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A re-appraisal of the Early Neolithic human remains excavated at Sumburgh, Shetland, in 1977

Samantha Walsh,* Christopher Knüsel† and Nigel Melton‡

ABSTRACT

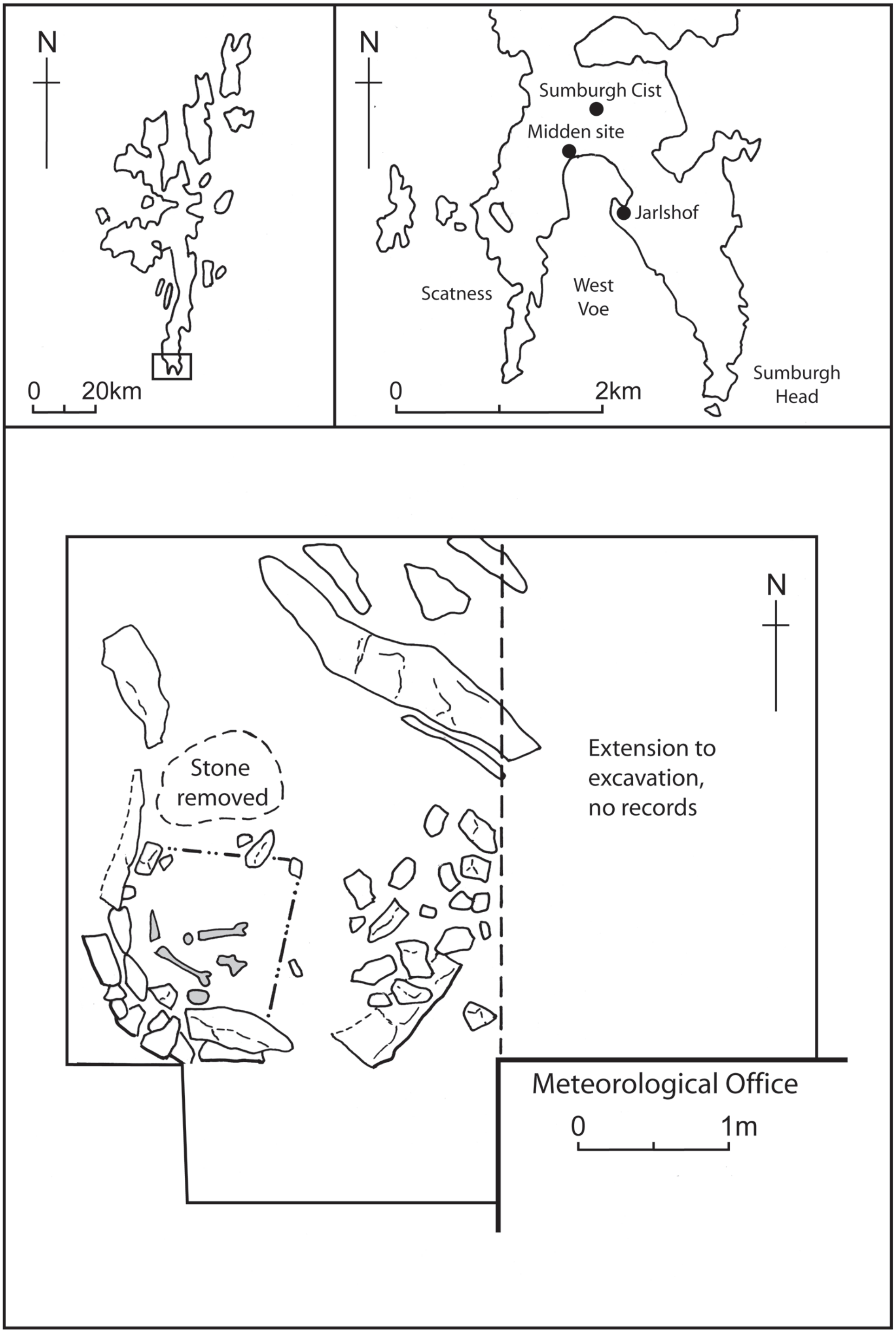
This paper presents the results of a re-analysis of the Early Neolithic human remains recovered in 1977 at Sumburgh, Shetland. The original publication of the site (Hedges & Parry 1980) proposed excarnation as the dominant mortuary rite. However, analysis of fracture morphology in combination with patination has demonstrated that the majority of damage to the bones is due to post-depositional disturbance. Evidence of palaeopathological conditions within the assemblage includes: degenerative joint disease, healed fractures, non-specific infection, periodontal disease, enamel hypoplasia and a nutritional disorder.

