

## TOWN LIFE AND ANIMAL HUSBANDRY IN THE SOUTHAMPTON AREA, AS SUGGESTED BY THE EXCAVATED BONES

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### THE PROBLEM AND THE MATERIAL

In simpler times the environment shaped people's lives with an immediacy not often found today, directly providing—or withholding—those basic resources which lie at the root of survival and of economic growth. Since even with modern technology the environment is ignored at one's peril, those who study it in archaeology should need no defence. They are concerned not simply with the backcloth to the action but with an interacting factor in the play. The growth of town life, for example, made new demands upon the country, and was to lead in due course to great ecological change.

Southampton Archaeological Research Committee's animal bone from Middle Saxon Hamwih and from medieval Southampton forms a good starting point for a consideration of the extent to which a growing town diverged from its rural roots or stayed close to them, not only in its prime provisioning but perhaps in a sense of identity as well. Towns emerged in the context of the country, as the countryside of arable and pasture had emerged in the context of the wild, and there are three separate environments which must be borne in mind: the untamed natural landscape, the cultivated farmland and the burgeoning town itself. Yet bones can transcend such distinctions. Those animals which are under study may have sprung from the wild or been reared in the deliberate countryside, but they have come to our attention because they served the needs of the town. And no town could last for long without the support of a sufficient rural base.

Hamwih flourished from late in the seventh century until its site by the Itchen was abandoned at some point in the ninth. For its time it was exceptionally important (Holdsworth 1976). Its wooden houses spread in a planned network over more than 30 hectares

and were built quite closely together—more so, certainly, than at the contemporary Rhine port of Dorestad where van Es (1975) detected a near-agricultural spread across the land. Hamwih inevitably made heavy demands for food upon the countryside and these demands were amply met. The later town of Southampton was founded about a mile from the site of Hamwih, on low gravel cliffs beside the Test. It began more modestly but it expanded considerably with time, and at about the turn of the thirteenth to the fourteenth century it consolidated internally with a realignment of properties which could accommodate a denser population but which, in so doing, left less room for stock in the yards (Platt and Coleman-Smith 1975). New buildings were erected, generally in stone, to replace the earlier timber structures.

The presence of good quantities of animal bone gives a chance to watch for changes over time. Bone comes in great quantity from the Hamwih pits. From its ubiquity and abundance, from its fine state of preservation, and from the general coherence of its results without any serious gaps, one may infer that the great bulk of the Hamwih animal bone was thrown away quickly and was buried within the town itself. A good sample of this bone has now been studied. The five Melbourne Street sites (I, IV, V, VI and XX) produced nearly 50,000 identified fragments and a detailed report on this material has been published (Bourdillon and Coy 1980). A further 30,000 fragments have been analysed from other sites in Hamwih, particularly from those in Chapel Road (VII, XI and XVIII). Some differences have been found between sites, but these are only slight, and the more recent work has so fully vindicated the main conclusions made from Melbourne Street that it is fair to take such conclusions to stand in broad outline for the animal economy of

Hamwih as a whole. Judged by its animal bone, the town was homogeneous, with no clear differences in social usage or in custom between one area and the next; there are some areas of specialisation in bone-working, but no marked distinctions in diet or in class. One must acknowledge that the Melbourne Street and Chapel Road sites were excavated almost exclusively by eye, but a strategy of soil-sampling for fine water-sieving is now adding greatly to the range of environmental finds and to the chances of a full interpretation. Remembering always that there are many fluctuations of preservation which may bias a sample even before recovery, one may even so take the large assemblage of Hamwih bone as a valid basic corpus from which to build a picture of the animals living in or near the town.

S.A.R.C.'s medieval bone sample is smaller, with only some 10,000 fragments recovered by eye and some 5,000, mostly of fish, from fine sieving, and there is not the same overall consistency that had been found for Hamwih. Differences over time are of course to be expected, for the medieval bone assemblages span more than six centuries from the digging of the first ditch in perhaps the tenth century up to pit groups from the sixteenth century, the latest animal bones which are considered here; but as well as divisions and differences over time there are also topographical distinctions. The medieval town may or may not have been relatively homogeneous in its early years, but it was certainly more differentiated in its later ones. There has, however, been less of a spread in the siting of the medieval excavations. S.A.R.C.'s sites at St. Michael's and in Upper Bugle Street are essentially contiguous, in what became a wealthy quarter of the town. The Quilter's Vault site lies some way to the south, but it too was rich, and rich perhaps rather sooner than the others, with traces of relative wealth before the town's main development in stone (Walker 1979); it then became powerful in a quite different way as the site of the later medieval customs house. Other excavations have produced some animal bone (see in particular the report by

Noddle, 1975, on material excavated by Platt), but these too were centred on the wealthier areas. The presumed poorer quarters of the medieval town have not been dug, and in any study of the animals and diet of later medieval Southampton one must beware of taking as fully representative what is in fact a rich and special sample of the whole.

