and oxygen isotope testing to analyse the geographic origin of 78 individuals found at the site. Although there was no differentiation found in the burial rites, the results showed that over half of the population were non local. It was suggested that some may have originated from either Scandinavia, North Africa or the southern Mediterranean and that these individuals presented indicators of better health when compared to the 'local' individuals (Groves *et al.* 2013). This has implications for the study of 'deviant burial' most specifically as it allows ethnic origin to be evaluated, and in this case dismissed, as a possible factor in the accordance of usual burial rites.

Along with the above mentioned study and the Great Chesterford case of leprosy, which is now thought to be the first in England (Inskip *et al.* 2015), pathological examinations can provide a wealth of information on epidemiology and mortality rates. Detailed pathological work could also be used as a way of examining the most common activities and associated injuries prevalent in any particular society. A very basic example of this can be seen in the database where the extensive erosion of dental enamel has indicated the repeated action of chewing thread by a collection of individuals within the study group (see the database 'Pathology Details' for more information). Along with the determination of this activity type and the individuals involved, this evidence can also reveal aspects of textile production and occupational roles. In addition, the analysis of pathology from Anglo-Saxon cemetery remains can also provide an insight into the treatment of physically disabled individuals by the burying society. This is especially relevant in terms of 'deviant burial' as disability has been posited as a possible reason for the accordance of atypical burial (Murphy 2008). A test of this hypothesis and evidence for the ambiguity of burial can be seen in the study conducted by Craig and Craig (2013) that examines a facial deformity found on the remains of an Anglo-Saxon non-adult from Cemetery at Spofforth, North Yorkshire. Interestingly, in this case, the individual was accorded normative burial rites indicating no differentiation was made within the tangible remains recovered from the grave (Craig and Craig 2013).

Final Remarks

The collection of cemetery data used in this thesis has never before been grouped and analysed as part of a single database. Furthermore, the development of this database allowed for standardised comparisons and comprehensive frequency-based statistical analyses to be conducted. In addition, before now, the re-evaluation of the term 'deviant' has not been dissected and approached from a social and cultural standpoint away from the negative connotation of criminality and exclusion. This study encourages the need for an appreciation of difference in archaeological studies rather than a focus on the definition and entitlement of group identity. This thesis emphasises the importance of individual differences regardless of demographic or social categories and offers a means to include difference and divergence from the norm as accepted elements of society. Not as automatic indicators of alienation and rejection but in order to use the treatment of the minority as an insight into the levels of acceptance of the majority. The reasons for non-normative burial treatment may not necessarily be associated with 'deviants' or criminals but instead with the individuality and difference that exist in all societies. It is this appreciation of difference that will help to develop the interpretation of burial and make sense of this very rich source of archaeological evidence. Now might be the time to acknowledge that the individuals of the past may not be too dissimilar from ourselves. Instead of over-classifying and marginalising the dead to neatly provide results and analyses, it may be more valuable to accord the dead the same understanding that we should for the living – that is as individuals and not statistics.

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