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**Assessment of biological remains from The Primitive Methodist Chapel,  
3 Little Stonegate, York (sitecode: 1999.95)**

by

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**Summary**

*Eleven sediment samples and a small quantity of hand-collected bone from excavations at The Primitive Methodist Chapel, Little Stonegate, York were submitted to the EAU for assessment of their bioarchaeological potential. The vertebrate assemblage was small but the preponderance of cattle and large mammal fragments is typical of Roman material. Two types of waste were identified: cattle (representing primary butchery) and caprovid (representing domestic). The smaller vertebrate remains are well-preserved on the site and indicate the potential for recovery of fish, small mammals and amphibians from other deposits. The plant and invertebrate remains give no clear indications of site conditions other than to support the evidence from the vertebrate remains. Further work is recommended for the vertebrate material only.*

KEYWORDS: PRIMITIVE METHODIST CHAPEL; LITTLE STONEGATE; YORK; NORTH YORKSHIRE; ASSESSMENT; ROMAN; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; INSECTS; VERTEBRATE REMAINS

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### Introduction

An archaeological excavation was carried out by York Archaeological Trust at The Primitive Methodist Chapel, Little Stonegate, York, in February 1999. Three boxes and three small bags of hand-collected bone, together with eight general biological analysis samples, two bulk-sieve samples and a 'spot' sample ('GBA', 'BS' and 'SPOT' *sensu* Dobney *et al.* 1992) were submitted to the EAU for assessment of their bioarchaeological potential.

### Methods

The sediment samples selected for assessment were inspected in the laboratory and descriptions of their lithologies recorded using a standard *pro forma*. Subsamples of 1 kg were taken from three of the samples and processed following the procedures of Kenward *et al.* (1980; 1986) for recovery of plant and invertebrate macrofossils. Two of the samples were sieved to 500 µm for the recovery of small bones, larger plant macrofossils and artefacts. A material identification was made on the 'spot' sample.

Table 1 presents a list of the samples with notes on their treatment and provisional dates.

Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context (or sample) containing more than ten fragments,

subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, semi-quantitative information was recorded concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

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), medium-sized mammal 1 (assumed to be caprovid, pig or small cervid), small mammal (rats, mice, voles etc), unidentified fish, unidentified bird, and completely unidentifiable.

Total numbers of fragments by species were recorded, together with the numbers of 'A' bones, i.e. mandibular teeth and mandibles (for age at death analysis), measurable fragments, and the number of unfused and juvenile fragments (Dobney *et al.* forthcoming). In addition to counts of fragments, total weights were recorded for all identified and unidentified categories.

All invertebrate macrofossils were recorded semi-quantitatively using the scale described by Kenward *et al.* (1986) and Kenward (1992). Records were made on a paper *pro forma* for later transferal to a computer database (using *Paradox* software) for analysis and long-term storage.

## Results

The sample results are presented in context number order with archaeological information provided by the excavator given in square brackets.

### *Sediment samples*

**Context 2003** [Organic-looking deposit. ?3r; ?10-12th century] **Sample 2**

*Laboratory description: Just moist, light to mid grey, brittle to crumbly (working soft and slightly sticky), clay silt. Very small stones (2 to 6 mm), mortar, brick/tile, charcoal, fragments of mammal bone and marine mollusc shell were present in the sample.*

The washover comprised a few cm<sup>3</sup> of fine organic detritus, mostly root bark and charcoal, with traces of elderberry (*Sambucus nigra* L.) seeds and seeds of a few other taxa, mostly probably weeds. The large residue of about 1600 cm<sup>3</sup> consisted of sand with some bone (to 130 mm), brick/tile (to 90 mm), stone and gravel (to 70 mm), further charcoal (to 15 mm) and mortar (to 25 mm). Also present were sherds of pottery (to 50 mm), oyster shell fragments (to 70 mm) and a single *Sphagnum* sp. leaf.

A small assemblage of very poorly preserved invertebrates were present in the washover. Most of the beetles are typical of dry to moist decomposing material, with a few individuals (*Hister* sp. s. lat., *Gnathoncus* sp. and *Trox* sp.) possibly exploiting carrion. The presence of *Anobium punctatum* (Degeer), *Ptinus fur* (Linnaeus) and *Tenebrio* give hints of buildings nearby. However, the small size and poor condition of the assemblage preclude a detailed interpretation.

Of the total 211 vertebrate fragments (weighing 124.7 g) recovered from this sample, 26 were identifiable to species. These included amphibian, vole (Microtine), rat (*Rattus* sp.), eel (*Anguilla anguilla* (L.)), herring (*Clupea harengus* L.), pleuronectid, cattle, caprovid and pig. Fish, birds and all sizes of mammal. were represented in the remains unidentifiable to species.

