

Osteological Assessment of the Inhumed Human Remains and the Cremated Remains from Boston Road, Sleaford. L.L.Hill

1.0 Introduction

In April 2008 Pre-Construct Archaeology Lincoln undertook a sixteen trench evaluation on land north of Boston Road, Sleaford (EPBR 08, PCA 08/422). These works uncovered a substantial amount of Roman pottery and features relating to both a funerary and domestic landscape. During the evaluation disarticulated remains and a partial urned cremation burial were recovered from one of the trenches. The following report contains a comprehensive account of the osteological data derived from both these sources and the scientific inferences that can be concluded from this data. All work was carried out according to the standards recommended by the British Association of Biological Anthropologists and Osteologists in conjunction with the IFA (Guidelines to Recording Human Remains, Brickley and McKinley (eds) 2004).

The disarticulated remains and the urned cremation burial were retrieved from Trench 15. This trench was located in the south of the site, close to the assumed location of the Roman road. A further unexcavated north-south aligned possible coffin burial was identified in Trench 14 approximately 25m to the southwest of Trench 15. No definite funerary activity was identified elsewhere on the site.

The remains from Trench 15 were recovered from three separate features. Fragments of a cranium were recovered from a feature cleaned but unexcavated and identified later based on the bones retrieved as an east-west aligned grave [1502]. A number of disarticulated limb bones were recovered from a ditch [1504] which truncated through the lower part of grave [1502]. The cremation urn was recovered from ditch [1511] east of and running parallel with ditch [1504].

2.0 Methodology

2.1 The disarticulated Material

An archive of all disarticulated remains was completed, which entailed an inventory of bones, a record of preservation stage, information on demography and pathology where possible and an estimate of minimum number of individuals.

2.1.1 Preservation and Completeness

An inventory of all disarticulated material was recorded and all elements were visually assessed for their state of preservation, recording their level of bone surface erosion, fragmentation and overall condition. Once the demographics were recorded an estimate of minimum number of individuals (MNI) per context was then recorded.

2.1.2 Demographics

Due to the sparse and fragmentary nature of the remains age brackets rather than mean ages were established. For this material age was estimated based on size and robustness alone.

Sex was estimated where possible based on morphological traits (Frembach et al, 1980).

2.1.3 Pathology

All bones were visually assessed for evidence of congenital and acquired pathologies and where appropriate tentative diagnoses suggested.

2.2 The Cremated Remains

The cremated material was analysed to the standards laid out in Brickley and McKinley (2004) and was carried out using calibrated 10mm, 5mm and 2mm sieves and weighed to an accuracy of 0.1g. A measure of the total weight and what percentage was identifiable human bone was recorded. A measure of fragmentation and the efficiency of the cremation was noted as was skeletal part representation, demographic information, pathological change and an estimate of minimum number of individuals. The material was also assessed for information on pyre technology and goods. For a complete record of the analysis and its results the reader is directed to the primary archive.

2.2.1 Weight and Degree of Fragmentation

After sieving each fraction was weighed. The identifiable human material was weighed separately and expressed as a percentage of the total human bone recovered from the total cremated material. The recovery tray, containing all material smaller than 2mm was macroscopically assessed and an estimate for the percentage of bone visible was recorded. The maximum fragment size for each fraction was also recorded.

2.2.2 Skeletal Part Representation

Each bone was macroscopically analysed and identifiable human bone was separated into four areas; skull, axial skeleton, upper limbs and lower limbs. Number of fragments and weight for each area was recorded.

2.2.3 Efficiency of Cremation

Cremation is a process of dehydration and oxidation of the organic components of the body. This is visible and recordable in the bone fragments as colour change, shrinkage, fissuring and warping. The pattern of discolouration and physical distortion of the bones was noted so that efficiency of the cremation could be assessed.

2.2.4 Pyre Technology and Goods

The material from all fractions and the recovery tray were macroscopically assessed for evidence of artefacts that may have accompanied the individual in the cremation in the form of grave goods or pyre material itself.

3.0 Results

For a complete record of the analysis the reader is directed to the database and primary archive.

3.1 The Disarticulated Material

The preservation is good, surface damage is minimal on the majority of the bones however fragmentation of the bones hinders a thorough analysis. No evidence of congenital or acquired pathologies were visible nor was evidence for trauma or cultural processes evident.

The minimum number of individuals, based on the smallest number of individuals required to account for the skeletal elements present for each context was one. However, due to the relationship between the two features that yielded the bone the material is likely to have derived one individual.

3.1.1 Context 1503

Fragments of a largely incomplete cranium was recovered in pieces, the rest was left in-situ. As no teeth were present only a limited age estimation could be produced. The skull is large enough to be adult, the individual bones are robust and the anterior sagittal suture shows significant closure. These traits make the individual an adult of probable middle to older age. The dimorphic traits available on the fragments are male.

