Osteological Analysis
High Street
Gargrave
North Yorkshire

Site Code: HSG03
NGR: SD 9325 5425

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Summary

Field Archaeology Specialists Ltd was commissioned by WYAS Archaeological Services to carry out the osteological analysis of six human skeletons recovered from two phases of excavation at High Street, Gargrave, North Yorkshire (SD 9325 5425). During archaeological trial trenching in July 2003, two skeletons were discovered. Four further skeletons were discovered in September 2003 during the full excavation prior to the proposed development of the site. Following radiocarbon dating of three of the skeletons, York Osteoarchaeology Ltd was commissioned to carry out research into the funerary rituals observed at Gargrave.

Osteological analysis revealed that the cemetery group included three females, two males and one juvenile. The three females had been subject to unusual mortuary behaviour. One of the females was interred on the front in a crouched and bound position, while another female was interred in the same position on her back. This skeleton had been buried on top of the grave of a flexed female. It is likely that the crouched skeletons had been bound prior to burial. The males and juvenile, on the other hand, were interred in flexed positions on their sides, in single graves. The females were very gracile, but the whole population exhibited skeletal evidence for hard physical labour in the form of trauma at muscle attachments. Additionally, two individuals suffered from superficial inflammation of the legs. Based on the skeletal analysis, a familial association between the women is likely, and this, together with their exceptional burial suggests that these women were related through social or cultural links.

Radiocarbon dating has placed the burials within the late Iron Age or early Roman period. Comparative analysis with other cemeteries dating to this period suggests that although there are many examples of bound crouched burials. Few parallels exist for prone crouched and bound burials, and no further British examples could be found of supine crouched skeletal positions. Additionally, interment of individuals on top of one another is extremely rare during the Iron Age, and is usually associated with Anglo-Saxon funerary rituals. The evidence suggests that although small cemeteries such as Gargrave do occur, the burial ritual observed at the site is extraordinary.

Acknowledgements

York Osteoarchaeology Ltd would like to thank Louise Martin of WYAS Archaeological Services for her assistance and support. York Osteoarchaeology Ltd are also grateful to the BABAO members who commented on the assemblage, and to Chris Fern, who provided useful information on burial ritual.

1.0 INTRODUCTION

In July 2003, Field Archaeology Specialists Ltd was commissioned by WYAS Archaeological Services to carry out an osteological analysis of two human skeletons recovered from trial trenching at High Street, Gargrave, North Yorkshire (SD 9325 5425). Skeleton 12 had been interred in a flexed position, with the head at the north-western end of a large grave cut. The second burial cut the earlier grave and was found to contain a skeleton (Skeleton 11) in a supine tightly crouched position, with the legs tightly flexed on top of the body, the knees pointing to the chin and the feet resting on the pelvis.

In September 2003, four further skeletons were discovered at Gargrave during the full excavation of the site. FAS carried out the osteological analysis of these burials, and the results were integrated with the report on the earlier burials. The burial positions and orientations of the four skeletons varied considerably. Skeleton 3 had been interred in a prone tightly crouched position, with the lower arms crossed beneath the chest. Skeleton 4 was flexed on its left side, while Skeleton 2 was interred on the right side in a loosely crouched position. Skeleton 1 was so poorly preserved that it was not possible to ascertain its position.

No datable material was recovered from the burials during excavation, although a fossil recovered from the burial of Skeleton 1 and lamb bones found with Skeleton 3 may point to the inclusion of grave goods at least in some of the burials. Radiocarbon dating of Skeletons 3, 4 and 11 provided a consistently late Iron Age to early Roman date for the cemetery (Skeleton 3: 40BC to 130AD; Skeleton 4: 210BC to 90AD and Skeleton 11: 180BC to 100AD).

1.1 AIMS AND OBJECTIVES

The aim of the skeletal analysis was to determine the age, sex and stature of the skeletons, as well as to record and diagnose any skeletal manifestations of disease. Additionally, osteological analysis attempted to identify the possible cause of death of the individuals, with the hope of understanding the unusual burial ritual at Gargrave.

1.2 METHODOLOGY

The skeletons were analysed in detail, assessing the preservation and completeness of each skeleton, as well as determining the age, sex and stature of the individuals (Appendix 1). All pathological lesions were recorded and described.

2.0 OSTEOLOGICAL ANALYSIS

Osteological analysis is concerned with the determination of the identity of a skeleton, by estimating its age, sex and stature. Robusticity and non-metric traits can provide further information on the appearance and familial affinities of the individual studied. This information is essential in order to determine the prevalence of disease types and age-related changes. It is crucial for identifying gender dimorphism in occupation, lifestyle and diet, as well as the role of different age groups in society.

2.1 PRESERVATION

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition. Preservation of human skeletal remains is assessed subjectively, depending upon the severity of bone surface erosion and post-mortem breaks, but disregarding completeness.

Preservation was assessed using a grading system of five categories: very poor, poor, moderate, good and excellent. Excellent preservation implied no bone surface erosion and very few or no breaks, whereas very poor preservation indicated complete or almost complete loss of the bone surface due to erosion and severe fragmentation.

All skeletons had suffered from bone fragmentation and bone loss, particularly of the spongy bones of the spine and joints. The long bones were very fragmentary and few of the joints survived. The crania had been subject to considerable truncation and were therefore incomplete in most cases. The skeletons exhibited a moderate degree of surface erosion, suggesting that the nature of the local soils was partly responsible for the deterioration of the bone. It is possible that the weight of structures associated with the derelict commercial garage and workshops which occupied the site, as well as the associated traffic contributed to the fragmentation of the skeletal remains. Furthermore, truncation appears to have been a major factor adding to the poor bone preservation and to bone loss at this site. This view is supported by the poor preservation of the uppermost individual (Skeleton 12) in the double burial, as compared to the moderate preservation of the earlier burial (Skeleton 12) (Table 1).

