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**Assessment of biological remains further excavations at
Magistrates' Court, Hull (site code: MCH99)**

by

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Summary

Three samples of sediment and three boxes of hand-collected bone from further excavation of deposits at Magistrates' Court, Hull, were submitted for an evaluation of their bioarchaeological potential.

The plant and invertebrate assemblages were very similar to many from the previous excavation of this site (HMC94) and clearly showed potential to contribute to its interpretation.

Most of the bone represented domestic/kitchen refuse, with a smaller component of primary butchery waste, which was more apparent in the earlier phases. The assemblage was very similar to that recovered from the post-medieval deposits excavated in 1994.

A proper record should be made of this material for incorporation with that already obtained in the earlier intervention.

KEYWORDS: MAGISTRATES' COURT; HULL; PLANT REMAINS; CHARRED PLANT REMAINS; WOOD CHIPS; INSECT REMAINS; ANIMAL BONE; FISH BONE; FOOD WASTE; STABLE MANURE; 'HOUSE FAUNA'

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Introduction

An archaeological excavation was carried out by Humber Field Archaeology in the area formerly known as the Magistrates' Court site, Hull (NGR: TA 101 285), in November 1999. Twenty sediment samples ('GBA' *sensu* Dobney *et al.* 1992) from fifteen contexts, and three boxes of hand-collected bone (each of approximately 20 litres) were recovered from the deposits. The samples were assigned to six phases dated and interpreted as follows:

- Phase 1:* pre-14th century alluvium
- Phase 2:* 14th century primary ground raising dumps and early occupation
- Phase 3:* 14th-15th century redefined boundaries and building alterations
- Phase 4:* 15th century demolition and robbing
- Phase 5:* 16th-17th century post medieval structures: ovens and hearths
- Phase 6:* 17th-20th century internal fireplace, passage-way and cellars. Demolition of structures and car park landscaping

Three of the samples were submitted to the EAU for assessment of their bioarchaeological potential.

Methods

Sediment samples

The submitted sediment samples were inspected in the laboratory and descriptions of their lithologies were recorded using a standard *pro forma*. All of the submitted samples were processed, following the procedures of Kenward *et al.* (1980; 1986) for recovery of plant and invertebrate macrofossils.

Plant macrofossils were examined from the residues and flots resulting from processing, and the flots were examined for invertebrate remains. The residues were also examined for other biological and artefactual remains.

For the insect remains a preservation index has been recorded for the sclerites on a scale from 0.5 (uneroded) to 5.5 (very highly eroded) in increments of 0.5 (Kenward and Large 1998). This index is given as 'E' in the text.

Table 1 shows a list of the submitted samples and notes on their treatment.

Vertebrate remains

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 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 EAU. 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), medium-sized mammal 2 (dog, cat, hare 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.* 1999). In addition to counts of fragments, total weights were recorded for all identified and unidentified categories.

Results

Sediment samples

Phase 2 (14th century)

Context 3119 [organic layer containing wood fragments]

Sample 14 (2 kg paraffin flotation)

Moist, mid to dark grey brown (locally lighter and darker), brittle to crumbly (working somewhat plastic), slightly sandy slightly clay silt, with flecks and larger patches of organic detritus.

The moderate-sized residue of about 350 cm³ contained only about 75 cm³ of grit, sand and chalk gravel, the rest consisting mostly of flaky wood fragments (perhaps largely from chips or similar), with some small fragments of peat (to 15 mm). This last included material likely to have originated in both fen and raised bog deposits. The sample was not rich in seeds—identifiable remains were mainly weeds, though there were a few well preserved fig (*Ficus carica* seeds L.) and traces of hempseed (*Cannabis sativa* L.).