3.1.2 Context 1505

This context yielded a number of limb and foot bones. Recovered from the ditch fill was the mid shaft of a left tibia, missing both its proximal and distal ends, a left humerus in the same condition, fragments of a distal femur, the distal end of a left fibular, the mid shaft of an unisided fibular, and a broken right calcaneus and talus along with a number of broken tibia and fibular fragments. Unfortunately the sites of the epiphyses are missing for all the long bones present so state of fusion can not be assessed. However, based on robustness and the length of the remaining bones they would appear to have come from an older adolescent or adult. The bones of the feet are fully adult in robustness and fusion. Sex could not be estimated for these bones as none had sexually dimorphic traits and they were not complete enough to record biometrics. If these bones do belong to the individual in grave [1503] which this feature truncates, then they belong to an adult male.

3.2 The Cremated Material

The cremated material yielded by this evaluation was recovered in the form of an urned cremation burial, where the material is collected from a pyre site and placed within an urn and buried elsewhere. Unfortunately this cremation burial was badly damaged and as such a lot of potential information has been lost. The urn itself was broken with only the base and less than half of its body remaining. The context in which it was deposited does not appear to have been the primary burial site, with no visible cut or sign of truncation that caused the damage. It is possible like the grave to the west that the original burial site was truncated by the ditch in which it was finally re-deposited. Below, Table 1 summaries the results of the analysis of the cremated material.

Table 1. Cremated Material

Fraction	10mm	5mm	2mm	Total
Weight of bone	15.4g	25.5g	17g	57.9g
Weight of human bone	4.5g	3.7g	0g	8.2g
% of total human bone	55%	45%	0%	100%
Weight of animal bone	0g	0g	0g	0g
Weight of unidentified mammal bone	10.9g	21.8g	17g	49.7g
Max fragment size (human)	2.9cm	2.4cm	1.8cm	
Skull Fragments	0	0	0	0
Axial skeleton	0	0	0	0
Upper limb	0	0	0	0
Lower limb	8 fragments, fibular?	2 fragments femur?	0	10 fragments
Demographics	NR	NR	NR	
Pathology	NR	NR	NR	
Colour	White, black/blue	White, black/blue	White, black/blue	
Dehydration	Cracking U shaped fissures	Cracking U shaped fissures	Cracking U shaped fissures	
Pyre goods	None	None	None	None

NR denotes none recordable information

The cremation burial yielded only 57.9g of bone and only 8.2g of this could be identified as human due to the nature and size of the material, the largest fragment being only 2.9cm. A modern adult cremation yields between 1000 and 3600g of bone (McKinley, 1993) and even with incomplete selection of material to be deposited into the urn this count is very low. The minimum number of individuals for this cremation can only be estimated at one, as there are no identifiable duplicate elements and so little material left.

Sex can not be ascertained for this material as dimorphic traits are not visible on the fragments available and biometrics can not be recorded due to fragmentation. No infant or juvenile bones were recovered and from the robustness of the fragments it is probable that they belong to an older adolescent or adult. Evidence for pathology was not evident on the material available and reliable diagnoses would require almost complete skeletal recovery so this was deemed none recordable for this study.

The majority of the bone fragments showed the same pattern of discolouration, being white on the external surface and black/blue on the internal surface. This indicates temperatures of 700°-900° were acting on the external surfaces and cooler temperatures of 500°-700° penetrated to the internal cavities. The majority of the bone was completely oxidised on its external surface and incompletely oxidised on its internal surface. Less than 5% of the bone fragments recovered were white throughout the bone, representing high temperatures and complete oxidation. Dehydration of the bone during cremation has led to cracking and U-shaped fissures appearing horizontally and vertically on the bone fragments. These findings represent an efficient cremation however the material represents only part of the cremated material so the true nature of the cremation is unknown.

No metal, glass or pottery artefacts from the cremation pyre were recovered within the surviving urn. Nor was any staining apparent on the remaining bone to suggest the presence of metal artefacts within the pyre. Although none of the bone recovered was diagnostically animal some may have been present within the burial as was common for Romano-British cremations, these may make up part of the unidentifiable bone retrieved.

Unfortunately due to the damaged and disturbed nature of the cremation burial no evidence of pyre material was retrieved from within the cremated material. Only fragments of the broken urn and pea-grit were retrieved with the bone.

4.0 Discussion and Conclusion

The human remains from the Sleaford evaluation were located in the south of the evaluation area close to the assumed location of the Roman road. These may represent part of a cemetery area running along the roadside, consisting of both funerary practices of inhumation and cremation burial. The evaluation only identified two graves and yielded very little human material probably as a result of the truncation of later features, as this area moved from a funerary to domestic landscape with the suburban spread of the precursor to Sleaford.

The disarticulation, size and disturbed nature of the assemblage restricted the information that could be collected. Limited information on demographics has been collected and no evidence for diet, pathologies or trauma were visible on the surviving bone. The cremation yielded very limited information and was highly restricted due to its incomplete nature. The information from both sources is not sufficient to inform on the wider population of Roman Sleaford utilising this burial area. Neither can it provide insight into the proportion of the population that was chosen to be treated in these alternative manners.

5.0 Bibliography

Brickley, M., and McKinley, J.I. (eds) 2004 Guidelines to Recording Human Remains. *IFA Paper No7* in associating with BABAO

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