

Reports from the Environmental Archaeology Unit, York 98/37, 8 pp.

**Evaluation of biological remains from Fetter Lane, York
(sitecode: 1998.692)**

by

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Summary

One sediment sample and one box of hand-collected bone from deposits of Roman to modern date were submitted for an evaluation of their bioarchaeological potential.

The sample contained fragments of fish, bird and mammal bones but no other biological remains of interpretative value.

The small size of the vertebrate assemblage severely limits any discussion of its potential, and as it stands it is of little interpretative value. The presence of a section of sawn and chopped red deer antler in a Late Roman context was slightly unusual as evidence of antler working is rare in an urban Roman setting.

Context 2010 contained 125 bones from a neonatal human skeleton. A single bone was also found in Context 2007, probably from the same skeleton.

KEYWORDS: FETTER LANE; YORK; NORTH YORKSHIRE; EVALUATION; VERTEBRATE REMAINS; HUMAN REMAINS; NEONATAL; ANTLER WORKING

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4 November 1998

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Introduction

An archaeological excavation was carried out by On-Site Archaeology at Fetter Lane, in October 1998. One sediment sample ('GBA' *sensu* Dobney *et al.* 1992) and one box (of approximately 19 litres) of hand-collected bone were recovered from deposits of Roman to modern date. This material was submitted to the EAU for evaluation of its bioarchaeological potential.

Methods

Sediment samples

The sediment sample was inspected in the laboratory and a description of its lithology was recorded using a standard *pro forma*. On the basis of this inspection, the sample was deemed unlikely to contain interpretable quantities of ancient biological remains other than bone. The entire sample was bulk processed (to 500 µm), following the procedures of Kenward *et al.* (1980; 1986), primarily to recover the bone.

Vertebrate remains

Vertebrate data were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context, subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Also, semi-quantitative records were made of fragment size, and of burning, butchery, fresh breakage and dog gnawing.

Where possible, fragments were identified to species or species group, using the reference collection at the Environmental Archaeology Unit, University of York. Fragments not identifiable to species were grouped into categories: large mammal (assumed to be cattle, horse or large cervid) and medium-sized mammal (assumed to be caprovid, pig or small cervid). Measurements for mammals were taken, (where appropriate) according to von den Driesch (1976), with additional measurements following those outlined Dobney *et al.* (forthcoming). Human bone measurements followed those outlined by Fazekas and Kosa (1978). Weights of identified and unidentified fragments were also recorded.

Results

Sediment samples

Archaeological information and/or archaeological questions to be addressed (provided by the excavator) are given in square brackets.

Context 1024 [Layer of dark grey sandy silt with shell/mortar]

Sample 1 (3 kg bulk sieved)

Moist, light to mid brown, crumbly to unconsolidated (working soft), slightly stony clay silt. Flecks of rotted shell and very small stones (2 to 6 mm) were common and brick/tile, rotted charcoal (to 3 mm) and bird bone were present in the sample.

The modest-sized residue consisted mostly of sand and tiny marine shell fragments (to 3 mm) with concretions (possibly slag, to 10 mm), small fragments of pot/brick/tile (to 5 mm) and very small stones (to 5 mm).

The small quantity of vertebrate remains included chicken bones (two carpometacarpals, single scapula and ulna and several phalanges), two fish vertebrae (mackerel *Scober scombrus* L.), scales, spines and other small fragments, and many small unidentifiable bird and mammal fragments.

Hand-collected vertebrate remains

Overall preservation was good, with angularity (appearance of broken surfaces) described as spiky. Colour was mostly varied shades of brown. Dog gnawing was completely absent, with butchery, burning and fresh breakage only present on 0-10 % of the fragments. A high degree of fragmentation was recorded, over half the material from four of the nine contexts being less than 5 cm in greatest dimension. Only one context contained fragments greater than 20 cm in maximum dimension.

In total, 310 fragments (weighing 2288 g) were recovered, of which 166 (weighing 1943 g) were identified to species. The latter included 126 neonatal human bone fragments. Tables 1 and 2 give the numbers of fragments by period, and the numbers of mandibles, teeth, and subadult bones. Table 3 gives the measurements taken on the mammal bones, whilst Table 4 shows those taken for the human neonatal skeleton.

Mammal bones recovered included the remains of cattle (18), caprovid (11), pig (5) and a single red deer (*Cervus elaphus* L.) fragment. Birds were represented by geese (*Anser* sp.) and chicken fragments. In addition, 144 unidentifiable mammal fragments were recorded.

