SHORTER CONTRIBUTION

THE DATING OF AN EARLY BRONZE AGE LOG COFFIN BURIAL FROM A BARROW NEAR POOR'S HEATH, RISBY

by RICHARD BRUNNING, ANDY M. JONES *and* SUE ANDERSON

Summary

This paper presents the results of the reanalysis and dating of skeletal material from a log coffin burial within a barrow near Poor's Heath, Risby. The barrow was excavated by F. de M. and H. L. Vatcher in the mid-1960s and a subsequent paper was published in the 1970s. As part of a log coffin dating project, analysis of the human remains was undertaken which revealed that the inhumed body was that of a mature adult male of above average height who suffered from degenerative joint disease of the lower back, shoulders and hip. A radiocarbon determination was obtained on the skeleton from the log coffin and an earlier determination from a second burial has been recalibrated. These dates have revealed that the human remains date to the period c.2300–2100 cal BC and that the burial in the log coffin may be the oldest securely dated example in Britain.

INTRODUCTION

THE ANALYSIS OF the log coffin burial from a round barrow near Poor's Heath, Risby, was carried out as part of a wider project to improve the understanding of log coffin burials in Britain.[1] The aims of the study at Risby were to undertake osteological analysis of the human remains and to obtain a radiocarbon determination from the skeletal material from the log coffin burial.

The excavated barrow was located near Poor's Heath (TL794685). It is part of a small group of four barrows that lie close to the Risby/Flempton parish boundary, two in Risby and two in Flempton.[2] The barrow lies in Flempton and is recorded in the Suffolk Historic Environment Record (SHER) as FMP 002 but is, however, often referred to in the published literature as Risby.[3] The barrow was excavated in the 1960s by Faith de Mallet Vatcher and her husband Major Lance Vatcher for the Ministry of Works. Faith de Mallet Vatcher was the first curator of the Alexander Keiller Museum in Avebury and an experienced archaeologist who had excavated numerous prehistoric sites and round barrows, especially in Wilshire.[4]

The results from the excavation were fully published in the *Proceedings of the Prehistoric Society* for 1976.[5] Radiocarbon dating of the site, however, was not undertaken at the time, although a determination from skeleton, burial 2, thought to be broadly contemporary with the log coffin burial, was included in a paper which was published subsequently.[6] The coffin burial, however, remained undated. The following short paper gives a summary of the site followed by the results from the osteological analysis and the radiocarbon dating of the log coffin burial.

EXCAVATION SUMMARY

The excavated barrow was part of a cluster of four barrows that formed part of a much more widely dispersed distribution of barrow groupings, several of which have been excavated (Fig. 32).[7] The barrow was investigated in 1964 in advance of hedge removal and cultivation of the field in which it stood.[8] Excavation revealed that the barrow was approximately 24m in diameter and the mound, which was two phased, survived to a height of just over 1m. The primary mound was, however, very poorly preserved and was not continuous across the site. The barrow was encircled by two ditches which were interpreted as being linked with the construction phases of the mound. The barrow had a complex history as a place of burial that commenced with three early inhumations (burials 1, 2 and 3) (Fig. 33), followed by several later Early Bronze Age inhumations and cremation deposits. The remainder of this paper is, however, concerned with the three central burials, and particularly the log coffin interment, which in light of the results from the current project, now represents the earliest burial in the barrow.

The excavators argued that the earliest inhumation, burial 1 within the barrow, was an off-centre crouched burial of a child, suggested to be a male of around seven years old.[9] The individual had been placed on their left side and was associated with a vessel described as a hybrid food vessel/beaker. Burial 2, which was located close to the centre of the barrow, comprised a mature adult male who was crouched and lay on his right side. This individual was accompanied by sherds from a beaker which had been placed in the angle of the left leg

