BARNARD CASTLE EXCAVATIONS 1978

His Lordship's Dinner

Excavations at Barnard Castle in 1978 included the uncovering and excavation of a stone-lined drain in the inner ward of the castle (see Fig. 1). The drain (5050) is dated by stratigraphy and finds to the fourteenth and fifteenth centuries. It is constructed of faced sandstone blocks with a few capping stones still in situ. The system appeared to have originally run out through the west curtain wall along drain 5132. This was blocked, possibly during the building of the south tower in the fifteenth century, and the western part of the channel had been robbed out. The system was then diverted southwards along drain 5068, again largely robbed, through a still existing hole in the south curtain. The surviving part of the drain (5050) forms the upstream section of the excavated portion of the system. The deposits (5054) within this intact region must be contemporary with the latest phase of the systems use, the fifteenth century.

Documentary evidence indicates that the kitchen range lies east (Fig.1) in an unexcavated area and it is possible that the drain system emerges from this block. The building complex (Fig. 1), only partially excavated, appears to relate stratigraphically to the same period as the early phase Great Hall. Its position and the drain complex associated with it (5050, 5132, 5068 and 5176) suggest that it might itself be an early phase kitchen building.[1]

Preliminary excavation of the fill (5054) of the drain (5050) showed there to be alarge number of small bones so the whole of the fill was retained for laboratory analysis. An approximate total of ninety four kilograms of soil were collected and the larger visible finds recovered at the time of excavation. This constituted the entire deposit barring two bucket-fulls which were discarded after coarse sieving during the initial excavation.

The laboratory treatment of the material consisted initially of the washing of a 20kg. sample through sieves of mesh size 3.35, 1.7 and 0.6mm., with the capture of all floating matter in a 0.3mm. mesh sieve arranged beneath an overflow. Subsequently the remainder of the sample

[1]The archaeological description of the drain system has been abstracted from a report by J.C

was placed in a nylon bag , of approximately 5kg. capacity, with an approximate mesh size of 0.9mm. and suspended in running water , floating material again being caught in a 0.3mm. mesh sieve at the outflow. This was done repeatedly until all the soil was washed . The washed residue in the nylon bag was then sieved through a mesh of 1.7mm. and the total residue caught in this mesh and the 3.35mm. mesh was dried and hand-sorted by eye or under a table lens. This resulted in the recovery of artifacts including bronze pins , pottery sherds, a jet button and fragments of other manufactured articles as well as a carbonised fruit stone, bird eggshell , fish, bird and mammal bones , mollusc shells, and other debris .

The fractions not caught by the 1.7mm. mesh but retained in the nylon bag and the 0.6mm. mesh were kept; a small fraction of each was dried and sorted under the microscope at x 6.4 and x 16 magnifications but contained very little material that would permit identification to species level and sorting was abandoned . The float from the sample was sorted in industrial methylated spirit at a magnification of x 16 under a binocular microscope and carbonised seed remains and identifiable charcoal removed .

The sorting of the residue and float produced a very large number of bones, bone fragments, seeds and charcoal; although of little weight in comparison with the total soil sample. This collection produced a considerable amount of identifiable material from a large number of species, but well over fifty percent of it was unidentifiable to a species or genus level and is not mentioned further . Some three hundred and eighty bones were collected by hand during excavation and of these approximately forty-three percent were identifiable to species or genus.

Results

The identified biological remains fall into two categories. Plant material , most of which was carbonised and recovered from the float , and animal bones and shells sorted from the residues and also recovered during excavation .

Plant remains

Food plants . The oat grains, by virtue of their shape and size range are referable to the hexaploid species Avena sativa , the most commonly cultivated form . No flower bases were recovered for further confirmation of this species. Probably introduced into this country as a weed in wheat