Context 2010 contained 125 bones from a neonatal human skeleton. A single bone was also found in context 2007, probably from the same skeleton. All the major long bones were present, together with the pectoral girdle and many fragments of skull. The length of the long bones (Fazekas and Kosa 1978, and Scheuer *et al.* 1980) indicated an age of around 40 gestational weeks at death, i.e. full term foetus or neonate.

Discussion and statement of potential

The sample has no further potential for bioarchaeological interpretation.

The small size of the vertebrate assemblage severely limits any discussion of its potential, and as it stands it is of little interpretative value. However, the reasonable bone preservation suggests that a substantially larger quantity of material would be recovered should more extensive excavation be undertaken.

Very few well-dated late Roman remains have been recovered and thus a moderate to large assemblage from Fetter Lane would be of regional and national significance. This period has been highlighted by English Heritage as a research priority (English Heritage 1991; 36). In combination with previous material recovered from Fetter Lane (Carrott *et al.* 1997c) and other small sites in the area of the Roman *Colonia*, such as 47-54 Tanner Row (Carrott *et al.* 1997a) and 61 Micklegate (Carrott *et al.* 1997b), useful comparisons could be made with Roman assemblages from the General Accident site (O'Connor 1988) and Wellington Row (Carrott *et al.* 1995).

The presence of a section of sawn and chopped red deer antler in a Late Roman context was slightly unusual, as evidence of antler working is rare in an urban Roman setting.

The neonatal human skeleton (located in the construction layer under a wall) is possibly a 'foundation' deposit of ritual significance. However, infanticide and subsequent deposition of neonatal individuals was a standard Roman practice and has been seen at many other sites including Winteringham and Rudston in Humberside (Mays 1993).

Recommendations

No further work is recommended on the present material.

If deposits with organic preservation by anoxic waterlogging or concentrations of charred plant material, bone or other biological remains are exposed by further excavation every effort should be made to investigate them—provision should be made for the instigation of a systematic sieving and sampling programme, the recovery of more material, and its subsequent analysis and publication.

Retention and disposal

Any remaining sediment samples may be discarded unless they are to be sieved for recovery of bone or artefacts.

The bone assemblage should be retained for the present.

Archive

All material is currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

Acknowledgements

We are grateful to On-Site Archaeology for providing the material and the archaeological information.

References

Carrott, J., Dobney, K., Hall, A., Issitt, M., Jaques, D., Johnstone, C., Kenward, H., Large, F., McKenna, B. and Milles, A. (1995). Assessment of

biological remains from excavations at Wellington Row, York (sitecode 1988-9.24). *Reports from the Environmental Archaeology Unit, York* **95/14**, 17 pp. + 43 pp. appendix.

Carrott, J., Hall, A., Johnstone, C. and Large, F. (1997a) Evaluation of biological remains from excavations at 47-54 Tanner Row, York. *Reports from The Environmental Archaeology Unit, York* **97/24**, 7 pp.

Carrott, J., Hall, A., Jaques, D. and Johnstone, C. (1997b). Evaluation of biological remains from 61 Micklegate, York. *Reports from The Environmental Archaeology Unit, York* **97/11**, 4 pp.

Carrott, J., Hughes, P., Johnstone, C. and Large, F. (1997c). An evaluation of biological remains from excavations at 19 Fetter Lane, York. *Reports from The Environmental Archaeology Unit, York* **97/45**, 8 pp.

Dobney, K., Hall, A. R., Kenward, H. K. and Milles, A. (1992). A working classification of sample types for environmental archaeology. *Circaea, the Journal of the Association for Environmental Archaeology* **9** (for 1991), 24-6.

Dobney, K. M., Jaques, S. D. and Johnstone, C. J. (Forthcoming). Protocol for recording vertebrate remains from archaeological sites.

English Heritage. (1991). *Exploring our past*. London: HBMC.

Fazekas, I.G. and Kosa, F. (1978). *Forensic foetal archaeology*. Budapest: Akademiai Kiado.

Kenward, H. K., Engleman, C., Robertson, A., and Large, F. (1986). Rapid scanning of urban archaeological deposits for insect remains. *Circaea* **3** (for 1985), 163-72.

Kenward, H. K., Hall, A. R. and Jones, A. K. G. (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. *Science and Archaeology* **22**, 3-15.