Preservation of insect remains was mainly quite to very good (E2.0-3.5, with a weak mode at 2.5), but the concentration of remains was rather low. There were several fly puparia and numerous earthworm egg capsules, and a smallish and ecologically rather mixed beetle assemblage. Foul matter (e.g. *Aphodius ?prodromus* (Brahm), *Aphodius* sp.) and typical 'house fauna' taxa (*sensu* Kenward and Hall 1995, e.g. *Xylodromus concinnus* (Marsham), *Cryptophagus* sp., *Anobium punctatum* (Degeer)) were present, but it appeared that the only beetle represented by more than one individual was *Cryptophagus* sp. (MNI of 3). It is likely that a 5 kg subsample would provide an interpretable assemblage, but the result might be to show that the remains were a predominantly random accumulation.

Context 3132 [organic layer]

Sample 16 (2 kg paraffin flotation)

Moist, light to mid grey brown (locally somewhat darker), brittle to crumbly (working just plastic), slightly clay silt with patches of fine organic detritus. Small and medium-sized stones (6 to 60 mm), wood and fragments of large mammal bone were present in the sample.

The moderate-sized residue of about 400 cm³ included about 150 cm³ of sand and gravel including some clasts of flint. The rest comprised wood fragments, perhaps including very decayed chips (most of the material in this sample was rather worn and may therefore have been redeposited), and twig fragments with some charcoal; there was also rather a lot of fish bone (see below). Seed preservation (by anoxic waterlogging) was mostly rather good (*contra* the comment about wood fragments). There were also some charred plant fragments which may have originated in material used for thatch or as litter or fuel: amongst these were grass/cereal culm and some distinctive leaf fragments of saw-sedge,

Cladium mariscus (L.) Pohl. Fig seeds were again recorded and there was a single charred grape (*Vitis vinifera* L.) pip.

There were few insects other than abundant fly puparia, but preservation was rather good. Subjectively this may have been a stable manure assemblage, for there were specimens of decomposers such as *Platystethus arenarius* (Fourcroy), *Cercyon haemorrhoidalis* (Fabricius), *Acritus nigricornis* (Hoffmann, J.), *Leptacinus* sp. and *Monotoma* sp., together with *Sitona* sp. and *Gymnetron* sp. (the last two perhaps imported in hay). A larger subsample (of 5 kg) would probably provide a diagnostic assemblage.

A brief sort of the residue produced a small assemblage of bone, amounting to 64 fragments. Preservation was excellent, particularly of the fish remains, which made up the bulk (56 fragments) of the assemblage. Species present included the remains of herring (*Clupea harengus* L.), eel (*Anguilla anguilla* (L.)), smelt (*Osmerus eperlanus* (L.)), Pleuronectidae, Rajidae, small and large Gadidae, and Cyprinidae. Two of the fish vertebrae had been burnt. Other burnt fragments were noted amongst the seven unidentified mammal fragments. The fragments varied in colour from very dark brown to a gingery fawn.

This small residue produced a diverse assemblage of fish, which included marine and freshwater components. There is little doubt that processing more of the sediment from this deposit would produce a moderate-sized assemblage of excellent preservation.

Context 5052 (0.12 m thick organic layer lying directly on natural silty clay. Possibly a compacted wood chip floor)

Sample 19 (2 kg paraffin flotation)

Moist, mid to dark grey brown, brittle (and somewhat indurated and slightly layered) to crumbly (working slightly plastic), very humic, slightly sandy silt with very thin lenses of light brown clay. Wood was common, and white flecks and ?iron deposition were present in the sample.

The moderate-sized to large residue of about 600 cm³ included about 50 cm³ of gravel and sand, the rest being flaky wood fragments including worked fragments of pine (*Pinus*) and many hardwood and softwood chips, with a noticeably rather large >4 mm fraction. There were rather few seeds and preservation of these was somewhat variable. Several taxa are likely to have arrived in cut vegetation such as hay or (secondarily) in stable manure. Traces of hemp seed were noted and fig was again present.