**Context 2009** [?Coal. Possible contamination from

the surrounding Context] **Sample 4**

*Laboratory description: Just moist, crumbly (working soft), lumps (to 40mm) of mid to grey-brown clay silt and low-grade coal with light brown veins and occasional patches of indurated buff clay. Fragments of unidentifiable mammal bone and rotted ?mortar were present. The sample was also contaminated with a little mould.*

**Context 2018** [Sealing deposit which may also appear elsewhere on the site. Possible contamination from the surrounding clay] **Sample 5**

*Laboratory description: Just moist, mid orange-brown, indurated to crumbly (working either soft or crumbly), clay silt with a much higher proportion of clay in parts. Very small stones (2 to 6 mm), mortar, charcoal, fragments of ?bird bone and ?marine mollusc shell were present in the sample.*

The washover comprised a few tiny scraps of charcoal only. The large residue (approximately 100 cm<sup>3</sup>) contained sand and stones (to 20 mm) with traces of bone, brick/tile, charcoal (to 2 mm) and mortar. Seven bone fragments (weighing 1.6 g) were also recovered; an eel (*Anguilla anguilla* (L.)) vertebra, two bird phalanges, the tarsometatarsus of a wader (similar in size to a plover (cf. *Pluvialis* sp.)) and three unidentified fragments.

**Context 20003** [Organic deposit in pit 20013. ?2nd; 10/11th century] **Sample 7**

*Laboratory description: Moist, dark grey-brown, crumbly (working soft), clay silt with a little mortar present.*

The tiny flot included some very decayed wood fragments (to about 10 mm) and moderately well preserved seeds, mostly rushes (*Juncus bufonius* and some *J. cf. gerardi*) and celery-leaved crowfoot (*Ranunculus sceleratus*), with traces of a few other taxa (a mixture of wetland plants and weeds) of no clear interpretative character. The presence of many water flea (*Daphnia* sp.) resting eggs indicate that the pit occasionally contained water, or received waste water containing the remains of aquatic organisms. A small group of very poorly preserved decomposer insects were also recovered.

The moderately large residue of about 100 cm<sup>3</sup>

consisted of charcoal (to 15 mm) and sand, with traces of very decayed uncharred wood and a few charred caryopses of grasses and cereals, of which some were identifiable as barley. In addition nineteen fragments of bone (weighing 9.2 g) were recovered, of which five were unidentified fish remains and the rest unidentifiable mammal fragments.

**Context 20004** [Deposit in pit 20013 immediately below Context 20003] **Sample 8**

*Laboratory description: Moist, mid to dark, grey-brown, brittle to crumbly (working soft and sticky), clay silt to silty clay.*

The tiny flot contained a few rather decayed seeds representing weed and perhaps also wetland communities. The very small residue (a few cm<sup>3</sup>) comprised clasts of concreted silt (to 10 mm) which perhaps formed naturally at the bottom of the pit. A few poorly preserved invertebrates of no additional interpretative value were also present

**Context 20008** [?Use deposit in pit 20013. 2nd-4th century] **Sample 11**

*Laboratory description: Just moist, mid to dark, grey-brown, unconsolidated, ?ashy, slightly clay silt with large mammal bone present.*

The very small flot contained some very decayed wood (to 2 mm), a little other plant debris and a few fragments of extremely rotted invertebrates. The moderately large residue of about 75 cm<sup>3</sup> comprised sand, charcoal (to 20 mm), bone (to 80 mm) and grit with traces of fish bone and scale, a few elder (*Sambucus nigra* L.) seeds and a few very poorly preserved cereal grains, including barley (*Hordeum* sp.).

Of the sixteen fragments of bone (weighing 46.7 g) recovered from this sample eleven were fish (four eel and four herring vertebrae and three spines). A single cow phalanx and four unidentified mammal fragments made up the remainder

#### *Hand-collected vertebrate remains*

Vertebrate material was recovered from 55

contexts, of which 38 were assigned to the Roman period on the basis of pottery spot dates. Material from a further 10 contexts could be placed stratigraphically to within the same period. The remaining seven contexts either contained a mixture of Roman and Medieval pottery or could not be securely dated stratigraphically. This last group was excluded from the assessment. From the 48 contexts examined, a total of 405 vertebrate fragments (weighing 12,239 g) were recovered, of which 109 (weighing 4,019 g) was identified to species (Table 2). Table 3 gives the numbers of fragments by date.