THE MULTIPLE BURIAL AT SUMBURGH: DISCOVERY AND PAST WORK

The burial at Sumburgh is the only Neolithic site with surviving human remains to have been excavated in Shetland (Turner 1998: 41), and it is also of particular interest in being a non-megalithic funerary monument, of a type whose existence had not previously been suspected. A grave apparently containing multiple individuals was discovered in 1977 when contractors were machining a service trench between the control tower and the new meteorological office at Sumburgh Airport. The airport had been developed as a civilian airfield before the Second World War, in a low-lying area of sand dunes immediately north of Sumburgh Head, the most southerly point of the archipelago, and there was additional major development during and after the war. The discovery consisted of the co-mingled remains of a number of individuals within a sub-rectangular stone-lined pit that had been dug 0.5m into a layer of sand that sealed a black humic soil and the sandstone bedrock. It is likely that the sand layer into which the pit had been cut equates with the 0.4m-thick deposit of sands that occurs within a sequence of early middens exposed by coastal erosion at West Voe, 400m to the south of the burial site.

These early sands were deposited by a series of storm events that occurred *c* 3500 BC (Gillmore & Melton 2011) and are sealed, at West Voe, by a stone structure and midden that date from the third quarter of the 4th millennium BC (Melton & Nicholson 2004, 2007; Melton 2008, 2009) and which are,

* Archaeology, School of Forensic and Investigative Sciences, University of Central Lancashire, Preston, Lancashire PR1 2HE
† Department of Archaeology, University of Exeter, Laver Building, North Park Road, Exeter, Devon EX4 4QE
‡ Archaeological, Chemical and Environmental Sciences, School of Life Sciences, University of Bradford, Bradford, West Yorkshire BD7 1DP



Illus 1 Plan of cist based on photographs in the RCAHMS collection

therefore, contemporary with the burials (see below).

Delays in access to the site by archaeologists after its discovery and the subsequent loss of site archives, including plans and sections, following the death of Gordon Parry, the original excavator, complicate any attempt at interpretation. Primary data relating to the discovery is restricted to a small number of photographs and a transcription of Parry's original archive report (Parry 1977) by John Hedges that are now preserved in the RCAHMS in Edinburgh. Hedges used his transcription of Parry's site notes for his publication of the discovery (Hedges & Parry 1980) in which the human remains were assessed by Harman (1980). Subsequent osteological assessment has been limited but includes work by Powers (1998) and Stoddart (2007); this paper brings together the results of a more detailed analysis, including taphonomic and palaeopathological analyses. In addition to this osteological re-appraisal, the Sumburgh cist individuals have the subject of multi-isotope analysis (Keefe 2007; Melton & Montgomery 2009). A paper on the results of this isotopic study is currently in preparation.

THE DATE OF THE BURIALS

A single radiocarbon date of 4395 ± 55 BP (GU-1075) (Hedges & Parry 1980: 26) was obtained from two femora, one nearly complete and the second comprising a shaft and proximal end, found in the cist at the time of the discovery (Harman 1978). An additional series of AMS radiocarbon dates has been obtained using dentine from the teeth of seven of the individuals buried in the cist (Table 1). These indicate that the burials at Sumburgh date from the second half of the 4th millennium BC and probably commenced shortly after the deposition of the sands into which the pit had been cut.

Unfortunately, the circumstances of the recovery of the co-mingled remains in the Sumburgh cist precludes Bayesian statistical analysis. Many of the bones, including some dated here, were retrieved from material that had been excavated by the contractors prior to the arrival of Gordon Parry on site and one, SUMB-24, the sole surviving intact cranium, had been removed from the cist and was classed as unstratified. It should also be noted that the original report of the discovery concluded 'we cannot prove that the cist had not been meddled with prior to 1977' (Hedges & Parry 1980: 17).

A detailed analysis of the varying marine effects present in the Sumburgh samples is currently being undertaken and will be published with the results of the isotope studies. The overall picture from the dates from this preliminary data appears, however, to be one of successive interment in the cist over a period of a few centuries.

