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HAMWIC BONES - OLD QUESTIONS, NEW QUESTIONS

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Introduction

This paper originally arose out of a series of seminars organised by Mark Brisbane of Southampton Museums during Summer 1982. It has been rewritten in the light of subsequent thinking and preliminary results from the 'Pit' and should be read in conjunction with Sarah Colley's Interim Report on the 'Pit'.

The need at the time was to review urgently our own ideas on the questions which needed to be asked of any new material coming out of excavations within Hamwic (notably those at Stoner Motors and Six Dials, Phase 2), as well as to decide how to tackle the Hamwic backlog. We have been considerably handicapped in this thinking by the lack of computerised results from the pit. At the same time I am most grateful for the way in which the current unpublished ideas of Mark Maltby, Alan Morton, and Phil Andrews in particular and the whole of the Southampton Museums' team in general have been made available to me and I have also not hesitated to draw on the unpublished work of Jennifer Bourdillon and Jonathan Driver, in the hope that this will be published soon.

In 1975/6 Jennifer Bourdillon and I examined a total of 87,054 bones from Melbourne Street Sites I, IV, V, VI and XX dated to the mid-Saxon Period (Bourdillon & Coy 1980, Coy n.d.1). The publication of the results was associated with the production of a Statistical Appendix (SARC 1977). The latter included measurement ranges for the major domestic species, specific ratios for each pit, and animal ageing evidence.

Old Questions

The questions asked of this body of material were the basic ones asked by archaeologists of any settlement (e.g. Coy 1978,3). To a large extent these were answered. A very full species list for mammals, birds, and fish was obtained, much of it the result of extraordinarily good preservation in the pit F16, Site V. A variety of existing methods was used to obtain specific percentages for the major mammalian species (Figure 1). Some attempt was made to discuss age profiles and what light this might shed on the use made of the animals. Pathology and genetic traits were discussed along with possibilities for defining the catchment area for food animals. Butchery, bone-working, and

fragmentation were dealt with to some extent but necessarily inadequately to meet publication deadlines.

Subsequently, using Melbourne Street as a starting point, work was carried out on approximately 46,000 fragments from the Chapel Road sites VII, XI, XVIII & XIV but none of this has as yet been published (Bourdillon n.d.1, Bourdillon & Driver n.d.). The bird bones from Melbourne Street and Chapel Road were then computer coded (Coy n.d.2) using the Ancient Monuments Laboratory's computer coding system (Jones n.d.).

The Chapel Road study represented a speeding up of the methodology used at SARC but like that at Melbourne Street this material was only manually retrieved and there had been no sieving strategy during excavation. Bourdillon suggested that recovery had in fact been less meticulous on these sites. More precise work was carried out on cattle horn cores, on cattle butchery, and on material from SARC XIV which appeared to be sawn waste products from a bone-worker's workshop and led Driver to draft a typology of sawn bone (Driver n.d.).

Bourdillon has subsequently made the most detailed attempts to see whether particular features at Chapel Road could be grouped and compared. She and Driver also produced detailed discussion for SARC XIV of the evidence for selection of bones for bone- working. My paper cannot do justice to the amount of work that Bourdillon has put into Hamwic bone but her full results will shortly be available.

These were thus new questions although some were foreshadowed in the Melbourne Street report by the comparisons made between different pits and between pit bone and occupation surface - most of it not published because it produced results which at the time were too difficult to interpret or raised too many questions.

Doubts

The major hurdle met with in these analyses was uncertainty about the consistency of retrieval and this meant that all comparisons, even between different features on the same site, were not felt to be securely based:

> " we are not justified in extrapolating from the bones in pits to a recontruction of Saxon economy without a full realization of the likely errors. ..... controlled sampling and a time-consuming study of fragmentation will both be needed for a fuller picture of differential preservation, a picture which is needed in its turn if we are to know how the pits were filled." (Bourdillon & Coy 1980,121).