Mays, S. (1993). Infanticide in Roman Britain. *Antiquity* **67**. pp. 883-888.

O'Connor, T. P. (1988). Bones from the General Accident Site, Tanner Row. *The Archaeology of*

York **15** (2), 61-136 + plates III-VII. London: Council for British Archaeology.

Scheuer, J. L., Musgrave, J. H. and Evans, S. P. (1980). Estimation of late foetal and perinatal age from limb bone lengths by linear and logarithmic regression. *Annals of Human Biology* **7**. pp. 257-265.

von den Driesch, A. (1976). A guide to the measurement of animal bones from archaeological sites. *Peabody Museum Bulletin* **1**, Cambridge Mass., Harvard University.

Table 1. The Roman vertebrate remains from Fetter Lane, York.

Species		No. unfused	No. neonatal	No. mandibles	No. teeth	Total	Weight (g)
Pig	<i>Sus f. domestic</i>	1	-	1	1	3	102.9
Red deer	<i>Cervus elaphus</i> L.	-	-	-	-	1	147.7
Cow	<i>Bos f. domestic</i>	3	-	2	-	17	1393.8
Sheep/goat	Caprovid	-	-	1	-	7	85.5
Goose	<i>Anser</i> sp.	-	-	-	-	2	20.7
Chicken	<i>Gallus f. domestic</i>	-	-	-	-	1	0.8
Human	<i>Homo sapiens</i>	-	126	-	-	126	106.3
Subtotal		4	126	4	1	157	1857.7
Large mammal		-	-	-	-	48	
Medium-sized mammal		-	-	-	-	21	86.6
Unidentified		-	-	-	-	57	
Subtotal		-	-	-	-	126	86.6
Total		4	126	4	1	283	1944.3

Table 2. The post-medieval vertebrate remains from Fetter Lane, York.

Species		Total	Weight
Pig	<i>Sus f. domestic</i>	2	17.6
Cow	<i>Bos f. domestic</i>	1	13.5
Sheep/goat	Caprovid	4	53.2
Chicken	<i>Gallus f. domestic</i>	2	1.5
Subtotal		9	85.8
Large mammal		12	258.2*
Medium-sized mammal		6	
Subtotal		18	258.2
Total		27	344

* = Weight represents all categories of unidentified material

Table 3. Measurements from Fetter Lane, York.

Context	Species	Element	Measurements			
1009	sheep/goat	Metatarsal	Bp=20.89	Dp=20.25	SD=11.87	
1009	sheep	Tibia	Bd=27.40	Dd=20.51	SD=11.44	
1022	goose	Tibiotarsus	GL= 142.46	Bd=16.77	Dd=15.08	Dip=23.33
1022	pig	Metatarsal	GL=81.82	Bp=14.46	Bd=14.01	
2007	cow	Horncore	41=76.80	42=56.90	BC=225	
2007	cow	Metacarpal	Bd=65.05	Dd=33.44	Dem=23.54	Dvm=32.62 Dim=30.30
2007	cow	Humerus	BT=64.27	HTC=29.25		
2007	cow	Radius	Bp=77.81	BFp=73.29		
2010	sheep/goat	Metacarpal	Bp=22.35	Dp=16.60	SD=13.26	

Table 4. Neonatal human skeleton measurements and estimated age. Key: R = right side; L = left side.

Element	Side	Measurement (mm) (after Fazekas and Kosa 1978)	Estimated Gestational Age (weeks) (after Scheuer <i>et al.</i> 1980)
Scapula	R	a) Length (height) = 36.25 b) Width = 29.49 c) Length of the spine = 33.81	
Humerus	R	a) Length = 68.08 b) Width = 17.23 c) Diameter = 5.34	39.87 +/- 2.33
Humerus	L	a) Length = 68.53 b) Width = 17.50 c) Diameter = 5.47	40.08 +/- 2.33
Ulna	R	a) Length = 63.61 b) Diameter = 4.36	40.08 +/- 2.20
Femur	R	a) Length = 80.47 b) Width = 21.46 c) Diameter = 6.98	40.14 +/- 2.08
Femur	L	a) Length = 80.29 b) Width = 21.48 c) Diameter = 6.92	40.07 +/- 2.08
Tibia	R	a) Length = 69.98 b) Diameter = 6.22	40.91 +/- 2.12
Tibia	L	a) Length = 69.67 b) Diameter = 6.23	40.78 +/- 2.12