and barley seed , there is little evidence, at least in England, that oats was cultivated in its own right until the Roman period, when its potential in more northerly latitudes must have been realised .
The wheat grains are of the "modern", hexaploid, bread wheat type (Triticum aestivum), although , in common with much mediaeval material, seems to be smaller grained than modern varieties.
The presence of grain in such a context could indicate storage , drying, milling or, most likely, their use as whole grain in cooking . Many mediaeval dishes such as potage and frumenty incorporate grain as "bulk". One only has to imagine the absence from the modern diet of potatoes and rice to appreciate their importance .
Peas (Pisum sativum),are a protein-rich vegetable which can be dried and stored for winter use. The sloe (Prunus spinosa), bitter to the modern palate, is frequently recovered from archaeological excavations and was probably an important element of the diet . The elder (Sambucus nigra) seeds , being woody , could have been preserved in their uncarbonised state , and also represent the gathering of wild fruits.
Other plants . The Hairy Tare (Vicia hirsuta) is a leguminous weed of cultivated land , usually clinging to and growing up the crop. In this case the seeds had probably been harvested along with the grain and had presumably been subjected to the same processes as they both appear in the drain in a carbonised state.
Two , very fresh looking, winged fruits of birch (Betula pendula/B.pubescens) were recovered , but are almost certainly contaminants .
A considerable number of charcoal fragments of oak (Quercus sp.), ash (Fraxinus excelsior), and hazel (Corylus avellana) were found. These are all native to the region and would have been available locally . Possibly these fragments are the remains of a cooking fire .

Mollusc remains

A number of shellfish valves and several hundred fragments occurred . These included oysters (Ostrea edulis), cockles (Cardium edule) and common mussels (Mytilus edulis) but other species may have been present . The shells of these animals were very poorly preserved , being friable or powdery , and apart from four valves were all considerably fragmented .

Fish remains

Twelve different types of fish have been identified from a total of 121g. of fish bone sorted from the residues. The fish bones recovered from this

BARNARD CASTLE EXCAVATIONS 1978

Species identified from the contents of a stone-lined drain, 5050, in the inner ward of the castle.

Plant Species		Finds from the soil sample	Finds from excavation
Uncarbonised plant remains			
Sambucus nigra L.	Elder	4 seeds	
Betula pendula Roth/B.pubescens Ehrh.	Birch	2 fruits	
Carbonised plant remains			
Avena sativa L.	Oats	70 grains	
Triticum aestivum L.	Wheat	29 grains	
Pisum sativum L.	Pea	1 seed	
Vicia hirsuta (L.)S.F.Gray	Hairy Tare	3 seeds	
Prunus spinosa L.	Sloe , Blackthorn	1 fruit stone	
Corylus avellana L.	Hazel	Charcoal	
Quercus sp.	Oak	charcoal	
Fraxinus excelsior L.	Ash	charcoal	
Molluscan Species			
Mytilus edulis L.	Common mussel	6 valves + fragments	
Ostre edulis L.	Oyster	1 valve + fragments	3 valves
Cardiun edule L.	Common cockle	1 valve + fragments	
Mollusca species indeterminate		several fragments	

(Table continued)

deposit are almost certainly one of the most significant groups to be excavated in Northern England and contain some bones rarely recovered from archaeological deposits . The present day distribution and habits of the identified fish will illuminate the results and provide an opportunity to discuss each fish in turn .

Cartilagenous fish, Selachii genus and species indeterminate. This group of fish includes the sharks , rays and dogfish. As their common name suggests, their skeleton is composed of cartilage which in places may be strengthened by mineralisation . As a result most selachian skeletal material decomposes very rapidly once the animal dies , the resistant elements being mineralised cores of vertebrae . Cartilagenous fish produce a range of dermal structures, some of which are identifiable to species. Unfortunmately the dermal denticles recovered from the drain are of a type which are not identifiable . Due to the factors outlined above it is very difficult to assess the importance of the cartilagenous fish in past diet as it is likely that the remains that survive in archaeological deposits are an indefinable fraction of the total that would have persisted had the skeleton been composed of a more resistant substance .

Herring (Clupea harengus) . Herring remains were only recovered from sieved material . The herring is a pelagic marine fish which formerly occurred in immense shoals in the North Sea. Prior to the introduction of the mid-water trawl it was usually caught in drift or seine nets. In view of the number of herring vertebrae recovered it is reasonable to suggest that they were one of the more important food fish consumed on the site . As with most fish bones recovered on archaeological sites, it is impossible to say whether the herring arrived on the site as fresh fish or if they were preserved in some way .