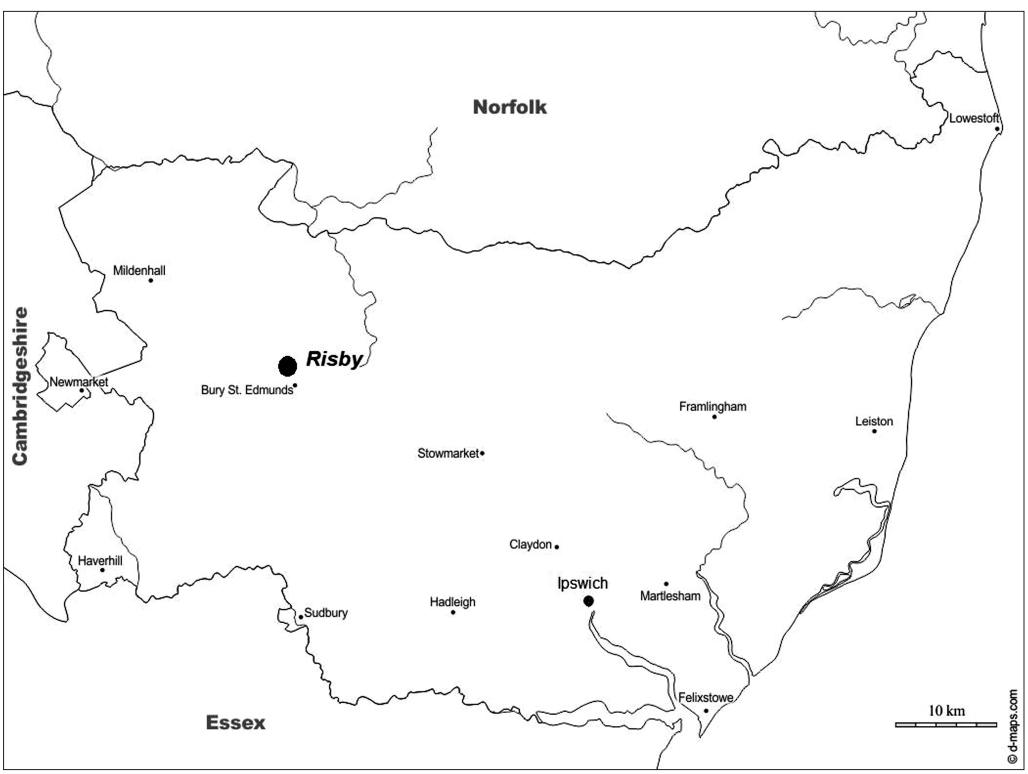

FIG. 32 – Location map showing location of Poor's Heath, Risby.