These comments recommended computer-handling of Hamwic data and it is somewhat depressing that 7 years after they were actually written this is still not happening.

New Questions

This leads to the new questions that we need to ask. They could be summarised as follows:

1. To what extent are the bones we have representative of Saxon animal husbandry and useage ?
2. Do we collect the right samples ?
3. Do we record them adequately and in a comparable manner ?

I shall deal with these in turn:

1. To what extent are they representative ?

This first question is a key one. Uerpmann very ably pointed out some years ago that the sort of bones needed to study palaeoeconomy must be from human activities; should be from primary deposits; and that one should distinguish between 'living floor' deposits and deposits accumulating over a long period of time (Uerpmann 1973).

Taking these three maxims in turn : there is little doubt from the evidence of bone useage that nearly all Hamwic bones are deposited as a result of human activities and there is a lot of evidence showing what kind of butchery and bone-working activities were under way. For the second, the crisp edges and well-preserved surface of much Hamwih bone suggests that it did not spend much time in contact with the atmosphere before being discarded into a pit (although detailed quantitative assessment of erosion has not yet been made). Joins between fragments from different layers of the same pit (and sometimes nearby pits) suggested to Bourdillon that pits were filled quickly.

To take the third matter - comparability between bone samples from different kinds of context is something that has been subjected to much testing of recent years on other settlements (e.g. Maltby 1981, 165) and we are now in a position to test these out in Hamwic.

The usual problem at Hamwic in the past has been to find anything but pits and to find different phases to compare. Any contextual or temporal variability in Hamwic should therefore be exploited for faunal analysis. It is very exciting that there are now stratified deposits available from recent excavations and that different phases of pits

may to some extent be available from Six Dials.

Going back to Question 1 we can see that this is really a taphonomic one and this was the reason for digging the 'Pit' (Colley n.d.). Something that should be remembered in conjunction with this is the fact that Bourdillon calculated for Melbourne Street that up to 90% of the bones of the individuals represented on that site may have disappeared (Bourdillon n.d.2).

2. Do we collect the right samples ?

This question relates to the various selections we make, starting with site selection. The wider picture of Hamwic now being revealed gives us more scope and forms a better basis for selection within the town. It is vital that we do not waste the unexpected and unique opportunities that are arising during the 1980s as we may never again be able to ask these questions within the context of such a strong and knowledgeable professional team. Once the 'Pit' has been analysed we shall be in a better position to probe any future excavation and assess whether bone is worth retrieval and at what level that retrieval should be. Collections other than pit contents may need to be given priority.

Nor are all Hamwic pits the same. We now know that there are structurally several types of pit (Morton & Andrews, pers comm). At Melbourne Street Bourdillon already had doubts about the consistency of pit results - some pits differed in their specific ratios, for example some had much less cattle bone than others. The material from Six Dials (SOU 23,24,26,30 and 31) from different pit types and from a selection of wells should enable us to investigate the relationship between context type and bone results for Hamwic and thereby reveal something of the history of these features. Whether pits were lined or unlined is another factor to be kept in mind. It is likely that the extraordinarily well-preserved contents of F16, Site V, Melbourne Street, may in part be due to its having been a lined pit.

The unpopular policy of bulk sampling, kept up throughout the very arduous excavations at Six Dials has meant that suitable samples are available for detailed analysis from much of it. For the future, once decisions are made on what features to sample the actual methodology of sampling is crucial. There is little point in keeping bone from any of the current excavations unless it

has been carefully collected during trowelling according to the usual rigorous Hamwic traditions with associated 5 litre bulk samples from each context. This system developed in Bourdillon's time through education of diggers on site and the appointment of a siever/sorter (Sheila Hamilton-Dyer and later Robin Hillman). Continuity was most carefully preserved in the transfer to Southampton Museums and during the recent Wessex Archaeological Committee excavations at Stoner Motors.