Trout (Salmo trutta) . The most unusual and interesting fish bone from the drain is the vomer from a trout. While many bones from the salmon family are distinctive enough to identify them to the Salmonidae very rarely is the paleoichthyologist able to distinguish the species present. The vomer is the most distinctive of salmonid head bones and has allowed trout to be identified. While it is almost certain that the remaining salmonid bones in the assemblage are also from trout precise identification has been avoided. The vomer is from a small trout, it compares closely with one from a fish of approximately 20cm.in length, a number of head bones and vertebral centra indicate that fish of

Table of species continued:

Fish Species		
Selachii, gen. & spp. indet. Cartilagenous fish	2 dermal denticles, 5 vertebral centrum cores.	
Clupea harengus L. Herring	415 vertebral centra, 1 hyomandibular, 1 ceratohyal, 8 assorted head bones.	
Salmo trutta L. Brown trout	1 vomer	
cf, Brown trout	1 palatine, 2 dentaries, 2 quadrates, 37 vertebral centra, 2 vertebral frags.	
Esox lucius L. Pike	4 vertebral centra	4 caudal vertebral centra
Cyprinidae, gen. & spp. indet. Carp family	1 minute damaged pharyngeal tooth.	
Anguilla anguilla (L.) Eel	99 vertebral centra.	
Conger conger (L.) Conger eel	9 vertebral centra.	
Merlangius merlangus (L.) Whiting	69 vertebral centra, 1 maxilla.	
cf. Whiting	1 lower pharyngeal tooth plate.	
Gadus morhua L. Cod	5 caudal vertebral centra, 5 vertebral centra fragments.	2 vomers, 15 caudal vertebra centra.
cf. Cod	4 otolith fragments, 2 pharyngeal tooth plates.	
Melanogrammus aeglefinus (L.) Haddock	4 caudal vertebral centra, 2 vertebral centra frags, 1 premaxilla fragment.	1 caudal vertebral centrum
cf. Haddock		9 precaudal vertebral centra.
Molva sp. Ling		6 caudal vertebral centra.
Gadidae, spp. indet. Cod family		8 cranial bones.
Triglidae sp. indet. Gurnard	5 sculptured cranial fragments, 1 spine frag., 1 dorsal spine.	

(Table continued)

approximately 30cm. are also present. The species Salmo trutta encompasses the brown, lake and sea trout, the first two being exclusively freshwater and the latter andromynous. They are of course highly regarded as food fish.

Pike (Esox lucius) .. Pike is a carnivorous freshwater fish which lies in wait for its prey in the cover of aquatic plants. It frequently grows to 100cm. and 15kg., being caught for sport with hooks and commercially in nets or traps. The flesh is palatable and the vertebrae recovered suggest that the pike was at least 70cm. in length.

Carp family, Cyprinidae genus and species indeterminate. Most of the common freshwater fish of the British Isles belong to this family eg. roach,dace,chub , etc.. The one pharyngeal tooth plate fragment has not been identified to species but its size suggests it is from a very small individual , probably no longer than 8cm.. The most likely explanation for such a small barely edible fish being deposited in what is clearly a domestic refuse context is that the fish arrived on the site in the entrails of a larger carnivorous fish , for instance the pike, and that the small cyprinid was discarded into the drain together with the entrails of the large fish.

Eel (Anguilla anguilla) . Depending on the season of the year eels can be caught in salt, brackish or freshwaters. They can grow to over a metre in length but the size of the vertebrae from the drain suggest that they did not exceed 50cm.. A wide variety of methods are used to catch them including hook and line, nets, traps and eel spears. The large number of eel bones recovered cannot be used to indicate that they were often eaten since each eel has over one hundred vertebrae. They are considered by some to be very palatable.

Conger eel(Conger conger) . This marine fish is usually found amongst rocks or rough ground. It occurs in most British waters being taken at depths of 20-60m. where it frequently attains 120-150cm.in length.

Whiting(Merlangius merlangus) . This is a very common fish in the North Sea inhabiting depths of 30-100m.. It is not a large fish, rarely exceeding 40cm.. It is one of the most important fish to be caught by small boat fisheries. Today it is most often taken in trawls, but drift nets ,seine nets and hooks are also used. Whiting remains were found in fairly large numbers and it may be inferred that at least two individuals are present.

Cod (Gadus morhua) . The cod is abundant in the North Sea in both inshore and offshore waters. Today it is mainly taken in trawls but can be

caught on baited hooks and in other nets. It is a large fish growing to 150 cm. and 40kg.. The cod remains found are mainly from fish over 100m. in length and are from at least two individuals.