Table 1 Summary of osteological and palaeopathological results

Skeleton No	Preservation	Completeness	Age	Sex	Stature	Pathology
1	very poor	10%	36+	?male	-	bone excavations, muscular trauma to right arm and shoulder
2	very poor	30%	6-9	undetermined	-	none
3	poor	60%	26-35	female	-	bone excavation
4	moderate	50%	26-35	male	-	tibial periostitis, bone excavation
11	poor	60%	36-45	female	152.5cm	tibial periostitis, bone excavation
12	moderate	75%	26-35	female	152.5cm	bone excavations

The completeness of the skeletons differed considerably: Skeleton 1 was only 10% complete, whereas Skeleton 12 was most intact, with a bone survival of 75% (see Table 1). Once more, the lower position of the burial prevented the truncation and crushing of the bone observed in the other skeletons.

2.2 MINIMUM NUMBER OF INDIVIDUALS

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure in osteological reports on inhumations in order to establish how many individuals are represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into

account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements recovered. The largest number of these is then taken as the MNI. The MNI is likely to be lower than the actual number of skeletons which would have been interred on the site, but represents the minimum number of individuals which can be scientifically proven to be present.

Thirteen disarticulated skull fragments were recovered from the site at Gargrave, which clearly belonged to the same cranium. All fragments were thick, with obliterated cranial sutures, suggesting that they derived from an elderly individual. It is possible that these bone fragments belonged to Skeleton 1, but alternatively, they may belong to a skeleton which was not recovered during the two phases of excavation. Furthermore, four disarticulated human bone fragments were recovered from an unstratified context. They included two tibia and two fibula shaft fragments. It is probable that these bones belonged to one of the five adult skeletons excavated. A count of major skeletal elements suggested an MNI of six individuals.

The backfills of the grave of Skeleton 1 and 11 both contained two small fragments of cremated human skull each and it is therefore possible that a cremation burial had been disturbed by these graves. Alternatively, faunal activity, such as burrowing, may have introduced the four tiny bone fragments into the backfill of the graves, suggesting that cremation burials may be located in the vicinity of the two inhumations.

2.3 ASSESSMENT OF AGE

Age was determined using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Cox (2000a). Age estimation relies on the presence of the pelvis and uses different stages of bone development and degeneration in order to calculate the age of an individual. Age is split into a number of categories, from foetus (up to 40 weeks in *utero*), neonate (around the time of birth), infant (newborn to one year), juvenile (1-12 years), adolescent (13-17 years), young adult (ya; 18-25 years), young middle adult (yma; 26-35 years), old middle adult (oma; 36 to 45 years, mature adult (ma; 46+) to adult (an individual whose age could not be determined more accurately as over the age of seventeen).

The poor skeletal preservation of the hips meant that age determination was based on less accurate criteria. Dental wear suggested that Skeleton 1 was at least 36 years of age, but was probably a mature adult. The dental development of Skeleton 2 suggested that this was a juvenile, aged between six and nine years. Based on the hip joints and on cranial suture fusion, Skeleton 11 was an old middle adult, although the age suggested by dental wear was slightly younger. The dental wear and cranial suture closure of Skeleton 12, which were consistent, suggested that Skeleton 12, Skeleton 3 and Skeleton 4 were young middle adults (Table 1).

The wide age distribution demonstrates that individuals of all ages were interred in this cemetery. It also implies that many individuals had succumbed to disease before reaching old age, with the possible exception of Skeleton 1.

2.4 SEX DETERMINATION

Sex determination was carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Assessment of sex in both males and females relies on the preservation of the skull and the pelvis

and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood.

On the basis of cranial and pelvic characteristics, and measurements confirming the gracile nature of the bones, Skeletons 3, 11 and 12 were female. However, while Skeleton 3 and 12 were clearly female, Skeleton 11 exhibited a slight tendency towards male cranial characteristics. Nevertheless, females can often develop masculine facial characteristics with increasing age, and the pelvis, which is a more reliable sex indicator, was definitely female in shape.

The assessment of sex of Skeletons 1 and 4 relied solely on cranial characteristics, which are not as accurate as those of the pelvis. However, both individuals were additionally much more robust than the females, supporting the conclusion that these were males.

It was not possible to estimate sex in the juvenile, as this individual was too young to have developed skeletal characteristics indicative of sex.

2.5 STATURE

Stature depends on two main factors, heredity and environment. However, stature can also fluctuate between chronological periods. Stature can only be established in skeletons if at least one complete and fully fused long bone is present. The bone is measured on an osteometric board, and stature is then calculated using a regression formula developed upon individuals of known stature.

In this instance, none of the long bones were intact, but it was possible to reconstruct the broken long bones of Skeleton 11 and 12, which could then be measured. As a result, stature estimation was not as accurate as it would have been using complete long bones. Both individuals were approximately 152.5cm tall (Table 1), with a standard error of ±3.57cm. This stature is slightly lower than the average female stature for the Iron Age, Roman, Anglo-Saxon, medieval and post-medieval periods, as calculated by Caffell (1997). However, it resembles the mean stature for the Iron Age most closely (153.5cm). Nevertheless, the stature of the two females from Gargrave was higher than the mean minimum stature from any period (Caffell 1997).

2.6 METRIC ANALYSIS

Craniometric measurements could not be taken on the skeletons because the skulls were extremely fragmented. As a result, the general skull shape could not be established.

Leg measurements were obtained from the femora and tibiae of Skeletons 3, 4, 11 and 12, and these were used to calculate robusticity indices. The *platymeria* index is a method of calculating the shape and robusticity of the femoral shaft. The femoral shafts were *platymeric* (broad and flat) in all four individuals.

The *platycnemia* index (robusticity index) of the tibiae was calculated in order to establish the degree of tibial shaft flatness. The tibial shafts of Skeleton 3 and 11 were *eurycnemic* (of average dimensions); whereas the tibial shafts of Skeleton 12 were *mesocnemic* (slightly more rounded) and those of Skeleton 4 were *platycnemic* (rounded).

Few other measurements could be taken due to the fragmented nature of the bones, and particularly of the joints.

2.7 NON-METRIC TRAITS

Non-metric traits are additional sutures, facets, bony processes, canals and foramina, which occur in a minority of skeletons and are believed to suggest hereditary affiliation between skeletons (Saunders 1989). The origins of non-metric traits have been extensively discussed in the osteological literature and it is now thought that while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978).