As a result of this consistent collection these samples can be used on the one hand to test out the 'Pit' hypotheses on 'normally-retrieved' material and on the other hand to extend investigations to an assessment of all Hamwic backlog, including that which may not have been collected in the same way.

The answer to this question is therefore 'yes, we hope so' but consistency is the most important aspect in order to ensure comparability. This sampling strategy must be continually reviewed but should only be changed for reasons which are indisputable.

3. Do we record samples adequately ?

Hamwic bone is mainly very well-preserved and since Bourdillon began full-time work in 1975 has been very carefully identified and recorded. Apart from the Chapel Road and Melbourne Street birds, however, none of the bone has been recorded by computer-coding so that there can be no detailed comparisons with other Wessex or AML material recorded using the AML computer-coding scheme, neither can there be much detailed intra- and inter-site comparison within Hamwic itself along the lines now worked out for Wessex Iron Age settlements (e.g. Maltby n.d.).

A system has now been worked out for recording the 'Pit' bone which includes all the usual AML codings (see Appendix in Colley n.d.). More detailed recording than was possible for Bourdillon and Driver will be available for fragmentation, tooth eruption, butchery, and state of preservation of the bone. This amount of detail is necessary in order to compare bones from different context types, sites, and periods and to thus work out whether there were differences, not only in the animals themselves, but in the activities of the people in connection with animals and bones.

In this way we hope that future recording for Hamwic will be in sufficient detail to take care of the current questions we are asking.

Future Detailed Questions

It is therefore paramount that bones should be retrieved in such a way as to maintain comparability as discussed above. Only then can we attempt to answer our question 1 above and eventually return to the old questions with new insight. This is a convenient point at which to review the techniques of analysis we shall need to employ on the bone samples once retrieved.

Since the earlier analyses at Hamwic Mark Maltby has investigated the relationships between bone samples and economies on Wessex Iron Age settlements - at Old Down Farm, Winnall Down, Balksbury, and currently for Owslebury. These studies have been closely linked with computer-coding and analysis of bone fragmentation, state of preservation, gnawing, and ageing data. Young bones may disappear preferentially through the effects of gnawing and erosion or (as the 'Pit' results already suggest) be inadequately retrieved. They may be better preserved in some contexts than in others (Maltby 1982).

The relative numbers of loose teeth, shaft versus end fragments of long bones, and the relative number of distal and proximal ends of long bones, can also give a picture of how one species, context type, period, or site compares with another in terms of preservation and retrieval. It has been a disappointment to us that in many of the analyses Hamwic results could not be included on graphs because results available were not sufficiently detailed. Only by quantifying such preservational differences will it be possible to recognize reliable differences between phases and between different parts of Hamwic. They will enable us to recognize the retrieval and preservational status of each deposit and thus assess its reliability for reconstruction of the economy. It will also tell the archaeologists more about the contexts themselves.

Assessments of animal size for Melbourne Street and Chapel Road and subsequent analyses of 'size factors' (Bourdillon 1980, 187) provide a basis for future quick assessment of new material. This is one area of bone study apart from the obvious one of species diversity which might be linked with rank.

Certain anatomical elements of the major domestic species should be given priority if retrieval has to be selective on future sites or if all the backlog cannot be studied in detail. These include mandibles so that we can take into account advances likely to be made in both tooth wear analysis (Grant 1982) and

tooth sectioning (e.g. Coy et al 1982); sheep metacarpals for studies on sheep conformation (e.g. O'Connor 1982); and cattle horn cores. It will be essential to keep in touch with the morphometric work being carried out at the York Environmental Archaeology Unit on cattle and pig. These studies are one of the few ways in which we are likely to obtain information about the extent of the area from which Hamwic obtained its food and about changes in animal husbandry within the Saxon Period.