Haddock (Melanogrammus aeglefinus) . This is a bottom living fish that is rarely caught at less than 60m. depth. It is common in the Northern North Sea where it regularly attains 80 cm. and 3kg.. The presence of these bones indicates that the fishermen supplying the site were exploiting fairly deep waters.

Ling (Molva sp.). Three species of the ling inhabit British waters although the Spanish or Mediterranean ling (M.macrophthalma (Rafinesque-Schmaltz,1810)) can be discounted as its distribution is limited to the western seaboard of the British Isles. Of the remaining species the common ling (M.molva (L.)) grows to 200cm.,and inhabits waters 100-400m. deep and occasionally is found in inshore waters; the blue ling (M.dypterygia (Pennant,1784)) attains 150cm.,and is most common in depths of 350-500m. descending to 1000m. The ling bones recovered are from extremely large fish , their size indicates that the entire fish were over 150cm. in length. The balance of the evidence would suggest that M.molva is most likely. The lack of comparative material precludes any discussion based on any morphological differences in the bones of this genus.

Gurnard , Triglidae gen.& spp. indet.. Gurnards are common gregarious fish which form loose shoals on the bottom, they occur in both inshore and deep waters. They grow to 60cm. and 2.5kg and although bony are good to eat. Unfortunately the bones recovered are not identifiable to species.

Flatfish, Pleuronectidae gen. & spp. indet , Soleidae gen. & spp. indet.. Flatfish caudal vertebral centra are immediately recognisable , the neural and haemal arches are very substantial and transverse processes are greatly reduced. It is possible to assign some of the vertebrae from the drain to the family which includes the plaice (Pleuronectes platessa L.), and flounder (Platichthys flesus (L.)), others have been tentatively placed in the sole family.

Fishing methods and locations

From the biological discussion of the various species found in the drain it is clear that a number of different fishing techniques must have been practised. The majority of the marine fish were probably caught using hook and lines, most could have been taken from inshore waters although the presence of haddock and to a lesser extent ling suggests that deep waters were also exploited . Herring will not take hooks but can be taken seasonally in large numbers in the lower reaches of estuaries using nets,

the traditional method of capture is the drift net which may have been used. Pike , the only exclusively freshwater fish and probably eels and trout would have been taken from rivers close to the site , presumably the Tees , a variety of methods may have been employed in their capture.

Bird Remains

At least twelve types of bird and a number of indeterminate song birds have been identified from the hundreds of bones and fragments of bird bones sorted from the residue of the sample and the excavated bones. The bulk of these are from domestic varieties , chicken and goose. Chicken bones were numerous in both the excavated and sieved samples , and over twenty percent of their bones were from young birds presumably killed in their first year. Alongside the bones of chicken were hundreds of small fragments of their eggshells testifying to this alternative food contribution by the species .

The majority of the goose bones identified were recovered during excavation. Except for one bone all are more or less fragmented but nevertheless the size of the bones are comparable with those of domestic varieties. There is no evidence for wild species being present. Eight of the bones have been butchered four of these are lumbosacrales and indicate that the goose carcass , or at least the posterior part , was chopped down the middle into two similar halves.

There is no certain evidence of domestic duck , and in fact only two bones of duck were identified. A furcula fragment a little smaller than a male mallard (Anas platyrynchus L.), may fall within the size range of domestic varieties. A distal half of a tarso-metatarsus compares closely in size with a pintail (Anas acuta).

A further domestic species, the pigeon or dove,may be present. Three bones of dove were identified,two from young birds. These may be "domestic" birds taken from a dovecote ; it was common for manors and castles to have a dovecote in the mediaeval period. It is difficult to establish species in this group by means other than the size of the bones and being young animals size cannot be considered a reliable character. The two common doves , the Stock dove (Columba oenas L.) and the Rock dove (Columba livia L.) are of similar size , the latter species is the wild ancestor of the "domestic" pigeon.