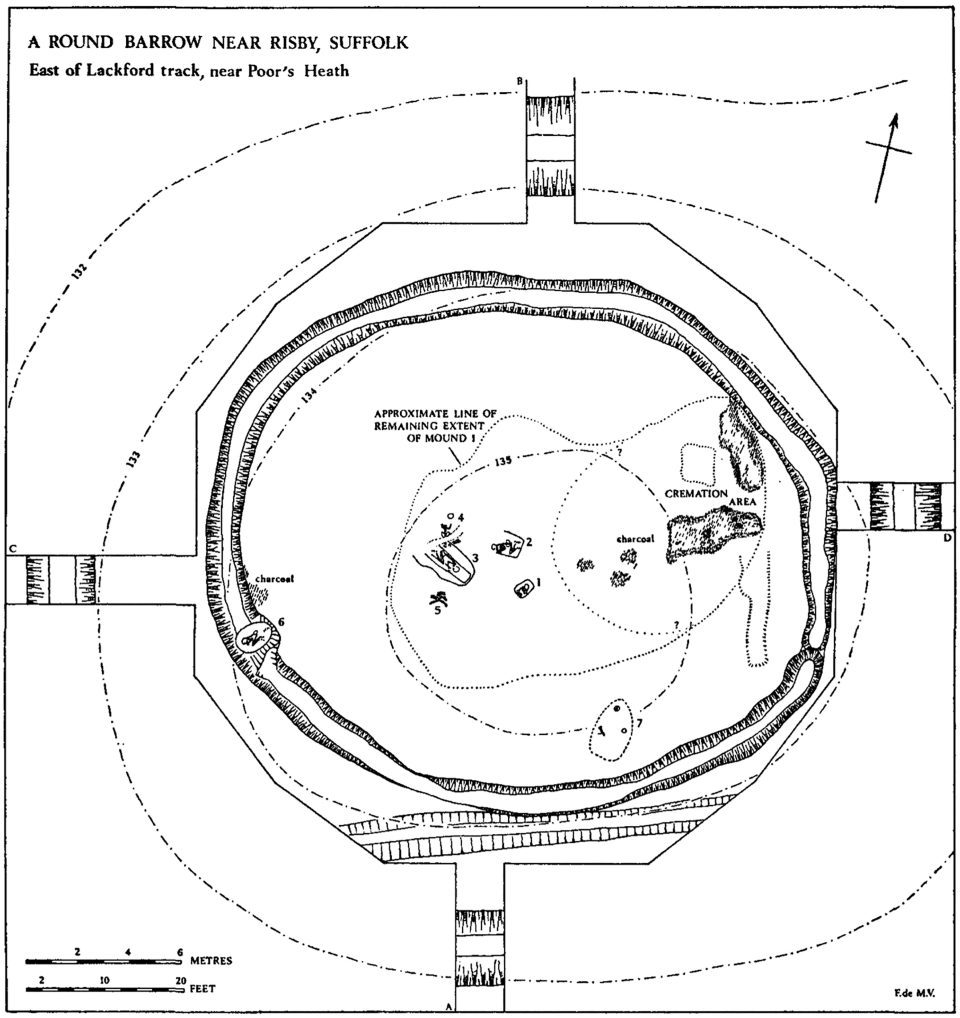

FIG. 33 – Plan showing location of central burials 1, 2 and 3 (*after Vatcher and Vatcher 1976 © Cambridge University Press*).

and behind the pelvis. The third internment, log coffin burial 3, was off-centre and lay to the west of burials 1 and 2. The coffin, which had been truncated at one end, survived as thick dark layer, rectangular in shape with a curved end, measuring 1.83m long by 0.45m–0.61m wide and 0.3m deep. The bark was suspected to have been present, but there was no identification of the wood species.[10] Elsewhere, oak was frequently used for log coffins.[11]

The log coffin burial was considered to be later than burial 1, but broadly contemporary with burial 2. The individual was initially interpreted as a young person, however, osteological work undertaken during this project (see below) has revealed that the interment was an adult male. This individual was crouched within the coffin and, like burial 1, had been placed on his left side. By contrast with burials 1 and 2, the log coffin burial was not accompanied by any artefacts.

Unfortunately, the barrow had been severely disturbed and mound 1 was very badly

preserved and was in fact discontinuous. The excavators noted that there was considerable doubt as to the validity of the published stratigraphical evidence, not least because the beaker which accompanied burial 2 was thought to predate the hybrid food vessel/beaker found with burial 1.[12] Burial 3 was also noted as having seen considerable post-interment disturbance through animal activity and is noted as being fragmented and incomplete (see below). Further doubt on the outlined stratigraphical sequence has also been indicated by the radiocarbon dating which has reversed the suggested order of burials 2 and 3 (see below). The suggested sequence would now be, in order of primacy, burial 3, burial 2 and burial 1.

HUMAN SKELETAL REMAINS FROM THE LOG COFFIN

by Sue Anderson

Remains of an individual, burial 3, were recovered from a log coffin. The bones were originally analysed, along with the other human remains excavated from the site, by Ian Cornwall and have been published previously.[13] This skeleton has been subject to new analysis as part of the log coffin dating project.

The skeleton

The bones were in fair condition, but were heavily fragmented and the skeleton was incomplete. The remains comprised a near-complete skull, fragments of mandible, vertebral arches (mainly thoracic and lumbar), the lateral right clavicle, small fragments of both scapulae, shafts and fragments of both ends of the humeri, fragments of the lower arms, fragments of the pelvis (including the first sacral segment and much of the left innominate), the shafts of both femora and fragments of proximal and distal joints of the left, part of the left patella, shafts and distal fragments of both tibiae, the shaft of the left fibula and fragmentary bones of the ankles and feet. The skull had been reconstructed previously, but was cracked and deformed post-mortem due to soil pressure.