THE HUMAN REMAINS

METHODS

The study included all the surviving remains from Sumburgh cist, which had been estimated by Harman (1980) to represent around 18 individuals. Age-at-death and sex assessment of the adult remains was carried out using the criteria of Buikstra and Ubelaker (1994), and Brothwell (1981) for the assessment of dental age. This was undertaken using the *os coxae* and cranial characteristics when possible, but was extremely limited due to the fragmented nature of the assemblage. These areas of the skeleton were poorly preserved and surfaces were often incomplete. The methods used to assess the age-at-death of juvenile remains included morphological

TABLE 1
Radiocarbon dates of individuals buried at Sumburgh, Shetland. (Calibrated using OxCal v3.10)

Site	*Sample*	*Material*	*Context*	*Description*	*Depositional*	*Uncal*	*Calibrated 1-sigma* (all BC)	*Calibrated 2-sigma* (all BC)	*Delta ^{13}C ‰*
Sumburgh Cist	SUMB-7 (GU-15568)	Dentine	SD77/L21/56	Co-mingled multiple burial	Primary	4560 ± 40	3370–3320 (26.7%) 3230–3170 (22.7%) 3160–3110 (18.7%)	3500–3460 (4.2%) 3380–3260 (38.8%) 3250–3100 (52.3%)	–20.3
	SUMB-8 (GU-15569)	Dentine	SD77/L21/56		Primary	4450 ± 40	3330–3210 (31.9%) 3180–3160 (93.4%) 3120–3020 (32.9%)	3340–3000 (89.3%) 2990–2930 (6.1%)	–20.1
	SUMB-11 (GU-15570)	Dentine	SD77/L54		Primary	4615 ± 40	3500–3430 (46.4%) 3380–3350 (21.8%)	3520–3330 (90.2%) 3220–3180 (2.9%) 3160–3130 (2.3%)	–17.6
	SUMB-13 (GU-15571)	Dentine	SD77/L2		Primary (disturbed)	4555 ± 40	3370–3320 (24.6%) 3240–3170 (24.1%) 3160–3110 (19.5%)	3490–3470 (2.6%) 3380–3260 (38.0%) 3250–3100 (54.8%)	–19.4
	SUMB-14 (GU-15572)	Dentine	SD77/L2		Primary (disturbed)	4555 ± 40	3370–3320 (24.6%) 3240–3170 (24.1%) 3160–3110 (19.5%)	3490–3470 (2.6%) 3380–3260 (38.0%) 3250–3100 (54.8%)	–18.9
	SUMB-17 (GU-15573)	Dentine	SD77/L23		Primary (disturbed)	4630 ± 40	3500–3430 (53.4%) 3380–3360 (14.8%)	3530–3340 (95.4%)	–19.6
	SUMB-24 (GU-15666)	Dentine	SD77/L1		Unstratified	4625 ± 35	3500–3440 (50.0%) 3380–3360 (18.2%)	3520–3340 (95.4%)	–20.6

Table 2
Scores of sexually dimorphic features on the complete cranium

Feature	*Score*	*Sex*
nuchal line	2	female
supra-orbital margin	2	female
supra-orbital ridges	1	female
mastoid	2	female

characteristics diaphyseal length, stages of epiphyseal fusion, and dental development (Scheuer & Black 2000).

In order to obtain the Minimum Number of Elements (MNE) the zonation method (Knüsel & Outram 2004) was used to calculate the Minimum Number of Individuals (MNI). The remains were taphonomically assessed for evidence of weathering, erosion, carnivore activity, root etching and fracture patterns to indicate pre- and post-depositional processes using the criteria of Behrensmeyer (1978), Binford (1981), Bonnichsen and Sorg (1989) and Villa and Mahieu (1991). The palaeopathological assessment was limited due to the highly fragmented nature of the assemblage. In total, 2,524 fragments were examined, of which 1,604 were too small to be diagnostically useful. Of the remaining 920 fragments, 215 were teeth, almost all of which were loose.