Besides these domestic and possibly domestic birds at least nine different species of wild bird are present. Specific identification of some , particularly the members of the thrush family and the smaller song and hedgerow birds is difficult and for some species largely dependent upon

Table of species continued:

Fish Species (continued)		
Pleuronectidae gen.& spp. indet. Flatfish	8 vertebral centra.	4 caudal vertebral centra.
cf. Soleidae gen. & spp. indet. Flatfish	4 vertebral centra	
Pisces gen. & spp. indet.	several hundred fragments.	several fragments.
Bird Species		
Fowl , domestic	26	31
Goose , cf. domestic	8	27
? Parus caerleus L. Blue tit	3 ulnae and humerus	
cf.Turdus pilaris L. Fieldfare	9 coracoids,humeri,tibiae,ulna, furcula & scapula.	
Turdus philomelos Brehm /T.iliacus L. Song Thrush or Redwing	2 ulna ,carpometacarpus.	
? Phoenicurus phoenicurus (L.) Redstart	8 humeri,femorae,coracoids,ulna tarso-metatarsus.	
cf.Anas acuta L. Pintail		1 distal frag. tarso-metatarsus.
Anatidae sp. Duck	1 furcula frag.	
Columba sp. Dove	3 coracoid,scapulae frags	
cf. Tringa totanus (L.) Redshank	1 coracoid	
Pluvialis apricaria (L.) Golden plover	2 coracoid & sternal frags	
cf. Callinula chloropus (L.) Moorhen	4 furcula frags	
Lagopus lagopus (L.) Red grouse	1 coracoid	
cf. Perdix perdix (L.) Partridge	4 ulna, ulnares, vertebra.	
Song birds , gen. & spp. indet.	14	
Aves gen. & spp. indet.	several hundred fragments	several fragments

(Table continued)

size rather than morphological characteristics.

Two game bird species are present , red grouse (Lagopus lagopus) a single bone of which was found and four bones that fall within the size range of the partridge (Perdix perdix).

Two waders common on lowland and hilly moors and rough pastures during the breeding season are the golden plover (Pluvialis apricaria) and the redshank (Tringa totanus). The golden plover is commonly found on pastures and arable outside the breeding season and was probably present around Barnard Castle for much of the year . The redshank is a less likely winter resident , most birds resort to the tidal estuaries and coastal regions out of season .

Four individuals of moorhen (Gallinula chloropus) were identified from furculae. There is abundant habitat for this species adjacent to the River Tees today.

At least two species of the thrush family, Turdidae, are present in the collection . Two bones fall within the size range of the song thrush (Turdus philomelos) and the redwing (T. illiacus) and specific identification is not possible. A larger group of bones representing at least two individuals, but probably largely from one animal , are comparable with those of the fieldfare (T. pilaris), although blackbird (T.merula) and mistle thrush (T.viscivorus) are both similar in size the former generally slightly smaller and the latter slightly larger.

A further group of bones compare with a small member of the thrush family , the redstart (Phoenicurus phoenicurus), but the bone sizes overlap with a number of other small species and identification is not certain .

A small pair of ulnae and a small humerus are the size of the comparable bones of a blue tit (Parus caeruleus), but once again the distinction of these small species whose size ranges overlap to such an extent is extremely difficult.

The members of the thrush family and the blue tit are typical residents of the English arable countryside being found in hedgerows, fields and mixed woods, All the species identified in this deposit are still found locally around Barnard Castle or within a few miles of the castle ruins. The presence of some of these species is likely to have been seasonal. Although none are only summer visitors many undertake local and more distant migrations and hard weather movements. Flocks from more northern populations would have replaced the local summer populations in winter. Those species unlikely to have been present in any numbers during the winter months are the redshank and the redstart.

Poulterer was a common trade of the mediaeval period and apart from the supply and sale of domestic poultry wild species were caught and sold. Although falconry was popular during the period wild birds and particularly song birds were caught with nets,snares, birdlime, traps and whistle-lures. Some estates had appointed catchers to supply the household.

Mammal Remains

Among the mammal bones recovered all the major game animals of the period as well as the common domestic species are represented .

The red deer(Cervus elaphus)is identified by a complete tibia and the distal end of a femur that may be from the same leg. The animal is a typically large specimen and sub-adult. The shaft of the femur has been chopped off proximal to the distal epiphysis consistent with the butchery of the leg into a haunch and shank.

The fallow deer(Dama dama)is represented by a large part of the hind foot of one animal . This part of the animal is not exploited and would have been thrown away . Unless the skinning was carried out in the kitchen this animal at least was skinned leaving the feet on the carcass . Part of a femur ,possibly from another animal was present and indicated a sub-adult animal. A small fragment of ischium also compares closely with this species.