Whereas Hamwih animal bone came almost exclusively from pits, the types of medieval contexts vary. Finds from the late Saxon ditch have been kept apart, but all other material up to the main realignment of the town has been classed as from Period A; this material comes mainly from pits and postholes and because of this it is directly comparable with that from Hamwih. Period B, of the fourteenth and fifteenth centuries, has produced a great many floor levels and, in consequence, fewer large deposits of animal bone, and its material is generally more broken: with yards now smaller and with houses larger, the disposal of rubbish must have changed, and if the larger bone fragments had been commonly taken out of town one would be left with a less representative selection. For Period C, the sixteenth century, those contexts which are richest in bone remains are often stone-lined garderobes. These may be expected to have accumulated a great deal of micro-material through their particular function over a long period of time, but in addition to this they were often backfilled with much bulkier material when they finally went out of use (Daniells, in preparation). Such backfilling could well represent a few large collections of trimmings and waste, brought from elsewhere in the town and dumped *ad hoc* in the first convenient location, rather than a cross-section of the material which was used on the site itself.

Extrapolations from S.A.R.C.'s medieval material are therefore less sure than those for Hamwih. Precise ratios, for example, may be misleading; but one may still have much confidence in the overall species list and in measurements, in styles of butchery, and in broad trends of change over time. A picture indeed emerges which seems to make sense in

itself, and which sets the later medieval urban animals in clear contrast to their forerunners at Hamwih.

#### SUPPORTING DATA

The report on the Melbourne Street animal bone is backed by a separate Statistical Appendix which is obtainable directly from S.A.R.C. For S.A.R.C.'s medieval material, the Quilter's Vault report has been published (Walker 1979), and reports on the St. Michael's site and the sites in Upper Bugle Street are in active preparation or are already in the press. For the animal bone, a further Statistical Appendix presents detailed supporting tables of species, measurements, ageing information and other relevant data from all these medieval sites, and it too is obtainable directly from S.A.R.C. These two statistical appendices are the source of the Hamwih and Southampton data used in this present paper.

#### THE ANIMAL ECONOMY OF HAMWIH

Hamwih was separated from the truly wild country far more than were many other towns of the period. From the wild, for example, came antler, a sturdy raw material for bone-working. Although Hamwih had a well-established bone industry, its antler count was low. Haithabu, the great ninth/tenth-century trading centre to the south of the present Kiel, had 3,500 antler fragments in a bone assemblage similar in size to that of Melbourne Street, which had only 64 (Reichstein and Tiessen 1974). Across the Baltic and a little later in time, Lund was especially noted for its bone-working; excavations here have found four off-cuts of antler, from red deer, reindeer or elk, to each off-cut from horse or cattle (Bergquist and Lepiksaar 1957). The antler at Hamwih was almost entirely from red deer with perhaps a small amount from roe, and for every four off-cuts from cattle or horse there was only one off-cut from deer.

Hamwih's food supply came in very small measure from the wild, and for mammals the figures were minimal. The few post-cranial fragments of deer (twelve from red deer and eight from roe deer) would presumably have

come from food remains, but the only other wild food mammal suggested in Melbourne Street is pig. One adult femur was perhaps from a wild animal, but this bone was only of intermediate proportions and with a total length of 229 mm it may, on the figures both of Clason (1967) and of Luhmann (1965), have come from nothing more significant than a huge domestic boar.

It is fair to say that from as far back as the Iron Age some very large settlements have had low wild animal percentages. Manching had only three fragments in a thousand (Boesneek *et al.* 1971). But there is an interesting contrast with the more rural settlement of Middle Saxon Ramsbury, where Coy (1977 and 1979) found red deer and roe deer in greater abundance, and also beaver, badger and fox. Here the wild remains among the mammals came to more than 8% by fragment count.