RESULTS

Adult individuals

The femur is the most frequent surviving element and resulted in an MNI of 11 individuals. This MNI includes the two femora which were destroyed to obtain the

Table 3
Sex assessment scores of the pelvic bones

Context	*os coxae*	*Sex*	*Feature used*	*Score*
Unmarked	*os coxae* L	indeterminate	sciatic notch	3
Unmarked	*os coxae* R	indeterminate	sciatic notch	3
Unmarked	pubic symphysis L	not possible	–	–
Unmarked	*os coxae* R	Female	sciatic notch	1
Unmarked	*os coxae* R	?	sciatic notch	3
Unmarked	*os coxae* L	Female	sciatic notch	1
Unmarked	*os coxae* R	Female	wide (U) sub-pubic concavity	1
L22/5	*os coxae* L	Female?	sciatic notch and pre-auricular sulcus	2 to 3
L22/5	*os coxae* L	not possible	–	–
Unmarked	*os coxae* L	not possible	–	–

original radiocarbon date (Hedges & Parry 1980).

Only one cranium has survived in a relatively complete state. The size and shape of the cranium, and features such as the supra-orbital area, mastoid and nuchal line, provided an overall female score (Table 2). Analysis of the cranial suture closure resulted in a mean age of around 30 to 41 years. The assessment of dental wear was limited as the dentition was not complete. The wear on the one surviving molar, which was damaged, gave an age of 17 to 25. Overall, this individual provides a score compatible with a younger adult, which is in agreement with the previous assessments of this individual (Harman 1980; Stoddart 2007).

Cranial metrics of this individual were taken where possible. The orbital index is 87.63 = mesoconcy (average or medium). The cranial length-breadth index is 75.14 = orthocrany (average or medium). This index is similar to that of an individual from Point of Cott (Lee 1997: 41), although dolichocrany is commonly found in analyses of British Neolithic crania (Brothwell 1981: 286; Rogers 1990: 188).

Assessment of the cranial and pelvic bones indicated that eight adults were represented: two females, one possible female, one male, one possible male, one indeterminate individual and two individuals where it was not possible to assess sex due to fragmentation (Table 3).

The pelvic remains of six individuals were aged using the pubic symphyses and auricular surfaces. One individual was aged at 20 to 24, two were aged at 24 to 30, and one was aged at 45 to 59 years; it was not possible to assess age from the pelvic remains of the other two individuals (Table 4).

Table 4
Age-at-death assessment scores of the pelvic bones

Context	*os coxae*	*Age*
Unmarked	*os coxae* L	–
Unmarked	*os coxae* R	–
Unmarked	pubic symphysis L	20–24
Unmarked	*os coxae* R	not observable
Unmarked	*os coxae* R	20–24
Unmarked	*os coxae* L	not observable
Unmarked	*os coxae* R	30 (21–51)
L22/5	*os coxae* L	24–30
L22/5	*os coxae* L	late 20s
Unmarked	*os coxae* L	45–59

Assessment of age at death using dental wear was limited as most of the surviving molars were loose and damaged. In Harman's (1978) assessment the teeth were still in place in the maxillary and mandibular elements, but these seem to have suffered subsequent damage. Due to these limitations, Harman's (1978) data, based on dental wear for age at death assessment, was employed in this study. Where preservation allowed, the assessment of age at death concurred with that of Harman (1978), resulting in two individuals aged 17 to 22 years, two aged 20 to 25 years, three aged 25 to 30 years, one aged 25 to 35 years, one aged 35+ years and one individual aged 40+ years.

No complete femora or tibiae survived, but one complete femur was examined by Harman (1978) prior to it being destroyed for radiocarbon dating. The length was recorded at 405mm. Using Trotter's (1970) regression formulae the male and female stature ranges were calculated for this element of unknown sex (Table 5).

The stature from the Sumburgh femur fits well within the Neolithic female average of other sites such as Point of Cott, Orkney (Barber 1997); Ascott-under-Wychwood, Oxfordshire (Whittle & Benson 2007) and Parc le Breos Cwm, West Glamorgan (Whittle & Wysocki 1998); so this individual was most likely a female.

Overall there are 11 adults represented, of which it was possible to assess six for sexual dimorphism, these included two males, three females and one indeterminate individual.

Juvenile individuals

From skeletal analysis, the juvenile remains represent a minimum of nine individuals: one neonate, two infants from three to six months old, one younger child around five to six years old, three older children aged from seven to 10 years and two adolescents aged from 13 to 16 years (illus 2). Unfortunately, it appears that the neonate and infant remains have degraded since Harman's assessment as her inventory lists four complete and two incomplete infant femora and there are currently only two surviving (representing two individuals), which makes it likely that there was at least one other individual at neonate or infant age.