Tw o bones of roe deer(Capreolus capreolus)were found. The anterior portion of a mandibular ramus with the complete adult dentition in wear, and a zygomatic arch.

The last of the game animals of the period , the hare(Lepus capensis), is certainly identified from two bones. Five lagomorph teeth although not specifically determinable are of the size of the brown hare. The determination of the species of hare on morphological grounds is not possible for these bones, but the distribution of the blue hare(Lepus timidus L.) is restricted and the brown hare is still common in Teesdale.

These four species are animals of the hunt. Red and roe deer occur wild in the county but fallow deer are likely to have been enclosed in some of the twenty parks said to be present in the bishopric of Durham in this period. The antiquity of this species in Britain is unknown but there was wide stocking of parks and estates in the mediaeval and post-mediaeval period. These deer were no doubt hunted with hounds. The hare may have been coursed on foot using greyhounds .

Rabbit (Cryctolagus cuniculus)is indicated by only one bone. This animal may have come from one of the many coneygarths or warrens of the period, or been coursed by spaniels or greyhounds. Ferreting was common in this period and was used for taking wild and warren rabbits.

Table of species continued :

Mammal Species		
Cattle , domestic		22
cf. cattle		2
Pig , domestic	5	25
cf. pig	2	
Sheep ,domestic		3
Sheep or goat	7	22
cf. sheep or goat		4
Cat , domestic	1	
Sorex araneus L. Common shrew	1 individual	
Mustela nivalis L. Weasel	1 individual	
Capreolus capreolus (L.) Roe deer		2 mandible, skull frag.
Cervus elaphus L. Red deer		2 tibia, femur frag.
Dama dama (L.) Fallow deer		9 metatarsus,tarsals,phalanges, femur & ischial frag.
Lepus capensis L. Brown hare	2 ulna,thoracic vertebra frags	
cf Brown hare	5 incisors,premolars,molar.	
Oryctolagus cuniculus (L.) Rabbit		1 prox. tibia.
Mus musculus L. House mouse	11 individuals	
Rattus rattus (L.) Black rat	3 individuals	1 femur
Microtus agrestis (L.) Field vole	1 individual	
Muridae gen. & spp. indet.	100+ mainly mouse & rat	
Artiodactyla gen. & spp. indet.	several fragments	100+ fragments
Mammalia gen. & spp. indet.	several hundred fragments	100+ fragments

Nomenclature follows Clapham,Tutin & Warburg (1962)-plants; Wheeler (1969)-fish; Vaurie (1959)-birds; Corbet and Southern (1977)-mammals.

Domestic mammals were recovered both during excavation and the sorting of the sieved residues. The ox bones included fragments from most regions of the skeleton. Four bones were from sub-adult animals but the remaining fifteen bones with characters permitting the distinction of the developemental stage of the animal were all fully developed for each stage represented. At least two individuals are present.

There are a minimum of three individuals of pig. These include the bones of two very young animals. A humerus and an ischium must be from a sucking pig only a few weeks old. A male somewhat older was represented by parts of the right side of the skull. A pair of foot bones from one adult and a mandible of a male with adult dentition were present but most of the remaining bones were from juvenile animals.

Three bones of domestic sheep were identified but a greater number of bones could not be distinguished to species and have been catalogued as sheep or goat. No definite goat bones were identified from the collection. At least three individuals are present and one of these represented by a radius was a young lamb in its first three months of life , another an adult animal.

Where as most of the vertebrates that have been described so far are food animals the remaining group of mammals may have lived in the castle or fallen into the drain. Two not unexpected pests of a mediaeval kitchen are the house mouse (Mus musculus) and the black rat (Rattus rattus). At least eleven individuals of house mouse are present , based upon the mandibles, but many bones of the rest of the skeleton occur. A minimum of three individuals of rat are present. The black rats of today are commonly smaller than our more common brown rat (Rattus norvegicus (Berkenhout)) , but the animals from the drain are of a similar size to modern specimens of brown rat. This precludes the use of size as a specific character when identifying mediaeval material.

The domestic cat was no doubt an essential resident of the castle to combat the depredations of the murines . The mandible identified from the drain is a very young animal with it deciduous teeth unworn; presumably a kitten that died, perhaps at birth.