The people of Hamwih, then, were not a hunting fraternity. Nor were they adventurous fishermen, though fish were important to their diet. Eels, plaice and flounder, the fish most commonly caught, were easily available in the immediate estuary and few fish were brought in from deeper water. The oysters, too, whose shells were frequent in the pits, could have been collected easily nearby (Winder 1980). And the list of wild birds is short and dull.

But Hamwih was amply supplied with the produce of animal husbandry. The proportion of cattle by fragment count was high in relation to that of sheep and pig (53%: 32%: 15%), and by bone weight the lead was still greater (72%: 15%: 12%). A good sufficiency of sizeable cattle is taken on the Continent as a sign of sound provisioning in a medieval town (*die Verrinderung der Städte*, the be-cattling of the towns), for a solid surplus of cattle places more demands on pasture and on organisation than do the modest needs of early sheep or the omnivorous scavenging of pigs. There are good reasons for thinking that the Hamwih sheep were not kept primarily for food (though of course they were finally eaten) but for the industrial value of their

wool. It is, therefore, a high ratio of cattle to pigs that is the strongest indication of the substantial provisioning of the town. In the lower levels of Haithabu this ratio was 1.25 : 1 by fragment count, changing to 1.5 : 1 towards the end. Early Stettin and Wollin started with a strong predominance of pigs over cattle, but as these towns developed the balance was sharply reversed (Kubasiewicz 1975). Of Hamwih's unspecialised pits, even the early ones give a ratio of about 2.5 cattle to 1 pig, with later pits reaching 5 to 1—though to check unwarranted local pride it is only fair to make comparison with Dorestad, where the overall ratio for the settlement was as high as the Hamwih peak (from figures kindly supplied by Miss Wietske Prummel).

In domestic poultry Hamwih was well supplied for its time. Duck seems probably not to have been domesticated to any extent in Saxon England, but at Hamwih one fragment of fowl or goose was found for every 39 fragments from the main domestic food mammals. (Sieving recovery gives a higher ratio for poultry, at 1 : 9, but for comparisons with other sites where sieving may not have taken place it is the results from normal trench excavation which must be used.) Haithabu's ratio for poultry was distinctly lower than that for Hamwih (only 1 in about 300). On the other hand, the small Saxon assemblage from Walton near Aylesbury gave 1 : 23 (Noddle 1976), and Ramsbury gave 1 : 20. It is probably fair to say that Hamwih was well supplied with poultry for a town of its time, but that domestic fowl and goose may have figured rather more notably in the strictly rural scene.

There was no clear difference in size between the Hamwih fowl and those from contemporary sites in this country. Generally these birds were small and scraggy, and many were no more than bantam-sized. But Hamwih's main domestic animals were well-developed creatures when set against the standards of the time. Sheep may seem small at a shoulder height of 62 cm and a range of from 50 to 70 cm—and indeed this is a little lower than the contemporary continental figures (Spahn 1978). But for Saxon England as a whole the Hamwih

sheep were tall. Hamwih cattle were still more notable, with a mean shoulder height of 115 cm. Clutton-Brock (1976) suggested that Saxon cattle may have been little different from those in this country in the Iron Age, but in fact these Hamwih cattle were good. It seems that here the widespread Roman improvement found both in this country (Jewell 1962) and also widely on the Continent (e.g. Matolcsi 1970) had lasted, or had perhaps been re-established. In such figures Hamwih compared closely with Dorestad, and it was appreciably better than Haithabu where the overall mean was no more than 109 cm and where, since the cattle showed a tendency to increase in size over the period of settlement, those earlier animals which were contemporary with those of Hamwih in fact were smaller still (Reichstein and Tiessen 1974). At home, it is interesting that at the earlier Saxon Old Down Farm there is no domestic mammal measurement which comes up to the Hamwih mean (this volume, p. 177), and yet the sizes of Middle Saxon Ramsbury (in southern Wiltshire) were generally quite close to those of Hamwih. One has the impression that the town, while divorced from the wild, was drawing richly on the basic foods of what had by then become a well-stocked and well-run countryside.