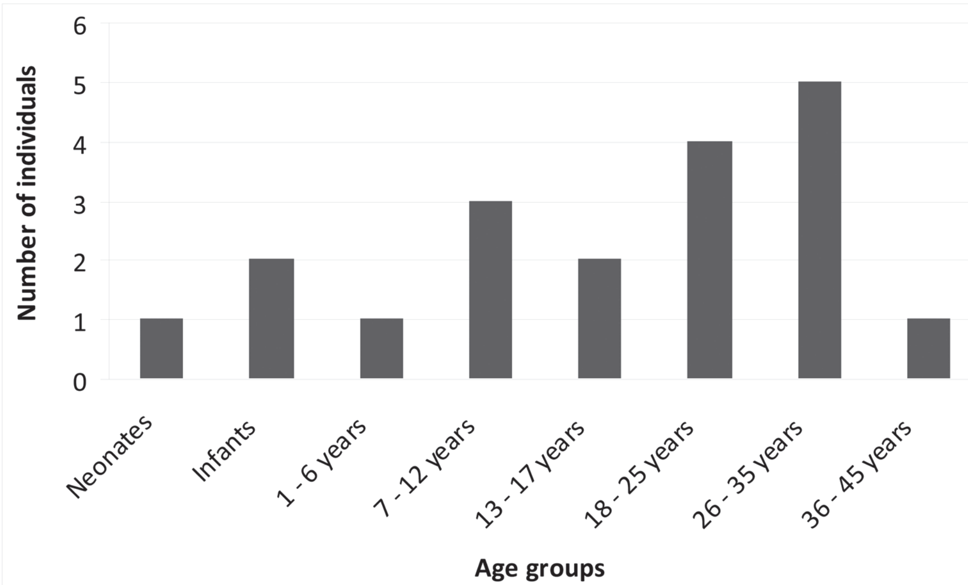
The large number of teeth in the assemblage were distributed throughout different contexts. There were 60 molar crowns, of which four were aged at four to six years old and probably belonged to the same individual (Hillson 2005).

TAPHONOMIC ASSESSMENT

The remains were also analysed for evidence of taphonomic processes in order to evaluate

Table 5
Stature from the Sumburgh femur using both male and female formulae

Formulae	*Height*	*Range*
Male	157.8cm (5ft 2in)	154.53–161.07cm (5ft 1in–5ft 4in)
Female	154.135cm (5ft 1in)	150.415–157.85cm (4ft 11in–5ft 2in)



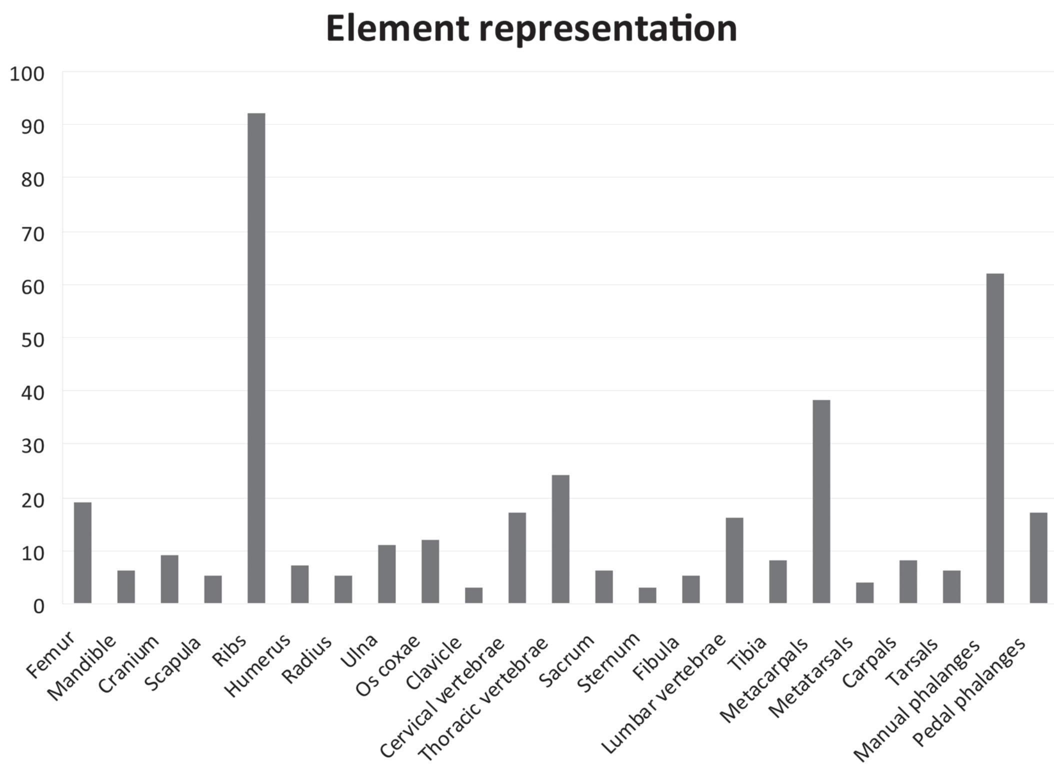
Illus 2 Number of individuals within each age group