A total of thirty cranial and thirty post-cranial non-metric traits were selected from the osteological literature (Buikstra and Ubelaker 1994, Finnegan 1978, Berry and Berry 1967) and recorded for each skeleton. Only five traits were observed in this group, which was probably the result of bone loss due to poor preservation. Skeletons 3, 11 and 12 were found to have bridged supraorbital notches, suggesting that this may have been a population-specific trait, although that part of the skull had not survived in the remaining individuals. *Hypotrochanteric fossae* (depressions at the upper parts of the femoral shaft) were observed in Skeleton 4, 11 and 12. This trait has been attributed to mechanical stress, in particular to the main bottom muscle, ***gluteus maximus*** and may therefore be activity-related. Further evidence for strain to this muscle may have been observed in the form of a third trochanter (a bony process at the same location) in Skeleton 3. An additional trait was noted in Skeleton 1, 3 and 12, at the lateral border of the scapula. Marked depressions at this point are termed *circumflex sulcus*, and may be related to blood vessels or muscular pull. An unusual trait was also noted in Skeleton 2, who had an open posterior condylar canal at the back of the skull, a trait which is rarely seen in skeletons from archaeological contexts.

2.8 CONCLUSION

Osteological analysis of the six skeletons from Gargrave established that the cemetery group represented individuals of all ages and both sexes. Similarities between the individuals in the form of non-metric traits and physique may suggest a familial link, although this is only a hypothesis.

3.0 PATHOLOGICAL ANALYSIS

Pathological conditions can manifest themselves on the skeleton during life, especially when these are chronic conditions or the result of trauma to the bone. The bone elements to which muscles attach can also provide information on muscle trauma and excessive use of muscles.

Heredity and environment can predispose an individual to congenital anomalies. Congenital malformations are commonly observed in archaeological populations. Individual anomalies, however, tend to occur in one, rather than in a number of skeletons (Turkel 1989), and can vary in prevalence between populations. Most congenital conditions observed in skeletons are simple anomalies, which do not affect the person exhibiting the defect. One of these was noted on the right temporal bone of Skeleton 2, and was characterised by an unusually deepened groove for the sigmoid sinus. This anomaly was not observed on the left temporal and would probably have

caused no symptoms. The only other reported example of this anomaly was observed in a medieval skeleton from Lawrence Street, York (FAS 2002).

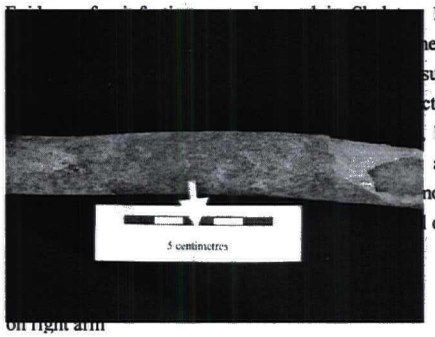


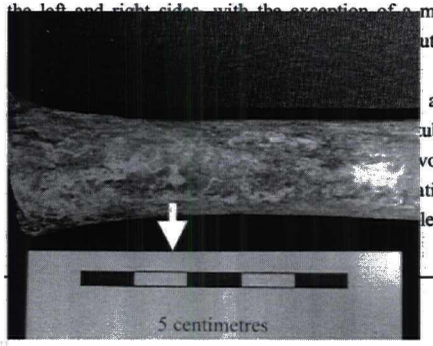
Plate 1 SK 1, shin bone with inflammation

11 (Plate 1) and Skeleton 4, in the form of superficial
e nature of the skeletal manifestation on the shin bones of
suggests that the inflammation was receding. Inflammatory
ctious diseases, such as leprosy and syphilis, and of non-
leg ulcers or trauma to the shins. However, these lesions
and long-standing (Roberts and Manchester 1995, 125).
non before the introduction of antibiotics and is frequently
contexts.

Marks at the pelvis, termed *pre-auricular sulcus*, are observed in a mild form in most adult female skeletons. These marks are characterised by pits or grooves just below the hip and sacrum joint. Skeleton 3 and 11 exhibited unusually deep versions of these marks, while this part of the bone was not present in Skeleton 12 as a result of bone deterioration. Until recently, it was thought that the formation of a *pre-auricular sulcus* was related to the process of childbirth. However, the latest studies have found that childbirth is not the only cause for such marks, and in fact, they are more closely related to biomechanics, and in particular, pelvic flexibility (Cox 2000b). It is therefore not possible to determine whether these women had given birth.

Occasionally, it is possible to infer trauma to the soft tissue on the bones, in the form of ligamentous or muscular trauma. This is expressed though the formation of bony processes (enthesopathies) at the site of ligament attachments. Additionally, it is possible to observe cortical defects at the site of muscle insertions, which are the result of constant micro-trauma and are usually activity-related (Hawkey and Merbs 1995, 334).

Muscle trauma in the form of cortical bone excavations was observed in all adults from this site. Skeleton 12 had evidence for muscle trauma at the left humerus, at the muscle attachment of *latissumus dorsi*, which is a muscle responsible for a number of arm movements, including extension, adduction, and medial rotation, but also moves the shoulder down and backwards and assists in movements required for respiration (Stone and Stone 1990, 105). The same bone also exhibited evidence for slight enthesopathies at the attachment of *extensor carpi radialis longus*, which extends and abducts the hand (Stone and Stone 1990, 129). As both of these lesions affected the left side of Skeleton 12, the possibility of left-handedness was considered. However, when the skeleton was examined for handedness, it was found that there was no distinction in size or robusticity between
more strongly developed right hand. This implies that the
ut activities which put strain on the left upper arm.



at the attachment for the trapezoid ligament at the right
uberosities for *brachialis*, a muscle that flexes the forearm.
volved in regular activities which required physical labour,
tions at the insertion of *brachialis* were also observed in
left ulna. Skeleton 1, 3 and 11 had cortical bone excavations

at the insertion of *pectoralis major* (Plate 2), a muscle which aids in adducting and medially rotating the arm, the arm movements required for most manual tasks.