The bones were large and robust, the brow ridges and occipital crest of the skull were prominent and the sciatic notch of the left innominate was narrow, all suggesting that the individual was male. Tooth wear was relatively heavy suggesting that he was middle-aged (*c.* 35–45 years[?]) at the time of death. Some degenerative changes were seen on the few surviving joints (see below).

Only a few measurements could be recorded with any certainty. The left femoral head was 47mm in diameter, and the right humerus head measured *c.*46mm, both within the normal range for a male skeleton. Measurements of the left femur shaft produced a meric index of 70.2 (hyperplatymeric, or very flattened) and the left tibia cnemic index was 65.8 (mesocnemic, or moderately flattened). Flattening of the femur and tibia have been suggested to occur more frequently in earlier groups. An estimate was made of the minimum lengths of the left femur and left humerus, the most complete of the long bones. These suggest that the living stature of the individual was at least 175.2m to 178m (5ft 9ins to 5ft 10ins) .

Non-metric traits were recorded systematically in the skull and post-cranial skeleton although the condition of the latter meant that many could not be scored. The most noticeable anomalies, as previously remarked upon by Cornwall, were the retention of the metopic suture and also the profusion of lambdoid wormian bones either side of a tripartite inca bone. These anomalies in fusion of the cranial sutures may account for the discrepancy Cornwall noted between the suggested (younger) age based on suture closure in comparison with tooth attrition. Cranial suture closure can only be taken as a rough guide to age as it is extremely

variable between individuals.

The dentition was almost complete in terms of teeth although much of the alveolar bone was lost in the lower jaw and the rear portions of the maxilla and the corresponding teeth (right M3, left M2–3) were also missing. One lower mesial incisor and one third molar were also missing. A large abscess was present around the root of the upper right second premolar, the crown of which was chipped. Whether this happened in life or post-mortem is uncertain, but it had not exposed the pulp cavity. It is more likely that the abscess had been caused by recession of the alveolus in this position due to periodontal disease. The fragment of third molar, which Cornwall recorded as an unerupted crown, is in fact the remains of the roots, the crown having been lost, possibly through caries. It is not clear which side of the mandible it came from, although it appears to fit best on the left. There was no evidence of an abscess in this position, although the socket appeared to be partly infilled through new bone growth. Unfortunately, both third molar sockets in the mandible were in poor condition and that on the right was incomplete. The lower left second molar showed significantly less wear than all other teeth, perhaps suggesting that the upper left second and/or third molars had been lost ante-mortem. If so, the lack of chewing on this side of the mouth might have resulted in a carious lesion in the third molar.

Pathological conditions were limited to degenerative joint disease which was noted in several bones. Most of the joints were too poorly preserved for assessment although it can be noted that the central parts of most were not affected by osteoarthritic changes at least. Both scapular glenoids showed signs of new bone formation (osteophytes) at the borders, larger on the right (anterior) than the left (posterior), and small osteophytes were also noted on the small area of remaining border of the right humerus head. The sacro-iliac joint on the left ilium was largely complete and there were areas of cyst formation towards the posterior and superior edges of the facet, possibly indicative of osteoarthritis. The superior edge of the left acetabulum was thickened with some new bone formation, again probably due to degenerative changes. In the spine, the arches of the (?)tenth and (?)eleventh thoracic vertebrae were largely complete and there was osteophyte formation and slight porosity of the articular facets. The posterior portion of the first sacral segment body showed signs of grade II osteoarthritis, as did the remains of the lower (?)fifth lumbar vertebral body.

Discussion

Across the whole of Suffolk, excavations have resulted in the recovery of inhumed remains of fewer than seventy-five individuals of Bronze Age date (based on SHER records), most of which are poorly preserved, have rudimentary published reports or have never been studied. The group of skeletons from Poor's Heath is still one of the largest of this period to have been analysed in detail. Other similar-sized groups have been excavated at Pin Farm, Gazeley, and Edinburgh Road, Exning, and several isolated burials of this date have been found at sites on RAF Lakenheath air base (Eriswell parish).[14]