the hypothesis of excarnation proposed by Hedges and Parry (1980). A comparison of the surviving specimens demonstrated that the manual elements are generally more highly represented than the pedal elements. This could be due to element density, processes of recovery or as a result of mortuary practice. Roksandic (2002) states that hands disarticulate earlier than feet, but this is in modern forensic contexts where clothing and footwear are known factors.

Out of 88 long bones which were examined, only two were relatively complete. Twenty-six specimens had fractures at both ends and thus consisted of diaphyses; 35 comprised the articular end and part of the diaphysis. Neonate and infant long bones were not included in this part of the assessment due to the thin nature of their cortical bone. The remains appear to have undergone at least two cycles of damage, to judge from the differences in colour and patination of the fracture surfaces. Many fracture surfaces were white, due to recent disturbance. The majority of fracture margins were jagged due to modern post-depositional disturbance. Some margins were un-patinated but had become smooth due to erosion, which seems to indicate an earlier disturbance, perhaps at the time when the control tower was constructed. The amount of diaphyseal circumference can be used to indicate human activity. Because the majority of the fragments have a complete circumference carnivore

Table 6
The percentages of fragments affected by weathering, erosion and carnivore activity

Taphonomic process	*% affected*
Weathering	5.98%
Erosion	10.8%
Carnivore activity	3.64%



Illus 3 Table of element representation

activity can be ruled out (Brain 1967). The few pieces with ‘channels’ had worn, flaking edges indicative of severe erosion. The high percentage of complete shaft diameters is characteristic of post-depositionally broken bones.

The remains were assessed for taphonomic processes in each context (Table 6). The highest percentage of elements affected by these processes is in context L1, the uppermost fill of the pit. This may be explained by the circumstances under which the site was discovered. The Sumburgh remains show a high degree of variation in the extent of taphonomic damage. The levels of weathering and erosion were quite variable from one element to another. In some individual fragments the amount of weathering and erosion varied and at times the damage was localised to one aspect of the bone. The remains which showed extensive erosion had probably been exposed to sand and water percolation due to the previous disturbance. The site has in the past been subject to serious sand blows, so extreme that the land became unusable for cultivation (Whittle 1985). A study by Brain (1967) showed that in windswept areas, bones can become severely etched and their surfaces can be eroded away as a result of constant bombardment by the sand grains. Evidence of weathering and erosion was limited, for the most part, to larger elements but it is possible that smaller elements may have been completely destroyed by these processes. Almost all the remains showed evidence of root etching and post-depositional damage to some extent.

Two juvenile femora have evidence of pitting, perhaps caused by a canid. An ulna has a possible furrow which is adjacent to recent damage. Also, a peri-mortem fracture of a clavicle may be associated with carnivore activity. The clavicles and sternum are exposed early in the decomposition process (Roksandic 2002: 102), which would allow easy access for carnivores.

Overall, the majority of the taphonomic evidence is due to post-depositional events such as disturbance and excavation, there is no real evidence for excarnation as hypothesised by Hedges and Parry (1980).

PALAEOPATHOLOGICAL ANALYSIS

The assessment of pathological conditions in the assemblage was limited due to the extent of fragmentation and taphonomic damage. The evidence of illness and trauma discovered in the assemblage was higher than expected. Due to a lack of published work on palaeopathological examples from British Neolithic assemblages, there is little to compare with this material, the exceptions being Rogers (1990), Whittle and Wysocki (1998), Lawrence (2006a) and Galer (2007). More recently, the human remains from Quanterness have been analysed and radiocarbon dated. The reassessment of the human remains raised questions of Chesterman's (1979) estimation of MNI and his interpretation of excarnation as the mortuary practice (Schulting et al 2010: 5–9). Previously at Sumburgh, Harman (1978) discovered evidence of osteoarthritis and dental diseases. Powers (1998) undertook a partial assessment of palaeopathology within the Sumburgh assemblage as part of a larger project.