As discussed previously, most skeletons showed evidence for muscular strain to *gluteus maximus*, the main muscle of the bottom. This muscle extends and laterally rotates the hip joint and extends the trunk. Repetitive strain injuries to this muscle are commonly observed in most archaeological populations. Further evidence for trauma to the leg muscles could be observed at the insertions of *soleus* on the tibiae of Skeleton 4, which were extremely pronounced in this skeleton. This muscle causes the tip of the foot to move downwards, an action required for walking and climbing. This would suggest that individuals from this group led a physically active life, involving walking, climbing and physical labour using the upper limbs.

Severe muscle trauma of a disabling kind was observed in Skeleton 1. This individual had suffered an injury to the muscles of the right elbow and shoulder, which had caused the partial destruction of the ulna at the point of insertion of *brachialis*, with associated new bone formation in the inner part (medullary cavity) of the bone. Unfortunately, the bones were very fragmentary and none of the joints were preserved to ascertain whether the joint surfaces had also been affected. At the elbow joint of the humerus, slight new bone formation could be observed at the attachment of the *olecranon fossa* and a slight enthesopathy was noted at the insertion of *biceps* on the radius. The clavicle was also affected by enthesopathies at the attachments of the trapezoid ligament. The distribution of muscular injuries in this individual may point to a possible shoulder dislocation, together with trauma to the elbow. It is possible that the injury was sustained during birth, but more likely that it was the result of an awkward fall. The lack of joint surfaces meant that it could not be determined whether any joints were directly affected by the trauma in the form of fractures or avulsions, or whether they were indirectly affected by degenerative joint disease as a result of different positioning of the affected bones.

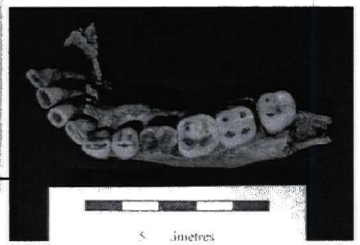
Plate 3 SK1, retained milk tooth and severe anterior wear

The same individual had two rarely observed bone excavations at the lower jaw, where *depressor labii inferioris* attaches. This muscle depresses the lower lip, suggesting that this individual may have had quite a dour facial expression.

The skeletal evidence suggests that the six individuals from Gargrave were healthy, with no evidence for commonly observed conditions such as age-related joint disease, sinusitis, iron deficiency, fractures or weapon trauma. However, hard physical work took its toll on the skeletons in the form of micro-trauma at muscle attachments. It is probable that better spinal preservation would have provided further evidence for activity-related strains. Additionally, superficial inflammation of the leg bones may have resulted from trauma to the shins. The child in this group exhibited no evidence for pathology and it is probable that this individual died of an acute childhood infection, which was too short-lived to affect the skeleton.

4.0 DENTAL HEALTH

Analysis of the teeth from archaeological populations provides vital clues about health, diet and oral hygiene, as well as information about environmental and congenital conditions. The dentitions of



the three females (Skeletons 3, 11 and 12) were much better preserved than those of the males and juvenile, which was due to taphonomic factors, rather than gender. The three females retained all their teeth, although Skeleton 11 had congenitally absent teeth (*hypodontia*). Both lower second premolars were absent and on the left side of the lower jaw, a deciduous second molar (milk tooth) had been retained in place of the undeveloped second premolar (Plate 3). This confirms that the adult tooth had not been lost ante-mortem, although it is still possible that the teeth were impacted in the jaw, rather than never having developed. However, it is relatively common for teeth not to form, and this is thought to be an inherited anomaly. The wisdom teeth and second premolars are amongst the most common teeth which fail to develop (Hillson 1996, 113-114). Skeleton 4 also retained almost all the teeth, although the upper jaw bones were almost completely absent.

The complete lack of dental cavities and abscesses in these individuals meant that none of the teeth were lost ante-mortem, with the exception of Skeleton 1. This male, the oldest individual in this group, had few surviving teeth. This was partly the result the loss of this individual's skull to severe truncation, and partly caused by the ante-mortem loss of four mandibular teeth, probably as a result of periodontitis and therefore loosening roots. The two surviving teeth exhibited considerable dental wear.

A moderate degree of periodontitis was also observed in Skeleton 3 and 4. This may have been caused by the formation of dental plaque, which was noted in all adult individuals with the exception of Skeleton 1. Calculus is commonly observed in archaeological populations whose dental hygiene was not as rigorous as it is today. Calculus mineralises and forms concretions on the tooth crowns, along the line of the gums. The plaque formation would have irritated the gums and caused moderate periodontal disease in both individuals, characterised by the resorption of the bone surrounding the teeth.

Dental wear tends to be more common and severe in archaeological populations than in modern society, being caused by a much coarser diet based on contemporary corn grinding techniques. Severity of the dental wear was assessed using a chart developed by Smith (1984). Each tooth was scored using a grading system ranging from 1 (no wear) to 8 (severe attrition of the whole tooth crown). All adults exhibited unusually little dental wear on the molars, but had more severe dental wear on the front teeth (see Plate 3). The severity of the anterior wear was accompanied by occasional tooth infractions, especially on the upper teeth. Infractions are characterised by tooth chipping, usually on the front of the chewing surface of the tooth. This was observed on the upper canines of Skeleton 11 and the upper first incisors of Skeleton 3, 4 and 12, as well as the upper first molar of Skeleton 4. It is probable, therefore, that individuals of both sexes carried out a task which involved the use of the front teeth as tools, causing both heavier wear and contributing to tooth chipping.

No dental pathology was observed in the surviving milk teeth or developing permanent teeth of the juvenile, Skeleton 2.

5.0 MORTUARY PRACTICE

The six skeletons were interred in the centre of the current settlement of Gargrave, in a densely developed area. As a result, there is little evidence of the prehistoric landscape that this cemetery would have been set in. With the exception of the burials, all features excavated at the site were medieval or later in date.