Studies on the domestic fowl are in their infancy but Hamwic provides an unparalleled collection of their bones and more detailed analysis of the sex structure of these populations would give us a better idea of how and why they were kept. For this all tarsometatarsi at least should be kept and femora should be examined for the presence of medullary bone - something started at Hamwic by Driver (Driver 1982, Coy n.d. 3).

The recording of butchery marks needs more careful thought and we hope that examination of Winchester Saxon material being undertaken now and recording of the 'Pit' bones is leading us to evolve a way of using the AML system that makes our data more comparable and repeatable. The study of worked bone, although it must be tied to the study of the whole bone sample in each case, is to some extent a separate issue. It is essential that the earlier, unpublished work of Driver on the sawn bone typology for Site SARC XIV and his work on material from this site are published under his name but that this is fully acknowledged and used as a basis by whoever takes on the future study of bone-working.

The 'Pit' analysis will show the sort of evidence that can be obtained for bone-offcuts by total retrieval and should shed light on the viability of the bone-working evidence from the rest of the SOU 31 bone-working area. The study of the finished objects themselves, although a matter for Southampton Museums, should involve some feedback to and from the bone analysts.

Conclusions

The bone analysis from being well advanced during the time of J. Bourdillon and that of J.Driver is now seriously lagging behind other work - much of which is almost ready for publication. This has multiple causes not least a change in the order of publication of sites. Bone is the most bulky find at Hamwic and by its very nature takes longer than many finds to analyse - it represents the

remains of many species and many human activities. As such it can provide a great deal of information about the activities that went on at Hamwic and possibly over a wider area.

Many of the basic questions about mid-Saxon animal husbandry and meat and bone useage appear to have been answered - but have they ? The questions asked here are far more difficult ones and in themselves throw doubt on some of our earlier conclusions. But through a reasoned and economical approach to the rather different types of analysis suggested above it should be possible - not to discard impatiently earlier results but to assess their viability in a quantifiable manner. We cannot discard the old questions, and do not wish to, but our aim should be to ask them with greater accuracy and put them into a spatial and temporal context within Hamwic.

Initially our path when we took over the responsibility in Faunal Remains for bone analysis at Hamwic - by the appointment of Sarah Colley in December 1980 - was an agreed specific programme involving :

1. The total recording of bone from one pit on Six Dials
2. Comparison of pit results with other Six Dials material
3. Examination of a single domestic unit
4. Spatial distribution of worked bone

We have gone as far as we are able towards the completion of 1 without computer facilities. It has been an extraordinary and salutary experience to find that a pit not large by Hamwic standards could contain 10,000 bones. It would have been quite wrong to abandon this study before it was completed as this is in many ways the most important lesson that has been learnt and it has coloured all our subsequent thinking about Hamwic bone.

As soon as the 'Pit' has been computer analysed, at least in its most urgent matters, a start on 2 and 4 will be possible. Mary Alexander (Southampton Museums) has already produced some preliminary results defining the bone-working area on SCU 31 from her plotting of worked fragments.

We have considered 3 above in some detail and decided that this will have to be abandonned as we do not consider that such a unit could be adequately defined.

Since this programme was agreed there has been the added complication of new excavations: Stoner Motors has produced unique

References It was felt to be more fair to list detailed titles for unpublished work rather than merely to assign these as personal communications.