Invertebrate preservation ranged from good to poor (E2.0-4.0, weak mode at 2.5). This assemblage bore a very strong resemblance to many from the earlier excavations at this site. 'Outdoor' forms were abundant, including aquatics (numerous *Daphnia* ephippia, *Helophorus aquaticus* (L.) or *grandis* Illiger, two other *Helophorus* species, and *Ochthebius* sp.) and a range of plant-feeders. Among the latter, *Sitona ?lineatus* (L.) was rather common, as in a number of samples from the previous excavation. Dung beetles were rather numerous, with up to ten individuals (*A. ?prodromus* and *A. granarius* (L.) being identified). Some other decomposers were present but did not constitute a characteristic group. There was a single grain weevil, *Sitophilus granarius* (L.).

Interpretation of this group of invertebrates, as for many from the previous excavation, was difficult. A dump of stable manure (from a frequently cleared stable) left in the open in an area susceptible to flooding might give rise to a fauna such as this, but further consideration is necessary.

Hand-collected vertebrate remains

The entire assemblage, recovered mainly from deposits of medieval and post-medieval date, amounted to 1322 fragments (representing 82 contexts), of which 354 were identified to species. Of the 82 contexts examined, only 26 (mostly from Trench 3) yielded more than 10 fragments.

Most of the preservation records were made on the material from Trench 3 as this area produced the bulk of the assemblage. Overall, the preservation was very variable. Proportions of fragments recorded as 'good', 'fair' and 'poor' varied within material from individual contexts. 'Angularity' (the nature of the broken surfaces) was equally variable, with each context containing differing amounts of fragments, which were 'spiky' or battered in appearance. Colour was also rather inconsistent, but showed less variation both within and between contexts than did the other characteristics noted. Bone from pitfill 3112, however, was very well preserved and appears to represent a primary deposit.

Fragmentation records suggest that, on the whole, most of the bones were between 5 and 20 cm in any dimension. Two contexts (4008 and 4019) contained material, which was particularly fragmented, with over 50% of the fragments being <5cm in dimension. These deposits were associated with human burials and the fragmentation probably reflects the residual nature of the animal bones. Little dog gnawing or butchery evidence was noted, and fresh breakage was minimal.

A range of species was identified, which typically was dominated by the major domesticates – cattle, caprovids, pigs and chicken. A range of skeletal elements was present for the three main species (cattle, caprovids and pigs), which showed the presence of both primary butchery waste and domestic/kitchen refuse. Insufficient fragments were available for more detailed conclusions to be drawn.

The remains of geese were quite numerous, and a few duck bones were also recovered. Wild birds were represented by two fragments tentatively identified as lapwing (*Vanellus vanellus* (L.)) and single fragments of Columbidae (pigeon family) and Laridae (gull family). Remains of wild mammals included a red deer (*Cervus elaphus* L.) sawn antler tip (Context 3071) and a number of hare (*Lepus* sp.) and rabbit (*Oryctolagus cuniculus* (L.)) fragments. The latter are confined to the post-medieval period. Fish remains were not numerous but included a number of cod (cf. *Gadus morhua* L.) skull fragments and gadid vertebrae. Details of the range of species and number of fragments by phase are given in Table 2.

Few mandibles or isolated teeth of use for providing age-at-death or sexing information were recovered. Ninety-three of the fragments were measurable, of which 54 were from the medieval (14th-15th century) deposits.

Discussion and statement of potential

Sediment samples

These plant and invertebrate assemblages are very similar to many from the previous excavation of this site (HMC94). Wood fragments (especially wood chips) were usually present where there was good waterlogged preservation, and in a few cases were quite abundant. Hemp and fig were also recorded in many deposits at that site though these three deposits lack any nutshell (walnut and hazelnut were frequently recorded from the material excavated in 1994).

Some tentative characterisation of the invertebrate assemblages has been possible but, as with the assemblages from the previous excavation, larger subsamples and considerable additional study would be required for a more definitive statement to be made. At least one of the assemblages very closely

resembled several from HMC94. As for the plant remains, this assessment clearly shows the survival of identifiable remains and their potential to contribute to the interpretation of the site.