Skeleton 12 had been interred in a flexed position, with the head at the north-western end of a large grave cut. The burial of Skeleton 11 cut the earlier grave of Skeleton 12, who was laid in a supine tightly crouched position, with the legs flexed on top of the body, the knees pointing to the chin and the feet resting on the pelvis. Skeleton 3 had been interred in a prone tightly crouched position, with the lower arms crossed beneath the chest. Skeleton 4 was flexed on its left side, while Skeleton 2 was interred on the right side in a loosely crouched position. Skeleton 1 was so poorly preserved that it was not possible to ascertain its position.

The burials have been radiocarbon dated to a between 340BC and 100AD, and therefore belonged to the late Iron Age or early Romano-British period. The lack of cremation burials at the site, which are characteristic of early Roman funerary customs, suggests that these burials were in keeping with Iron Age, rather than Roman mortuary traditions. However, continuity of late Iron Age burial practices up to and beyond the Roman conquest is not unusual throughout Britain (Haselgrove *et al* 2001, 28) and it is therefore possible that the burials occurred during the early Roman period.

6.0 DISCUSSION AND SUMMARY

6.1 OSTEOLOGICAL SUMMARY

Osteological analysis found that the six skeletons excavated at Gargrave included three females, two males and one juvenile. Bone deterioration caused substantial bone loss, possibly resulting in the loss of evidence for the cause of death. For example, spinal preservation was poor in all six individuals, which meant that any spinal trauma, such as possible decapitations could not have been observed.

Nevertheless, some information on this group's lives could be retrieved. All adults had suffered micro-trauma to the muscles of the upper arms and thighs, suggesting that they carried out activities involving these muscles regularly. While one of the females (Skeleton 12) had suffered more strain to the left upper arm, the right side was affected in the other two women (Skeleton 3 and 12). However, it appears that all three women were right-handed. Notably, both males and females suffered from corresponding muscular micro-trauma, suggesting that they carried out similar tasks. Evidence for considerable tooth wear on the front teeth of the adults of both sexes, associated with dental chipping, suggests that the teeth were used as tools on a regular basis. The lack of muscle trauma and dental chipping in the juvenile may point to the fact that this child was too young to participate in the tasks carried out by the adults.

One of the females (Skeleton 11) and one of the males (Skeleton 4) both suffered from a receding inflammation of both shins. This type of infection is commonly observed in skeletons from archaeological contexts. It can have non-specific causes, such as varicose veins, leg ulcers, or can be the result of trauma such as bumps or kicks to the legs, or may even be attributed to an infectious disease, such as leprosy or syphilis.

The lack of cavities and abscesses suggests a diet containing little sucrose. However, poor dental hygiene must have contributed to the build-up of plaque concretions and periodontal disease. In the oldest individual (Skeleton 1), this may have been the main cause of ante-mortem tooth loss.

The skeletons found in the double grave were both female, the individual in the lower grave (Skeleton 12) being in her late twenties to early thirties, while the later burial (Skeleton 11) was that of a 36 to 45 year old woman (Table 2). Poor skeletal preservation meant that it was not possible to obtain evidence for facial characteristics from cranial measurements. However, while the younger individual had a structurally feminine face, the older age of the woman in the later burial had led to some of her facial features developing some masculine characteristics. Both females were 152.5cm tall, which is within the lower range of mean stature calculated for cemeteries from all prehistoric and later periods, and were of equally gracile physique. Interestingly, no nutritional deficiencies were observed in either the teeth or the skeletal remains, suggesting that the small stature should be attributed to inheritance, rather than lack of adequate diet during growth. The resemblance in the women's physique and a number of the non-metric traits suggests a possible family relationship.

Table 2 Summary of burial information

Skeleton No	Age	Sex	Position	Orientation	Date
1	36+	?male	not seen	N – S	-
2	6-9	undetermined	flexed right	E – W	-
3	26-35	female	crouched prone	S – N	40BC – 130AD
4	26-35	male	flexed left	NW – SE	340BC – 90AD
11	36-45	female	crouched supine	S – N	180BC – 100AD
12	26-35	female	flexed right	NW - SW	-

The third female (Skeleton 3), which had also received an unusual funerary ritual in the form of a prone crouched burial indicative of binding, was similar in appearance and characteristics to the other women, suggesting a further familial association. It was, however, not possible to determine her stature.

The poor preservation and bone loss of the two males and juveniles permitted limited analysis of their appearance. The males were aged 26 to 35 (Skeleton 4) and 36 or over (Skeleton1) and were much more robust than the females. Skeleton 1 had suffered muscular trauma to the right arm, which may have been the result of repetitive strain. The juvenile had been interred on the right side in a flexed position. This child was aged between six and nine years.

While the three females were interred in an unconventional manner, the two males and the juvenile had received relatively plain burials, either crouched or flexed on their sides. The small size of the group means that general conclusions must be tentative, but the evidence implies that the females were subject to more unusual mortuary behaviour than males or children, and might have been bound before burial.

The skeletal evidence was insufficient to provide an explanation for the unusual funerary treatment of the females. Their good general health and the lack of evidence for nutritional deficiencies suggest that they had been well-provided for during childhood, and had lived an active life. However, the cause of death could not be identified. This may be the result of post-depositional bone loss, or of osteologically invisible condition such as pneumonia, flu, heart attack, childbirth, or a more sinister affliction, which influenced the mortuary behaviour.

6.2 IRON AGE FUNERARY CUSTOMS

Iron Age burials are notoriously difficult to classify, as they differ considerably on a regional and chronological level. Although many Iron Age burials have been excavated in recent years, they are often poorly dated, or occur in such small numbers that individual burials are rarely published. Additionally, it is probable that many skeletons cannot be identified archaeologically, because their bodies were left exposed or were cremated and scattered or deposited in water (Megaw and Simpson 1979, 406). Many of the funerary traditions observed in the later Iron Age may have developed from body exposure, a rite thought to have been responsible for the scarcity of middle Iron Age burials (Bevan 1999, 134), and may therefore represent different forms of manipulation of the body prior to or during burial.