A comparison of ageing results is interesting. Pig anywhere and everywhere is killed young—the species breeds prolifically with large litters and a rapid turnover, and a quick rise to sexual maturity and a fierceness in older males discourage any lengthy keeping of the boars. In this, all times and places seem to be alike. But in cattle and sheep Hamwih shows evident divergences from the pattern of more rural sites and has a notable dearth of younger animals. To some extent one has to remember that young unfused bone is likely to be far more vulnerable to decay than is the less porous older bone (Bourdillon, in press, for Hamwih material, and more generally Binford and Bertram 1977). But young mandibles where teeth are present seem to have a better chance of preservation than has young bone on its own, and ageing from mandibles is likely to give a fuller and more reliable picture than

is that from fusion. And of course the factors of differential preservation as between old and young are not unique to Hamwih, so that comparisons inter-site and inter-settlement may throw up significant differences even though the exact quantification may in each case call for some (similar) modification. It seems a very fair generalisation that rural sites in early times had many young cattle and sheep—the sheep figures at Dinas Powys, for example, were even questioned on grounds of biological plausibility as showing too many animals dying before the viable maturity needed to perpetuate the stock (Alcock 1975). Iron Age Barley was similarly young (Ewbank *et al.* 1964). Autumn killing has for a long while been suspect as a regular strategy for earlier farmers (Higgs and White 1963); nevertheless in a lean year the young would have much to contend with and some selective culling might well augment the natural mortality of the frailer lambs and calves. Indeed, Payne's model survival graphs (1973) give a significant wastage for the early months of life. Such wastage, prompted largely by natural hazards, might well not be integrated into any system of long-range provisioning—the young casualties would be by definition the smallest and most feeble of their age group, and we know that it was the older, fullgrown animals which were required for tribute or for tax (Alcock 1975). Most of these young animals would be eaten locally, and to this extent the towns would be sheltered from the straight reflection of natural hazards. Certainly the Hamwih ageing figures show little sign of any early mortality (Table 1). The animals coming into Hamwih were of an age and size produced by a good period of successful rearing before their selection for provisioning the town.

Other signs of Hamwih's ample provisioning came from the style of its butchery and in particular of the cutting up of beef. Meat was trimmed from its bone, most probably for stewing, and the bones were then chopped to release their fat and marrow before being quickly cast into the pits. The crisp bone-fits of those bones which can now be re-assembled suggest that they had never been cooked, and

TABLE 1  
CATTLE AGEING FROM FUSION DATA  
(in modern equivalent ages, with each broad age-group calculated separately)

|               | HAMWIH | MEDIEVAL |      |      |
|---------------|--------|----------|------|------|
|               |        | A        | B    | C    |
| KILLED BEFORE | %      | %        | %    | %    |
| 1½ yrs.       | 10.2   | 10.4     | 20.4 | 20.0 |
| 2½ – 3 yrs.   | 38.5   | 26.4     | 30.6 | 42.6 |
| 3½ – 4 yrs.   | 46.7   | 40.8     | 40.7 | 38.4 |

the whole pattern of chopping suggests a casual sufficiency. It was predicted from the animal bone that the Hamwih human skeletons would prove to have been extremely well nourished in their lifetimes, and early work on the cemetery in Site XIII suggests that this indeed was so (Holdsworth, in preparation).

All this must have required good organisation, for a town of Hamwih's size cannot have been self-sufficient in food. Detailed links with the land are not yet clear, but it may already be said that most of the animals reached Hamwih untrimmed and presumably alive, since all parts of their bodies are fairly represented in the pits. This contrasts in particular with Haithabu, where a dearth of mandibles led Reichstein and Tiesßen (1974) to postulate that many cattle were killed outside the settlement and brought in as trimmed carcasses for the provisioning of the town. Continental discussions throw up some major differences between towns as consumers and special large farms as producers (e.g. Hvass 1976, Nielsen 1977), but these differences were not in evidence here.

It can also be said that the good provisioning of Hamwih seems to have continued to the end. Certainly in the latest of those pits for which a phasing is suggested, the preponderance of cattle is still increasing. Whatever the cause of Hamwih's end, its rural base was sufficient for its needs. The other aspects of the town's existence seem to have had a life and a death of their own.

#### MEDIEVAL CONTINUITY AND CHANGE

The early years of the new town of Southampton show some setback in the animal economy, a setback which serves further to

highlight Hamwih's conspicuous success; then, with the later medieval periods, there is not only advance but also change.