Vertebrate remains

Generally, the assemblage had a rather 'jumbled' appearance and it was apparent that many of the deposits contained varying amounts of residual or reworked material. This is not surprising given that some of the deposits in Trench 3 were levelling dumps, almost certainly containing material deliberately brought from elsewhere. Additionally, evidence from Trench 3 has shown that there was a long sequence of occupation in the area, resulting in much reworking of the deposits. Material from Trench 4, an area of known human burials, is unlikely to represent primary deposits.

Most of the material represented domestic/kitchen refuse, with a smaller component of primary butchery waste, which was more apparent in the earlier phases. This assemblage was very similar to that recovered from the post-medieval deposits excavated in 1994.

Recommendations

Certainly a proper record should be made of this material for incorporation with that already obtained in the earlier intervention and samples not so far examined from the 1999 excavations might well be worth examining, too, if they extend the range of context types beyond what was investigated in 1994.

The small size of the animal bone assemblage and the variability of the preservation render this assemblage of limited interpretative value. Additionally, fragments providing age-at-death and biometrical information are not numerous. However, an archive of material, including measurements, from all tightly dated deposits should be made and added to the records created for the assemblages from the 1994 excavations.

Retention and disposal

All of the material from this assessment excavation 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.

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Table 1. List of sediment samples assessed from further excavations at Magistrates' Court, Hull, with notes on their treatment.

Phase	Context	Sample	Notes
2	3119	14	2 kg processed to 300 microns and paraffin flotation
2	3132	16	2 kg processed to 300 microns and paraffin flotation
2	5052	19	2 kg processed to 300 microns and paraffin flotation

Table 2. Hand-collected vertebrate remains (by phase) from further excavations at Magistrates Court, Hull.

Species		Phase 1	Phase 2	Phase 3	Phase 3/4	Phase 4	Phase 5	Phase 6	Total
<i>Oryctolagus cuniculus</i> (L.)	rabbit	-	-	-	-	-	9	5	14
<i>Lepus</i> sp.	hare	-	-	1	-	-	1	-	2
<i>Rattus rattus</i> (L.)	rat	-	-	-	-	-	-	1	1
<i>Canis</i> f. domestic	dog	-	-	-	1	1	1	1	4
<i>Felis</i> f. domestic	cat	-	-	12	1		1	1	15
<i>Sus</i> f. domestic	pig	-	-	20	5	12	27	4	68
<i>Cervus elaphus</i> L.	red	-	-	-	-	1	-	-	1
<i>Bos</i> f. domestic	cow	3	3	7	10	15	7	11	56
Caprovid	sh/g	-	1	-	9	15	17	15	57
cf. <i>Capra</i> f. domestic	?goat	-	-	-	-	1	-	-	1
<i>Ovis</i> f. domestic	sheep	-	-	3	3	13	2	3	24
<i>Anser</i> sp.	goose	-	-	7	2	6	11	3	29
<i>Anas</i> sp.	duck	-	-	-	-	2	3	-	5
cf. <i>Anas</i> sp.	?duck	-	-	-	-	1	-	-	1
<i>Gallus</i> f. domestic	fowl	-	2	1	7	9	11	10	40
cf. <i>Vanellus vanellus</i> (L.)	?lapwing	-	-	-	-	2	-	-	2
Laridae	Laridae	-	-	-	-	-	1	-	1
Columbidae	Columbidae	-	-	-	-	1	-	-	1
Gadidae	gadid	-	2	-	-	-	5	-	7
<i>Gadus morhua</i> L.	cod	-	-	-	-	1	1	-	2
<i>Homo sapiens</i>	human	-	-	-	15	2	-	6	23
<i>Sub-total</i>		3	8	51	53	82	97	60	354
Large mammal		12	19	12	67	83	40	62	295
Medium mammal 1		4	6	26	46	150	134	111	477
Medium mammal 2		-	-	1	-	-	10	1	12
Unidentified bird		-	1	1	8	27	28	17	82
Unidentified fish		1	7	1	4	3	10	3	29
Unidentifiable		-	-	5	24	5	32	7	73
<i>Sub-total</i>		17	33	46	149	268	254	201	968
Total		20	41	97	202	350	351	261	1322