In the later Iron Age, particularly after 100BC, there is more widespread evidence for burials (Megaw and Simpson 1979, 406-407). Iron Age burials include a wide variety of funerary practices, such as burial under square barrows thought to belong to the Arras culture, which are most commonly observed in East Yorkshire, as well as cist burials from south-western England and Wales (Wait 1985, 261). Additionally, burials have frequently been observed in storage pits and ramparts and are particularly well-known from hillforts such as Danebury (Cunliffe 2003). These burials include disarticulated human remains, partial skeletons and full inhumations, as well as deposition of skulls. Similar interments have been found near settlements, particularly in boundary ditches and pits, and include the deposition of baby bones in a variety of features. Large cremation cemeteries are known from eastern England, such as the Aylesford bucket burials from Kent. So-called 'flat grave' inhumation cemeteries (no barrows) date to the later Iron Age and can be observed in different parts of England (Wait 1985, 261).

Regional distinctions in burial practice initially appear to be loosely based on geographic and climatic variations; however, recent research found that they are connected to regional cultural identities and different ways of life in different localities (Haselgrove *et al* 2001, 23). However, some characteristics are universal to many types of burials: the vicinity to water courses, boundaries, tracks, enclosures, settlements and earlier mortuary monuments is a common feature in Iron Age mortuary practice (Bevan 1999; Haselgrove *et al* 2001, 13). The association of Iron Age burials to boundaries, tracks and water courses has been attributed to a number of factors, including close affinity with the geographical region, communal land claims and resources. All of these locations represent liminality, which is an important factor in burial location and reflects the transition from life to death (Bevan 1999, 140-142). Although burials tended to be liminal, they were not marginal: burials, and particularly barrows, were often visible from tracks or settlements. This meant daily experience of the burial by the local community and – especially in the case of barrows - a physically powerful statement to strangers. The proximity of burials to the settlement or fields emphasized rights of land use, ancestor affinities and expression of communal identity (Bevan 1999, 140-141). Association of burials with grain storage pits, middens, water and field boundaries has been interpreted as proprietary offerings after sowing to encourage germination (Cunliffe 1995, 103). These seasonal cycles are also associated with the cycles of birth, death and renewal (Chadwick 1999, 159).

The Gargrave cemetery location is now set in a highly developed area, which reveals little regarding the Iron Age landscape into which the cemetery had been placed. However, the cemetery's proximity to the current course of the River Aire suggests a possible link between the river and the burials, as observed at other Iron Age sites.

6.3 FUNERARY RITUAL

Burial orientation varied considerably in the Iron Age and authors disagree regarding the most commonly found skeletal orientations. According to Black (1986, 212), burial with the head to the north and northeast was the preferred orientation in most of England, although this was inverted in East Yorkshire, where the majority of burials were laid out facing south or southwest. This is supported by Parker Pearson (1999, 44), who states that most bodies lay with their head to the north. He also suggests that the majority of skeletons are found lying in a crouched position on the left side, facing east (*ibid*, 53). Bevan (1999, 124) on the other hand, suggests that most square barrow burials in East Yorkshire are interred on one side, crouched and north to south.

The Gargrave cemetery is located to the west of the main area of the so-called Arras, or square barrow burials. This may account for interment of the Gargrave skeletons in a variety of positions and orientations (see Table 2). Although it is difficult to make broad statements using such a small population, neither the burial orientation, nor the skeletal position appeared to be reserved for individuals of a specific sex or age group. However, in this case, crouched prone or supine burial was restricted to females. It is also notable that the only individual orientated east to west was a juvenile, suggesting that this orientation may have been reserved for children.

The different orientations at Gargrave refute Black's (1986), Bevan's (1999) and Parker Pearson's (1999) suggestions that Iron Age burials were often uniform in orientation. Similarly, at other Iron Age cemeteries, a variety of grave orientations could be observed: at Ferrybridge Henge, for example, seven burials radiocarbon dated to the Iron Age were laid with the head to the northwest, north, south and east (FAS 2003; L Martin, *pers. comm.*). At Biddenham Loop, Bedfordshire, three Iron Age inhumations had been interred in different orientations (Holst 1999). Similarly, at Suddern Farm, skeletons had been laid orientated in a variety of directions (Cunliffe 2003, 157).

A variety of skeletal positions are commonly observed in Iron Age burials. Crouched burial on the side was the most prevalent skeletal position, although flexed and supine skeletons are also frequently observed. Crouched burial has been observed in grain storage pits in southeast England, in the cart burials and square barrows of northeast England, as well as in flat grave and barrow cemeteries (Cunliffe 1991, 499, 505).

It is likely that Skeleton 3 and 11 were bound before burial, unless the crouched females found at Gargrave had suffered from a form of neuropathy, leading to involuntary muscle contraction. Confining of the body in the form of weighing it down with a stone, decapitation or binding has been associated with attempts to deprive the individual of their afterlife (Black 1986, 225). Such funerary treatment has also been associated with punishment, mental retardation, anti-social behaviour, disease and live burial, and has even been thought to be a means of economising on grave digging (Hirst 1985, 36; Green 1998, 9). However, none of these hypotheses have been based on firm archaeological and osteological evidence. Evidence for bound crouched burial from the Neolithic to the Anglo-Saxon period suggests that this form of burial was an accepted part of mortuary ritual characterised by a wide geographical and chronological distribution. Most of these cases occurred in isolation, often only in one burial in a larger cemetery. At the Iron Age cemetery of Suddern Farm, however, the tight flexion of many crouched burials excavated implied that the bodies were bound (Cunliffe 2003, 156).

Crouched burial with the person laid on the side has been reported from the Palaeolithic to Anglo-Saxon periods (Hirst 1985). However, burials of individuals who are tightly crouched and are laid on their front or back are much less common, although a small number of prehistoric examples do exist. Jackie McKinley (*pers.comm.*) analysed a Neolithic skeleton from Cranbourne Chase in Wiltshire, as well as a Bronze Age skeleton which had both received the same treatment. At Danebury, Iron Age skeletons in storage pits were found in a variety of positions, including prone crouched burial (Cunliffe 2003, 153). Similarly, an Iron Age male from Roughground Farm at Lechlade had been interred in a prone and crouched position (Allen *et* al 1993, 45). A further case was excavated in Cambridgeshire, and is thought to date to the Iron Age or Roman period (N Dodwell *pers. comm.*). At Bob's Wood in Hinchingbrooke, Cambridgeshire, a late Iron Age or Romano-British cemetery included extended prone burials, as well as a prone crouched individual (Duhig *pers. comm.*). A similar burial was observed at Brackmills, Northampton, where the skeleton of a middle aged woman lay in a prone tightly flexed position in a storage pit (Chapman 1999, 93).