The most frequent pathological condition in the assemblage was degenerative joint disease. This was most often seen within the apophyseal joints of the vertebrae. Three cervical vertebrae presented with marginal osteophytes of the vertebral body, pitting and alterations to the articular surfaces. These three observations are indicative of osteoarthritis of the apophyses and *spondylosis deformans* of the vertebral column (Ortner 2003: 549; Waldron 2009: 33). Six vertebrae had Schmorl's nodes; three vertebrae (thoracic 11 and 12 and lumbar 1) had crescent-shaped lesions along the anterior edge of the body, which are likely to be Scheuermann's disease, a condition that affects adolescents. In some cases, this can lead to a curvature of the spine, but this example does not seem extensive enough to be debilitating.

There are also signs of joint disease in some limb bones which are likely to represent one individual. A right distal femur displays eburnation of the lateral condyle, porosity around the joint, and marginal osteophytes centred on the lateral margin of the joint (eburnation is a change to the joint surface where the bone becomes smooth and dense in appearance, osteophytes are bony outgrowths). The left distal femur has lipping of the articular surface. A right proximal tibia has eburnation on the lateral condyle and has a very porous area on the anterior aspect of the proximal end. Due to the combination of eburnation, porosity and osteophytes these joint changes are likely to indicate osteoarthritis of the knee (Rogers & Waldron 1995). There were also some smaller elements with osteophytes which also may be part of this individual, including a patella, two first metacarpals and three intermediate manual phalanges. It is likely that this is an older individual, as the prevalence of osteoarthritis is higher in those aged 50 and older; from the age-at-death analysis these specimens may be from the individual aged at 40+.

A left fifth metacarpal (hand bone) shows a healed fracture. The proximal end is displaced and deviates toward the mid-line of the limb. Metacarpal fractures may indicate defence wounds as a result of interpersonal violence (Roberts & Manchester 2005: 104). Lawrence (2006a: 108) discusses fractures of three right fifth metacarpals as an indication of handedness and interpersonal violence at Isbister, Orkney. A fifth lumbar vertebra has a compression fracture; these are commonly caused by falling (Aufderheide & Rodriguez-Martin 1998: 25).

A badly eroded fragment of cranium from context L1 has small destructive lesions along and at the ends of every branch of the middle meningeal grooves. The fact that these lesions are spread along every meningeal groove indicates that they are unlikely to be merely arachnoid granulations (small depressions on the inner surface of the skull). There is also an area of fibrous new bone formation indicative of active infection on the anterior of the internal table of the right parietal. These lesions may have been caused by some form of infection.

Indicators of non-specific infection (fibre bone, porous and striated compact bone) were present on nine long bone fragments. Seven of these had healed compact striated bone; one had new porous bone formation which would have been active at death. One fragment had both striated cortical bone and porous fibre bone, indicating more than one phase of infection. These areas of inflammation were mostly located on the lower limb bones, with one example on a humerus. Periosteal reactions such as these are due to the formation of new bone in response to an injury, infection or disease (Waldron 2009: 116).

Eight large and several smaller cranial fragments display abnormal thickening. These specimens also have deep meningeal grooves, indicative of increased vascularisation. Two of the larger specimens conjoin despite being from separate contexts. It seems likely that all these fragments represent one individual. In all these specimens there is expansion of the diploe (diploic hyperplasia). The inner and outer tables are also thickened. Four of the larger pieces were radiographed to assist diagnosis. These specimens do not display the fibrous appearance of Paget's disease, which can cause cortical bone expansion. One specimen has porosity of the external table, as well as thickening. A possible cause of the expansion and porosity is acquired anaemia (Ortner 2003: 369). Acquired anaemia can be caused by a variety of factors, including nutritional stress, chronic disease, menstruation, parasitic infection and pathological blood loss (Stuart-Macadam 1998: 46; Ortner 2003: 370; Roberts & Manchester 2005: 46). This condition can also occur when the body cannot maintain a normal metabolism even with an adequate diet (Mays 1998: 127).