The bones from the tree trunk burial at Poor's Heath are those of a mature adult male who was probably of above average height for the period. At around 175cm, he was certainly considerably taller than the two adults buried alongside him, the height of the male burial 2 being estimated at 165cm and the female in the ring-ditch burial 6 at 162cm. Estimated statures of other burials of the period from this county are few, but two females from Eriswell were 162cm and 169cm tall respectively, whist Denston reported heights of 171cm (5ft 7¼ ins) for a male and 151cm (4ft 11½ins) inches for a female at Exning and 165cm (5ft 5ins) for a female at Gazeley.[15] There was evidence for a genetic relationship between the man in the log coffin and some of the other burials in the group, notably burial 2 and burial 4, both of whom had lambdoid wormian bones and ossicles at the lambda.[16]

The Poor's Heath male had suffered from some degenerative joint disease of the lower back, shoulders and hip, conditions which were also noted in the other two well-preserved adults from the site and which were not uncommon at other contemporary sites. Also of note is the relatively high prevalence of dental disease in the Poor's Heath group, associated with the older individuals in particular. They appear to have been particularly affected by calculus formation, alveolar resorption and ante-mortem tooth loss. In the case of burial 3, periodontal disease caused a large abscess to form in the upper jaw. Examples of caries, abscesses and periodontal disease are all known from other sites in the vicinity.[17] The Poor's Heath group were certainly not alone in their suffering of joint disease and tooth ache.

RADIOCARBON DATING

Prior to the current project, a radiocarbon determination had already been obtained from the barrow of 3660±50 BP, 2196–1906 cal BC (BM-2522).[18] This date was from burial 2, a mature male who was accompanied by sherds from a beaker vessel.

The key aim was, therefore, to obtain secure, reliable radiocarbon dating from the skeleton within the log coffin and bone was selected from the left tibia of the skeleton to achieve this objective. The sample was submitted for accelerator mass spectrometry dating (AMS) at the Scottish Universities Environmental Research Centre (SUERC) (Table 1). The new radiocarbon determination and the existing date were calibrated using OxCal 4.3.

The new determination from burial 3, 3791±34 BP, 2342–2133 cal BC (SUERC-62607) (93.9 per cent) (Fig. 34) reverses the suggested order of the burials within the barrow. Although there is a small overlap with the existing date from burial 2 (BM-2522), the weight of the new date is much earlier than that from burial 2, which therefore almost certainly post-dates it. The dating is also significant because currently the log coffin burial from Risby is probably the earliest of its kind in Britain.

DISCUSSION

The reanalysis and dating of the log coffin burial from Risby has provided valuable additional information about the interred individual and their dating which was not possible at the time

Burial	**Lab code**	**Years BP**	**95.4%**	**Comment**
Burial 3 Left tibia from log coffin burial.	SUERC-62607	3791±34	2342–2061 cal BC	Predates burial 2.
Burial 2 Femur from articulated skeleton of mature male associated with a beaker pottery.	BM-2522	3660±50	2196–1906 cal BC	Post- dates burial 3.

TABLE 1 – Radiocarbon determinations from burial 2 and log coffin burial 3.

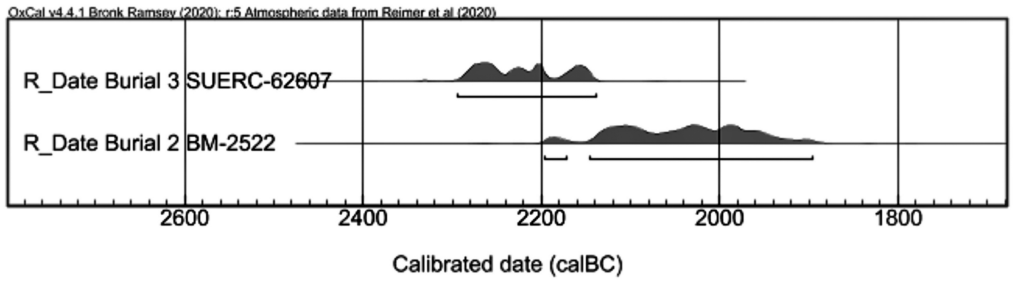

FIG. 34 – Radiocarbon determinations from burial 2 and log coffin burial 3.