Roman examples of this mortuary practice include Burial 193 from Chichester, which had been interred in a prone and crouched position (Down and Rule 1971, 72). A similar case was found at Sutton Hoo (dating to the Anglo-Saxon period), where an individual had been interred in a crouched prone position (A Copp *pers. comm*).

The evidence suggests that although the prone and crouched burial rituals are not frequently observed, parallels can be found, including those dating to the later Iron Age. However, supine crouched burial, such as that of Skeleton 11, is not reported in Britain, although examples do exist in Continental Europe: a late Bronze Age burial from Altwies, Luxemburg, contained a male buried in a supine crouched position indicative of binding (Le Brun-Ricalens 2002, 5).

The burial of Skeleton 3 contained lamb bones, indicative of grave goods. Pig and sheep bones are frequently found in Iron Age graves and tend to be represented by the front half of the animal, especially the left humeri (Parker Pearson 1999, 53).

Double burials, consisting of one individual buried on top of another person, are best known from the Anglo-Saxon period. They usually include a lower burial of an individual who is carefully laid out. The later burial, which may be either beside or above the earlier grave, is usually that of a female, often interred in an unusual position. Examples include a possible live burial at Sewerby, East Yorkshire, in which the later burial was that of a contorted, prone female weighed down with a stone on her back (Hirst 1985). She was buried on top of a carefully laid out female. Further examples of such unusual inhumations have been observed both as isolated burials, and in Anglo-Saxon cemeteries. These cemeteries have been termed execution or deviant cemeteries, and are often associated with liminal locations, such as near boundaries. The skeletons in these cemeteries have been found in varied positions, some being decapitated, tied, or prone (C Fern, *pers. comm.*). The similarity of the Gargrave double burial to these Anglo-Saxon examples, together with the scarcity of Iron Age double burials initially led to the assumption that the Gargrave cemetery may date to the Anglo-Saxon period.

Although multiple burials are reported from the late Iron Age and early Roman period (Anderson *pers. comm.*), burials of one individual on top of the other are not reported in the archaeological literature. Iron Age examples of the so-called 'double decker' burials, characterised by a later burial placed on top of or cutting an earlier

burial, are rarely reported from Britain, although Jackie McKinely (*pers. comm.*) has observed two Iron Age cases of such burial ritual in Wiltshire, at Battlesbury Bowl and at Cocky Down, Salisbury.

Based on the skeletal analysis, a familial association of the group from Gargrave, and particularly of the women in the 'double decker' grave is likely, and this, together with their exceptional burial suggests that these women were also related socially or culturally.

Despite the small size of the cemetery at Gargrave, it becomes clear that the local community utilised a number of unusual mortuary practices. This includes binding or wrapping with prone and supine burial, as well as double burial. Archaeological evidence suggests that there are some Iron Age parallels for prone crouched and bound burial, however, supine crouched skeletal burials and 'double decker' interments are extremely rare. The reasons for such practice are not known, particularly in comparison to the more conventional burials of the males and child.

The analysis of the Gargrave cemetery together with radiocarbon dating of the skeletons has provided a further insight into late Iron Age mortuary practice, contributing invaluable information to funerary studies of the period. It now appears that small inhumation cemeteries, such as that excavated at Gargrave, are more common than previously thought. It is vital that any further development of the area takes into account the nature of the archaeological findings at the recently excavated site with the aim of placing the cemetery into its geographical and cultural context.

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APPENDIX A: OSTEOLOGICAL AND PALAEOPATHOLOGICAL CATALOGUE

Skeleton Number	11
Preservation	poor
Completeness	60%; fragments of all skeletal elements, with the exception of the vertebral bodies, the sacrum and the left patella
Age	36-45, old middle adult
Sex	female
Stature	152.5 ± 3.57cm
Non-Metric Traits	bridging of supraorbital notch (left), hypotrochanteric fossa (left); double anterior calcaneal facets (both); double inferior talar extension (both)
Pathology	cortical bone excavations, periosteal new bone formation on tibiae
Dental Health	mandible and maxilla present; moderate periodontitis; calculus on 31/31 teeth; moderate wear; infractions on the upper canines and maxillary first incisors, hypodontia

	Right Dentition								Left Dentition							
Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Ml	Slm	Sa	Sa	Ma	Sb	Sb	Mb	Mb	Sa	Sa	Ma	Sa	Sl	Ml	Sd
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	3	4	5	4	3	4	5	6	6	5	4	4	4	5	4	3
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	e	6	7	8
Present	p	p	p	np	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Md	Sl	Sl	-	Sa	Sa	Sa	Sa	Ma	Sa	Ma	Ma	Sl	Ml	Cl	Ml
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	2	4	5	-	4	4	4	5	5	4	4	4	8	7	4	3

Skeleton Number	12
Preservation	moderate
Completeness	75%; fragments of all skeletal elements, with the exception of the vertebral bodies and the sacrum
Age	26-35, young middle adult
Sex	female
Stature	152.6 ± 2.99cm
Non-Metric Traits	posterior condylar canal open (right), accessory zygomaticofacial foramen (right), bridging of supraorbital notch (left), circumflex sulcus (both), hypotrochanteric fossa (both)
Pathology	cortical bone excavations
Dental Health	mandible and maxilla present; moderate periodontitis; calculus on 23/32 teeth; moderate wear; infractions on the upper first incisors

	Right Dentition								Left Dentition							
Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Md	Sa	Sa	Sa	Sb	Sb	-	-	Fa	-	Fd	Sl	Sl	Sm	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	3	3	4	3	4	4	4	5	5	4	3	4	4	4	4	3
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Sa	Sa	Sa	Sa	Sa	-	-	-	-	Sb	Fa	Fa	Fa	Sa	Sa	Sa
DEH	-	-	-	-	-	--	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	3	4	4	3	3	3	4	5	5	5	4	4	4	5	3	3