One frontal bone has irregular, nodular areas with a fibrous appearance on the right side of the endocranial surface. This is likely to be *hyperostosis frontalis interna*, which has a higher prevalence in older post-menopausal females and may result from altered pituitary gland secretion but is not clearly defined and is symptomless (Aufderheide & Rodriguez-Martin 1998: 419; Roberts & Manchester 2005: 249).

There is some evidence of periodontal disease in the assemblage. The right portion of a mandible is affected, as indicated by the appearance and rounded margins of the alveoli (Ogden 2008: 295). The alveolar margin is blunt with a slightly raised rim which indicates mild to moderate periodontal disease. A right maxilla also has a porous appearance and a very thin, ragged alveolar margin characteristic of severe periodontal disease. There was one impacted third molar which, instead of erupting normally, had deviated up into the mandibular ramus. This position was only visible due to post-mortem damage.

There were a few cases of linear enamel hypoplasia; these were on loose incisors and canines, so it was not possible to determine if these were from a single individual or more than one. This is an indication of physiological stress which occurs when there is interruption to the development of the tooth enamel (which can be seen as a defect on the tooth) for example, due to infection, birth trauma or low birth weight (Waldron 2009: 244).

Keefe (2007) noted different kinds of wear on the teeth. Almost all the teeth displayed flat wear, but 10 teeth had extremely angular wear. All of the latter appear to be from one individual and all were worn down to the root on at least one aspect. The uneven wear may be due to dental disease, extreme dental wear due to a grit-contaminated diet (as can be the case with stone-ground foods), or a repeated activity using the teeth as tools (cf Buikstra & Ubelaker 1994: 52). When dietary isotope ratios were compared with wear patterns, there was no relationship between dental-wear and diet (Keefe 2007: 52).

Pathologically, the most comparable sites to Sumburgh are likely to be in Orkney, due to the environmental similarities. Orcadian sites such as Point of Cott (Barber 1997) and Isbister (Hedges 1983) and Holm of Papa Westray North (Ritchie 2009) have evidence of a similar range of palaeopathological conditions including enamel hypoplasia and osteoarthritis. Lawrence (2006b) found that Hazleton North had the most comparable range of pathologies to those observed at Isbister; a wider study of Neolithic palaeopathology would be required to compare these assemblages.

CONCLUSION

This study of the Sumburgh remains has produced new information on palaeopathology and has also resulted in a slightly increased MNI of least 20 individuals. The additional radiocarbon dates which were obtained indicate continued use of the cist in the second half of the 4th millennium BC.

The individuals interred at Sumburgh have evidence of degenerative joint disease, healed fractures, non-specific infection, periodontal disease and enamel hypoplasia. Interestingly, there is also potential evidence of a nutritional disorder (anaemia) which, together with the enamel defects and evidence of non-specific infection, may indicate generalised stress (Mays 1998: 156–61). The health of the Sumburgh individuals does not seem unusual in comparison with the other available Neolithic assemblages. However, as few Neolithic collections have been studied for palaeopathological data, this assessment should not be seen as definitive. Isbister shows a wider range of pathological conditions, but this is to be expected as it is a far larger assemblage.

Fracture morphology in combination with patination differences demonstrate that the majority of the fractures are from relatively recent disturbance (eg when the cist was first discovered). There was a higher frequency of weathering, erosion and carnivore activity in the disturbed contexts, but there is also evidence for these processes in the lower, undisturbed contexts that may be indicative of mortuary practice or micro-environmental factors within the burial structure. The other findings of this study agree with the previous work; there is no evidence of selection due to age or sex. However, contrary to the interpretation of Hedges and Parry (1980) there is insufficient evidence to support an interpretation of exposure prior to burial.

Excarnation as an interpretation of burial has infiltrated the Neolithic literature, as sites which have been discussed as *possible* excarnation sites (eg Street House, Loftus; Fussell's Lodge) have later been uncritically referred to as actual excarnation sites (Scott 1992), contrary to recent taphonomic studies (Armour-Chelu 1998; Beckett & Robb 2006; Duday 2006; Smith & Brickley 2009) to which the Sumburgh study now adds.

This new study demonstrates the level of new information which can be gained from re-evaluation and analysis of the archaeology and the human remains. The Sumburgh site remains as our most important source of information for understanding the Neolithic inhabitants of Shetland.

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