In considering the success of provisioning, the ratios of the main domestic species should once again be significant, though quantified results from the medieval bone are offered with more caution. Documentary sources show beyond any doubt that sheep in medieval Southampton were important for their wool; they are also numerous among the bone remains, at 40% among the main domestic species as against Hamwih's own good count of 32%. (This makes an interesting contrast with the picture, say, in medieval Amsterdam, where the known legal prohibition on the slaughter of sheep in the town itself is matched by a dearth of their bones among the finds—Clason 1967). But most of the Southampton sheep were old and tough, and all of them were small. Few of them are likely to have come into the town primarily as meat, though most if not all of them would of course have been eaten, and as for Hamwih it is fair to disregard the sheep and to abstract the ratio of cattle to pig as a gauge of the successful meat provisioning of the town. It is not until the sixteenth century (Period C) that cattle again come to dominate pig as they had done in the later days of Hamwih.

It may well be that methods of disposal affect the samples. The predominance of cattle in Period C may be in some part the result of infilling from waste, and the relative scarcity in Period B may come from the particular context of the floors; but the pits and postholes of Period A should provide a clear similarity in context to those of Hamwih, and here there is a certain step back from the peak of the achievement of the Saxon town. With a cattle : pig ratio of 3.5 : 1, the picture in Period A is of an animal economy which has not made further progress in the intervening years, but which to a somewhat greater extent must supplement the harder and more demanding cattle with the easier and less demanding pig.

A similar impression of more modest achievement comes from measurements and

overall sizes, and these may be accepted with a good confidence. The mean heights of the main domestic species all drop in Period A (Fig. 1). But shoulder heights can be calculated only from whole fused bones, and the sample of these is fairly small. To extend the chance of making comparisons, a system of Size Factors has been devised whereby the mean widths of the fused articular surfaces have been calculated, species by species and period by period, against their respective Hamwih means (Fig. 2). On Size Factors as well as on shoulder heights there is a marked diminution of all species in Period A. This tendency towards smaller animals may indicate a greater pressure on the available land, or less concern for successful and serious production, or perhaps some combination of the two. It may indeed be that what was really noteworthy was the outstanding animal husbandry in the area at the time of Hamwih, and that in the earlier years of the medieval town one was seeing a reversion to a more mediocre form of stock-raising which produced less successful results.

After Period A, cattle and pig both show a recovery and this recovery is carried further during Period C: by the sixteenth century the general cattle measurements both of height and of bone-width are comfortably surpassing those of Hamwih (Fig. 2). Armitage (in press) suggests that in the aftermath of the Black Death the desertion of many villages and the drop in cultivation of the arable left far more land available for pasture and gave a better chance for animals, and that as part of this change in emphasis new stock was imported from the Continent in a conscious effort to improve the British strains. Certainly at about this time new types of cattle horn cores are found in London and in other areas, and these new horn-types may herald the introduction of new stock. The main Southampton measurements would not conflict with this interpretation. The general impression here, however, is of a very gradual improvement rather than of a sudden introduction of alien stock with different characteristics. For instance, although not many horn cores of cattle have been found from medieval Southampton,

Fig 1: WITHERS HEIGHTS OF CATTLE AND SHEEP  
(as percentages of respective Hamwih means)

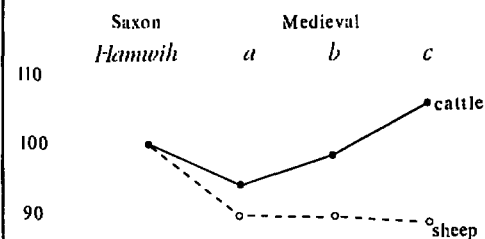
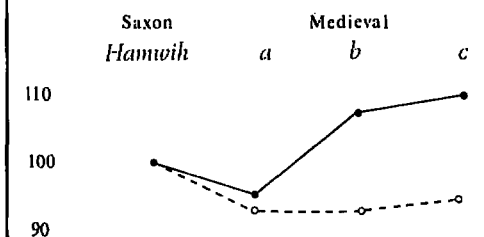


Fig 2: SIZE FACTORS FOR CATTLE AND SHEEP  
(mean widths of fused articular bones as percentages of respective Hamwih means)

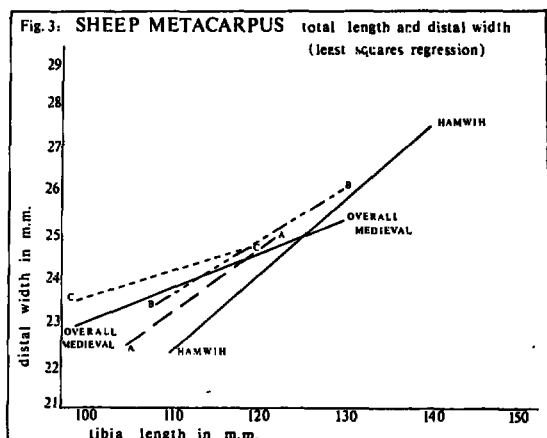


those which do survive in the later periods show a clear continuity with the type and textures familiar in the area from the time of Hamwih; and there is a slight genetic abnormality on the acetabulum which could be passed down in a particular breeding group and which persists spasmodically throughout. The local population of cattle would seem to endure as the basic stock.