Preservation records were made for material from 17 contexts. Overall, preservation was described as fair. Colour was variable, both within and between contexts, ranging from beige to dark brown, with most fragments described as brown. Angularity (appearance of broken surfaces) was also variable, with most contexts containing both 'spiky' and 'battered' fragments.

The degree of fragmentation was moderate, with more than 50% of fragments in most contexts being between 5 and 20 cm in the largest dimension. Overall, 0-10 % of fragments were affected by fresh breakage. Evidence of butchery was present on material from most contexts, affecting over 10% of the fragments. Dog gnawing was noted on less than 10% of fragments in only two contexts and no burnt fragments were noted.

Domestic species included those of economic importance (cattle, caprovid and pig), as well as dog, cat, chicken and horse. Of the identified material, cattle fragments were most numerous, with a correspondingly large number of large mammal fragments in the unidentified category. Both sheep and goat fragments were identified within the caprovid group. Wild mammals were represented by a single deer antler fragment.

A fragment of duck bone recovered from Context 25000 was of similar size to the specimens of mallard (*Anas platyrhynchos* L.) in the EAU reference collection. Fragments of less common birds included the radius of a raven (*Corvus corax* L.) from Context 17001 and a humerus from Context 11001 tentatively identified as a wader similar in size to plover (*Pluvialis* sp.). The raven bone was smaller than the reference collection specimen but was still sufficiently larger than crow and rook for it to be positively identified.

The skeletal element representation of the combined Roman material suggests that the cattle remains were predominantly primary butchery waste, whilst the caprovid remains were indicative of domestic refuse (meat-bearing parts of the skeleton).

Of the total 109 identifiable fragments from this assemblage 31 were measurable and 27 were subadult and/or juvenile. In addition, five mandibles and six isolated teeth yielding ageing or sexing information were recovered.

## **Discussion and statement of potential**

Although the vertebrate assemblage was quite small the tight dating of many deposits allowed a few observations to be made on the material. The preponderance of cattle and large mammal (assumed to be mostly cattle) fragments is typical of many Roman vertebrate assemblages. The difference between the type of waste (cattle representing primary butchery and caprovid representing domestic) is interesting, but it should be borne in mind that the assemblage is small and represents the whole Roman period.

The presence of raven is also interesting. Remains of this bird have been found in many Anglo-Scandinavian and medieval deposits from York (O'Connor 1989; Bond and O'Connor 1999) but few have been recovered from Roman levels. As was suggested for the raven bone found at Rear 3 Little Stonegate (Johnstone *et al.* 1999), this is likely to be a reflection of the paucity of Roman assemblages recovered and studied from York, rather than a real rarity of the species.

Although the samples chosen for assessment were broadly dated, they show that the smaller vertebrate remains are well-

preserved on the site and indicate the potential for recovery of fish, small mammals and amphibians from other deposits.

The tight dating of the deposits would allow a limited amount of further work. In particular, measurements should be taken to provide useful comparanda for other material of this date.

Both the plant and invertebrate remains offer very little interpretative information and give no clear indication of conditions at the site other than hints of human presence and some disturbed ground. Domestic waste was probably dumped in the vicinity and would account for the presence of the rushes in Context 20003 and cereal grains in Context 20008.

## **Recommendations**

It is recommended that an archive be made of the hand-collected bone assemblage and that measurements be taken for use in future synthetic projects. In addition, further samples from the more tightly dated contexts should be processed for the recovery of vertebrate remains. Further work on the plant and invertebrate remains so far recovered is not considered worthwhile, although the fact that they were preserved indicates that this area of York has potential for the study of these less robust remains.

## **Retention and disposal**

All of the samples and the bone should be retained for the present.

## **Archive**

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

It is recommended by the EH-funded staff that long-term storage of bioarchaeological remains should be in the local receiving museum.

### Acknowledgements

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*Table 1. List of the sediment samples from The Primitive Methodist Chapel, Little Stonegate, York and notes on their treatment. NFA - no further action undertaken.*

<b>Context no.</b>	<b>Sample no.</b>	<b>Sample type</b>	<b>Notes</b>	<b>Pottery spot date(s)</b>
1009	3	?BS	NFA	?
2003	2	BS	9.5 kg sieved to 500 µm with washover. 3 kg voucher	third century or 10th-12th century
2003	6	GBA	NFA	2nd century or 10th-12th century
2009	4	SPOT	material identification	?
2018	5	BS	entire sample (0.7 kg) sieved to 500 µm with washover	?
4019	1	?BS	NFA	?
20003	7	GBA	entire sample (1 kg) processed to 300µm; paraffin flotation	2nd century or 10th/11th century
20004	8	GBA	entire sample (1 kg) processed to 300µm; paraffin flotation	?
20004	9	GBA	NFA	?
20008	10	GBA	NFA	2nd-4th century
20008	11	GBA	entire sample (1 kg) processed to 300µm; paraffin flotation	2nd-4th century