of the publication of the paper by Vatcher and Vatcher.[19] In their paper, the authors identified the Risby barrow as having been used for several phases of burial throughout the Early Bronze Age. The log coffin, burial 3, was said to have been the final interment within the earliest group of burials. This interpretation was based on its off-centre position, the potential stratigraphic relationship to mound 1 and the assumption that the central burial 2 and child burial 1 must have been earlier. However, as has been discussed above, the stratigraphical sequence is open to interpretation and the radiocarbon dating for Risby places burial 3 very early in the Early Bronze Age period, *c.*2342–2133 cal BC. Indeed, it is much earlier than the majority of dated log coffin burials,[20] and burial 3 now represents what is probably the earliest securely dated log coffin burial in Britain.[21] This date, together with that from burial 2, reverses the understanding of sequence of early burials within the barrow.

Risby burial 3 had been interred in the log coffin. The skeleton was an adult male aged *c.*35 to 45 years old, of above average stature. The skeletal material revealed that the individual had suffered from some degenerative joint disease of the lower back, shoulders and hip. Interestingly, these conditions were also noted in the other two well-preserved adults from the site, along with a relatively high prevalence of dental disease. The crouched mode of burial was comparable to the other primary interments from the barrow. The individual, like many found in Britain, was placed in a contracted position on his left side, although this contrasted with the other adult male, burial 2, which had been placed on his right side.[22] Interestingly, however, the presence of lambdoid wormian bones and ossicles at the lambda (see above) suggest that it is likely that burial 3 was related to the male burial 2 and with a subsequent burial 4. This may indicate that the barrow was used by a family group over an extended period of time.

These results are also of interest with regard to the wider log coffin tradition. Although all ages and both male and females have been identified,[23] many of the identifiable burials found within log coffins, especially those in northern England, are adult males.[24] The Risby interment therefore fits with many of the securely identified burials. The absence of accompanying grave goods also compares well with the majority of log coffin burials. Despite the fact that some log coffin burials, such as Gristhorpe or Loose Howe in Yorkshire, are accompanied by 'high-status' artefacts, including copper-alloy daggers,[25] many, such as Bowthorpe, Norfolk, or Willie Howe, Yorkshire, are without grave goods, or are accompanied by much more humble range of artefacts.[26] Clearly, artefacts could have been included with burial 3, as ceramics were found with both burials 1 and 2. It may be that burial in the log coffin itself may have been a marker of personhood and in these circumstances no artefacts were required to denote the significance of the buried individual.[27]

ACKNOWLEDGEMENTS

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NOTES

1 Brunning and Jones, forthcoming.
2 Martin 1981, figs 27 and 34.
3 See, for example, Parker Pearson *et al.* 2013.
4 See, for example, Vatcher 1960 and Vatcher 1963.
5 Vatcher and Vatcher 1976.
6 Healy 2012.
7 For example, Martin 1976.
8 Vatcher and Vatcher 1976.
9 Vatcher and Vatcher 1976.
10 Vatcher and Vatcher 1976.
11 For example, Parker Pearson *et al.* 2013; Jones *et al.* 2019.
12 Vatcher and Vatcher 1976.
13 Cornwall 1976.
14 Gazeley: Petersen 1973; Exning: Martin and Denston 1986; RAF Lakenheath (Eriswell): Anderson 2014.
15 RAF Lakenheath (Eriswell): Anderson 2014; Exning: Martin and Denston 1986, 133–4; Gazeley: Denston in Petersen 1973, 44.
16 Cornwall 1976, 283.
17 For example, Eriswell ERL143/148 0061, Anderson 2014; Exning: Martin and Denston 1986, 134; Gazeley skeleton 6, Denston in Petersen 1973, 44.
18 Healey 2012, table 10.4.
19 Vatcher and Vatcher 1976.
20 For example, Parker Pearson *et al.* 2013.
21 Brunning and Jones, forthcoming.
22 For other examples, see Parker Pearson *et al.* 2019.
23 Melton *et al.* 2013, 36.
24 Brunning and Jones, forthcoming.
25 Parker Pearson *et al.* 2013; Jones *et al.* 2019.
26 Lawson 1986; Jones *et al.* 2017.
27 Brunning and Jones, forthcoming.

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