Pigs, and also domestic fowl, grew larger in the later medieval periods. Sheep, on the other hand, did not. Their continuing decline presents a problem, for with sheep growing ever more diminutive—and a height of less than 50 cm is indeed a ridiculous figure for an adult sheep at its shoulders—it is not possible simply to make the broad and very reasonable generalisation that for stock as a whole an extension of the available pasture helped to foster fuller growth.

What then was happening to produce these tiny sheep? It is in theory just possible that all through the medieval period there was such enthusiasm for sheep-raising that pressure on the pasture was never allowed to lessen even though the acreage increased, and that the sheep stayed consistently undernourished and for this reason consistently small. This explanation seems inherently unlikely since in so long a period some sheep somewhere in the area must surely have eaten to capacity, and yet in a fully adequate sample of measurements not one single sheep has been found from medieval Southampton which tops the Hamwih mean. Were these sheep then of a new and stunted stock? In some ways they show consistency with their forerunners at Hamwih, most notably in their horn cores where a basic similarity persisted over many centuries. This in itself is surprising. Pölloth (1959) found an enormous variety of sheep horn cores in the one great assemblage at Manching. Clason (1978) showed that in the Netherlands in particular and on the Continent more generally there had been great variety in the horn cores of sheep and that there was a steady growth of hornlessness among the ewes from Roman times onward, and Pollok (1976) indeed found many hornless sheep at Haithabu. Neither at Hamwih nor in medieval Southampton was there any such variety in the horn cores, and among the many skulls only one case of possible hornlessness has been identified. One has to say that the sheep from medieval Southampton were unlikely to have been a new introduction from the Continent.

Perhaps the small medieval sheep were a reversion to the basic type long since established in Britain? A comparison of the proportions of the metapodial bones of the Hamwih sheep and of those from medieval Southampton gives some suggestion that there had been a shift in the basic structure as between the two local populations (Fig. 3). This is not offered as conclusive, but similar differences have been accepted by Klein and Reichstein (1977) and by Spahn (1978) as establishing the co-existence of sheep populations which



are different and discrete. It may also be relevant that there seems to have been a change in the relative proportions of the main bones of the front limb, and it is changes of this sort which Coy (in press) sees as potentially a key indication of selection trends. Hamwih sheep have a somewhat longer radius and a shorter humerus, whereas in medieval Southampton these bones give a much better correlation with Teichert's (1975) discussion of his factors for calculating the shoulder heights of pre-historic and early historic sheep.

It seems possible then that there had been real changes in the sheep population and that these changes could in part at least have been deliberate. Detailed metrical analyses of other sites should in due course help to elucidate the problem, but wider comparisons of height suggest that it will be Hamwih and its area of supply that will prove to have been unusual. The major, and probably quite typical, Iron Age site of Balksbury had a population of very small sheep (Maltby, in preparation). Medieval sheep in general were small again: a sample from Christchurch in Dorset gave a mean height of only 53 cm (Coy in press), while Maltby's (1979) sheep from the same period in Exeter were only marginally larger at 55 cm, and Noddle's (1977) from medieval King's Lynn may be calculated to 56 cm. It seems to be Hamwih—or perhaps the Saxon period more generally—which in

British terms is the odd one out. One would like to suggest that the countryside at the time of Hamwih did indeed do well in producing animals of an increasing size, but that smaller sheep were found in the end to be more practical and suitable for wool: the smaller the animal, the greater would be the heat loss, and presumably the greater the natural stimulus to grow a thick protective coat.