Table 2. Total numbers by species of hand-collected vertebrate fragments, measurable and subadult bones, mandibles and isolated teeth from The Primitive Methodist Chapel, Little Stonegate, York. Key: Total no. frags = total number of fragments; No. measurable = number of measurable fragments; No. mandibles = number of mandibles with teeth in situ; No. teeth = number of isolated mandibular teeth; No. unfused = number of unfused fragments; No. juvenile = number of juvenile fragments.

Species	No. unfused	No. juvenile	No. mandibles	No. teeth	No. measurable	Total no. frags	Weight (g)
<i>Canis</i> f. domestic dog	1	-	-	-	1	3	29.0
<i>Felis</i> f. domestic cat	-	-	-	-	-	2	10.8
<i>Equus</i> f. domestic horse	-	-	-	-	-	1	50.8
<i>Sus</i> f. domestic pig	7	1	2	1	5	24	488.6
Cervid deer	-	-	-	-	-	1	42.8
<i>Bos</i> f. domestic cow	4	2	2	5	15	43	3040.2
<i>Capra</i> f. domestic goat	-	-	1	-	-	1	3.9
<i>Ovis</i> f. domestic sheep	-	-	-	-	2	2	56.5
Caprovid sh/g	7	3	-	-	3	18	266.6
<i>Anas</i> sp. duck	-	-	-	-	1	1	1.0
<i>Gallus</i> f. domestic chicken	-	-	-	-	3	5	11.8
Wader sp. wader	-	-	-	-	1	1	0.6
<i>Corvus corax</i> L. raven	-	-	-	-	-	1	1.0
Bird bird	-	2	-	-	-	6	15.1
<b>Subtotal</b>	<b>19</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>31</b>	<b>109</b>	<b>4018.7</b>
Large mammal	-	-	-	-	-	181	3631.9
Medium-sized mammal 1	-	-	-	-	-	110	551.3
Unidentified	-	-	-	-	-	5	3.6
<b>Subtotal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>296</b>	<b>8220.6</b>
<b>Total</b>	<b>19</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>31</b>	<b>405</b>	<b>12239.3</b>



Table 3. Numbers of hand-collected vertebrate fragments (by date) from The Primitive Methodist Chapel, Little Stonegate, York.

Species		late 1st-3rd C	2nd C	2nd-3rd C	2nd-4th C	3rd C	3rd-4th C	Romano-British	Total
<i>Canis</i> f. domestic	dog	-	-	2	1	-	-	-	3
<i>Felis</i> f. domestic	cat	2	-	-	-	-	-	-	2
<i>Equus</i> f. domestic	horse	-	-	1	-	-	-	-	1
<i>Sus</i> f. domestic	pig	2	3	11	1	2	-	5	24
Cervid	deer	-	-	1	-	-	-	-	1
<i>Bos</i> f. domestic	cow	9	4	15	8	-	2	5	43
<i>Capra</i> f. domestic	goat	-	-	-	1	-	-	-	1
<i>Ovis</i> f. domestic	sheep	-	-	2	-	-	-	-	2
Caprovid	sh/g	2	4	9	-	-	-	3	18
<i>Anas</i> sp.	duck	-	-	-	1	-	-	-	1
<i>Gallus</i> f. domestic	chicken	-	-	3	-	-	-	2	5
Wader sp.	wader	-	-	1	-	-	-	-	1
<i>Corvus corax</i> L.	raven	-	-	1	-	-	-	-	1
Bird	bird	-	1	1	3	-	-	1	6
<b>Subtotal</b>		<b>15</b>	<b>12</b>	<b>47</b>	<b>15</b>	<b>2</b>	<b>2</b>	<b>16</b>	<b>109</b>
Large mammal		14	33	87	25	-	3	19	181
Medium-sized mammal 1		2	21	46	11	1	3	26	110
Unidentified		-	2	1	2	-	-	-	5
<b>Subtotal</b>		<b>16</b>	<b>56</b>	<b>134</b>	<b>38</b>	<b>1</b>	<b>6</b>	<b>45</b>	<b>296</b>
<b>Total</b>		<b>31</b>	<b>68</b>	<b>181</b>	<b>53</b>	<b>3</b>	<b>8</b>	<b>61</b>	<b>405</b>