Three wild species were recovered from the drain , perhaps unexpectedly, although it is possible that all may have gained entry from outside the castle walls through the drain exit holes. These were weasel (Mustela nivalis), common shrew (Sorex araneus) and the field vole (Microtus agrestis); there is no evidence to suggest that any more than one animal is represented for each species. There are no doubt a number of possible alternative explanations for their presence.

A single bone of an amphibian, not noted in the species table , was found. This was a very small humerus almost certainly from a newt.

Conclusion

It is apparent from the very wide range of small remains of plants and animals, besides the very obvious discrepancy between the finds from excavation and those from the sample residue(see Table), that sieving was an essential recovery technique for this deposit. The finds made during the excavation were the larger fragments, generally exceeding one centimetre in diameter , but in no way did they indicate the species richness of the deposit.

Such a diversity of edible species needs some explanation , and even without the documentary evidence for a kitchen range nearby the remains would seem to indicate a food preparation and cooking ,or eating area as the origin of the drain. The swilling of garbage from the floor into an open or capped drain would account for most of the material, but whole leg bones of deer and ox may have found their way into the system through holes made by broken or lost capping stones at some point along the path of the drain. They would certainly have contributed to the blocking of it and presumably the deposit represents a very limited period of time archaeologically.

The nature of the deposit precludes an assessment of the relative importance of the identified plants and animals as a source of food. The larger species of animal must be underrepresented and yet of the smaller species no doubt hundreds of bones washed right through the system. Because of the soil conditions probably only plant material which had accidentally carbonised could survive the normal processes of decay and much of this would have floated through.

The interest of this deposit lies in its qualitative rather than quantitative information . The plants provide some evidence of likely diet and possible cooking methods. It is naive to assume that the fishes present were of equal importance as food to the inhabitants, nor does the accidental incorporation of fish bones in the deposit reflect their relative abundance, but it is interesting to make some estimate.

The minimum number of cartilagenous fish is impossibleto estimate but at least one fish, probably a dogfish or ray, of approximately 40cm. length is present. Herring possess 50-53 vertebrae thus we calculate that at least eight individuals are present. From two distinct sizes of salmonid vertebrae we know that one small trout and one medium sized individual are present. One pike, possibly containing a tiny cyprinid,

one medium sized eel, a conger eel of about 80 cm. length and two whiting are present. In addition two cod, one over a metre long and another approaching that size are present. Another large fish is the single ling; one gurnard, a haddock and two medium sized flatfish complete the list. In terms of the meat weight represented by these remains cod and ling are the most important species , haddock, pike and conger eel form a group of medium sized fish. Herring is the most abundant small fish, the remaining species demonstrate the range of fish exploited but probably did not form a major part of the diet.

The number of goose and chicken bones and eggshell although impossible to quantify do suggest a regular feature of the diet. The wild birds include some favourite food species such as plover, partridge , grouse, moorhen, duck and small "hedgerow" species; fieldfare,thrush and redstart. One mediaeval recipe for roasted miscellaneous birds starts with the smallest bird being stuffed inside a slightly larger species , and so on until the outside casing is formed from a large sized specimen, perhaps a swan, goose or peacock(Rahtz,19).

Along with the cuts of beef,mutton and pork, sucking pig and lamb were no doubt spit roasted. All the wild game animals are present , red, fallow and roe deer and hare , generally in this order of merit for the hunt and their meat.The entrails or umbles of these animals were stewed in pottages, one of a variety that may have had fish,bird or mammal meat as well as the rough ground or unground oats and wheat among other ingredients, which were a staple of the mediaeval period.

The richness and variety of the food remains in this deposit leads to the conclusion that they are the debris from the kitchen or table of the lord of the castle. That some of his dinner supported the castle pests is suggested by the rat and mouse remains. Most of the food eaten could have been supplied locally but there is obviously a significant trade with the east coast in marine fish and shell fish, though whether these were dried, salted or fresh is impossible to say.

The insight that this collection has given into the"high table" fare is an important supplement to our knowledge derived from documentary sources. It is by no means complete, as these sources indicate, and the analysis of similar deposits at this site and others must be an interesting and worthwhile aspect of the archaeology .

A.M.Donaldson
A.K.G.Jones
D.J.Rackham Dec. 1979

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