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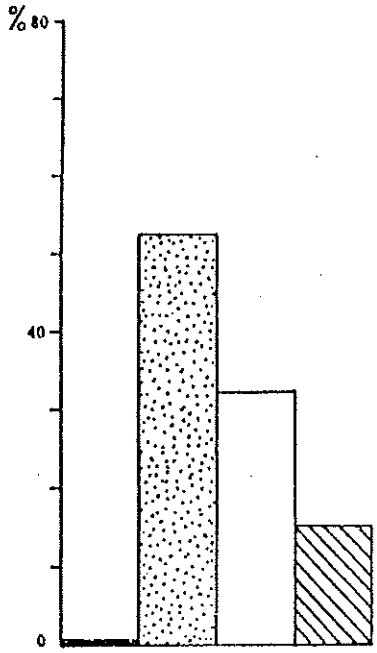
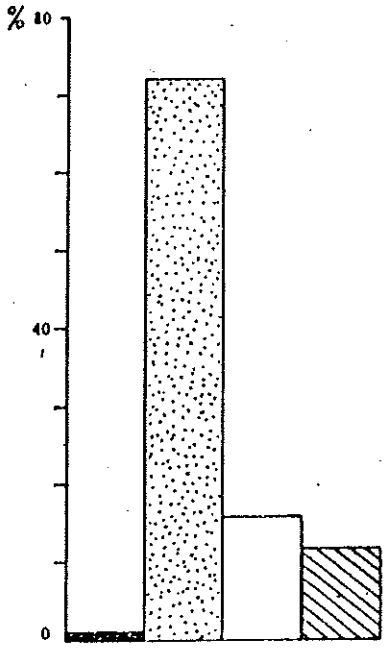
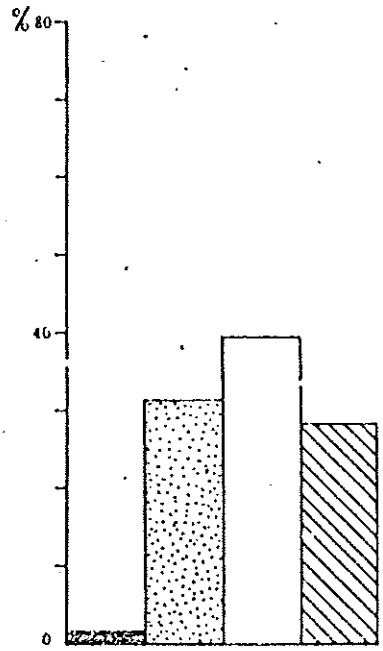


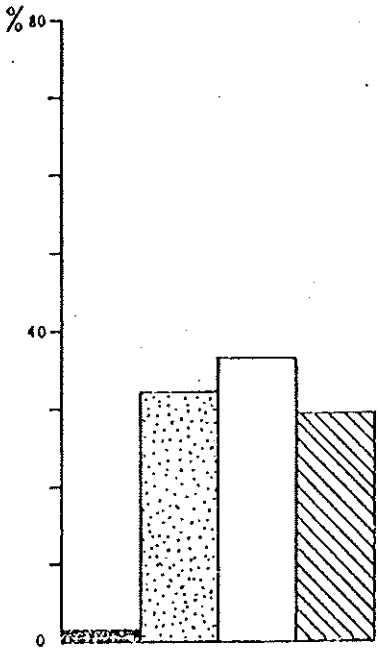
a) by fragment count



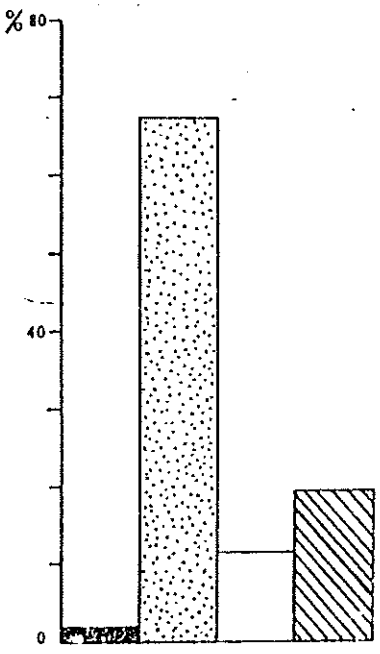
b) by weight



c) by Minimum Numbers (mandible count)



d) by Minimum Numbers (cumulative totals)



e) by meat weight (from mandibles)

KEY

Horse Cattle Sheep/Goat Pig

FIGURE 1 Specific Percentages for Melbourne Street (Bourdillon & Coy 1980)