Skeleton Number	1
Preservation	poor
Completeness	10%; parts of the mandible, right arm and shoulder, left femur and hand and patella
Age	36+, old middle adult to mature adult
Sex	male
Stature	-
Non-Metric Traits	circumflex sulcus (right)
Pathology	cortical bone excavations, muscular trauma to the elbow and shoulder
Dental Health	mandible partly present; considerable wear; ante-mortem tooth loss of four teeth, 0/2 teeth

	Right Dentition								Left Dentition							
Present	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Present	-	-	-	-	p	-	-	-	-	-	p	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	--	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	-	-	-	-	6	-	-	-	-	-	6	-	-	-	-	-

Skeleton Number	2
Preservation	very poor
Completeness	30% parts of the skull, arms, ribs, legs, left pelvis, vertebrae
Age	6-9 juvenile
Sex	undetermined
Stature	-
Non-Metric Traits	none
Pathology	none
Dental Health	mandible present; no pathology, three deciduous teeth, six permanent teeth present

Present	-	-	-	-	-	-	-	-	-	-
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-

Wear	-	-	-	-	-	-	-	-	-	-
Maxilla	e	d	c	b	a	a	b	c	d	e
Mandible	e	d	c	b	a	a	b	c	d	e
Present	p	p	-	-	-	-	-	-	-	p
Calculus	-	-	-	-	-	-	-	-	-	-
DEH	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-
Wear	4	4	-	-	-	-	-	-	-	4

Skeleton Number	**3**
Preservation	poor
Completeness	60%; parts of the mandible, right arm and shoulder, left femur and hand and patella
Age	26-35 young middle adult
Sex	female
Stature	-
Non-Metric Traits	accessory zygomaticofacial foramen (left), bridging of surpraorbital notch (both), accessory supraorbital foramen (left), circumflex sulcus (both), third trochanter (both)
Pathology	cortical bone excavations
Dental Health	mandible and maxilla present; moderate wear, calculus on 13/32 teeth, moderate periodontitis, one dental infraction

	Right Dentition								Left Dentition							
Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Fl	-	Fl	-	Fb	-	-	-	-	-	-	-	Fb	Sb	Sb	Md
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	2	3	4	3	3	4	4	4	4	4	4	2	2	4	4	3
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Mm	Mm	Mlb	-	-	-	-	-	Fm	Fm	-	Fb	-	-	-	-
DEH	-	-	-	-	-	--	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	2	3	4	3	2	3	3	4	4	3	3	2	3	4	3	3

Skeleton Number	**4**
Preservation	moderate
Completeness	50%; parts of the mandible, right shoulder, arms, legs, hips, right hand and feet
Age	26-35 young middle adult
Sex	male
Stature	-
Non-Metric Traits	hypotrochanteric fossae (both)
Pathology	cortical bone excavations, periostitis on both tibiae
Dental Health	mandible present; moderate to considerable wear, calculus on 18/30 teeth, moderate periodontitis,

				four dental infractions												
	Right Dentition								Left Dentition							
Present	p	p	p	p	p	p	-	p	p	p	p	-	p	p	p	p
Calculus	Fa	-	-	-	-	Sb	-	Sb	Sb	Sb	Sb	-	-	-	-	Fa
DEH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	2	4	5	3	3	4	-	4	5	4	a	-	3	5	3	3
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Present	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
Calculus	Ha	Hb	Hb	-	-	-	-	Sb	Sb	Sb	Sb	-	Fb	Sa	Sa	Hd
DEH	-	-	-	-	-	--	-	-	-	-	-	-	-	-	-	-
Caries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wear	3	4	4	3	3	4	5	5	5	5	4	3	3	4	4	3

KEY:
Present - Tooth presence; am - ante-mortem tooth loss; pm - post-mortem tooth loss; p - tooth present; - - jaw not present
Caries - Calculus; F - flecks of calculus; S - slight calculus; M - moderate calculus; H - heavy calculus; a - all surfaces; b - buccal surface; d - distal surface; m - mesial surface; l - lingual surface; o - occlusal surface
DEH - dental enamel hypoplasia; l - lines; g - grooves; p - pits
Caries - caries; s - small lesions; m - moderate lesions; l - large lesions
Wear - dental wear; numbers from 1-8 - slight to severe wear

Context	**Area**	**Part**	**Present**	**Age**	**Other**
Unstratified	1	13 cranial fragments, parietal	20%	mature adult?	may belong to SK1
Unstratified	2	3 tibial shaft fragments, 1 fibula shaft fragment	3%	adult	may belong to any of the adults

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Date: 10/02/2004 12:36:03
Subject: FW: Gargrave radiocarbon dates

-----Original Message-----
From: Louise Martin
Sent: 10 February 2004 12:32
To: 'gailfalkingham@northyorks.gov.uk'
Subject: Gargrave radiocarbon dates

Dear Gail

Just a quick message to say that we have just got the radiocarbon dates through from the High Street Gargrave site and they are a little bit different from what we thought!

SK03, Skeleton from excavation supine 40BC-130AD (cal), 1950+/-40BP
SK04, Skeleton from excavation, facing downwards 340BC-90AD (cal), 2050+/-70BP
SK 11, Skeleton from evaluation (bound above SK12) 180BC-100AD (cal), 2020 +/-60BP

As you can see all the dates are clustering around a late Iron Age to early Roman date, not post-Roman as we had predicted. As the dates fall comfortably with one another so I don't think it will be necessary to get the remaining three skeletons dated, but what do you think? I will forward the dates to Malin so she can finalise her report and target her research into late Iron-Age/early Roman burial practices. The pottery we recovered was of almost exclusively of later 11th-early 13th century date, so it clearly indicates two phases of activity on the site.

Would you please get back to me if you think we need to submit the other skeletons for dating. Otherwise will will get on with finalising the report, due for completion at the end of March.

Best wishes

Louise Martin
Project Archaeologist

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