The patterns of disposal and of butchery change during the medieval period. Traces of bone-working are now missing: bone artifacts appear among the small finds, but save for a single half-fused, half-sawn femur caput, presumably rejected as a spindle whorl and discarded in a well at Quilter's Vault in Period A, there are no off-cuts of bone-working at all. There is also a dearth of cattle horn cores, which suggests that the horns were taken to a few areas (as yet undiscovered) for specialised working, whereas at Hamwih the cores, whether sawn or not, had appeared as background noise throughout.

But if quantities of horn cores are low, other fragments from the skull appear in good numbers in Period A. So does wastage from the feet and lower legs. It seems that in its early years the new town made quite modest demands upon the land and that slaughter was still largely on-the-spot, with trimmings and food remains deposited together in the pits. Butchery styles in this period were also those of Hamwih.

Later there are signs of preliminary trimming, of a sagittal division of the carcass clean down the backbone (Noddle 1975) and of a more precise dismemberment with fine sawing used for much more careful jointing in place of the earlier rough and ready chops (Bourdillon 1979). These things suggest a more specialised, professional approach. In general, as Platt and Coleman-Smith (1975) have pointed out, a new approach fits well in time with the realignment of buildings and the general social change at about the start of the fourteenth century; but work at Quilter's Vault has suggested that the transition of butchery techniques may have been a subtle

and more gradual process which had started for some of the wealthier households even before the realignment of the buildings had reduced the land available for stock.

The finer sawing and more careful butchery presuppose a new approach to the cooking and eating of meat. Deliberate jointing must be followed by some form of roasting, and this in its turn calls for younger and more tender animals than those that had reached the end of their long and useful life and were fit for little other than a stewpot. And indeed the ageing pattern of the slaughtered cattle shows a marked change in the medieval town. During Period A the mortality was close to that of Hamwih, but during Periods B and C a far higher number of young animals was killed (Table 1).

For Middle Saxon times, a dearth of young animals could most appropriately be explained as a sign of the divorce of the town from the immediate hazards of the land, and as a measure of its successful provisioning in basic supplies of solid meat. Should the presence of more young cattle in the later medieval town be taken to represent a reversion to a closely integrated farming community? Or should it rather be seen as marking a new freedom to select for the choicer meats, a sign of more complex organisation and a measure of extravagance and of taste? It would be very good to know whether the new pattern of ageing holds true for the richer areas only, but until a poorer quarter of the town has been excavated this is a question whose answer may only be guessed.

There remain to be considered the medieval links with the wild. First one must not neglect the interlude of one small section of the late Saxon ditch, presumably the earliest that was dug around Southampton. In those sections of this ditch which have so far been located, the bone remains have been various, but in the section at Quilter's Vault they were unique. Here there was nothing small even from the water-sieving, but there were abnormally large remains of cattle, horse and red deer. There was no antler, nor were there any trimmings, and the bones all clearly came from food. In

this short stretch of ditch the weight of the deer bones exceeded the total weight of red deer in the whole of Hamwih's Melbourne Street site, and gave a sudden sharp reminder that food could still be taken freely from the wild.

But this was a single reminder of a different way of life, perhaps of one solitary episode as the town was still being established within its protective ditch. Other sections of the ditch are basically and solidly domestic in their animal remains (though these may date from the subsequent infilling and not from the immediate period of construction), and so are all the early deposits in Period A. It is only quite late in Period A that new and wild species appear. Pigeon, rabbits and fallow deer were all absent from Melbourne Street, but they are found in Southampton from the twelfth or thirteenth century, and from that time on they were eaten in increasing quantities. Far more domestic poultry was eaten to supplement the basic diet of cattle, pig and sheep. The fowling or trapping of wild birds grew more common. The figure for wild birds is still quite low in contrast to that from many other sites, for instance the rich and varied bird remains found even in late Saxon layers from nearby Portchester (Eastham 1976); in view of the good local habitat for native birds and of the town's closeness to a major entry point for migrants, medieval Southampton's bird finds are not notable for any intrinsic importance, but stand simply as a contrast to the general lack of interest at Hamwih. More significantly and positively, fish bones come to be found in steadily increasing quantities. Such an increase may be due in some part to a better chance of preservation in accumulated garbage deposits, but at the same time there is a good increase in the variety, size and interest of the different species. Plaice and flounder now far outnumber eel among the easy estuarine catches, and there is a greater readiness to make for the fish of deeper water, and for a more adventurous exploitation of the sea.

The wild:domestic ratio was therefore much higher than it had been at Hamwih.

But this was in no sense a back-to-nature movement for the sake of the primitive life. Rather it marks the complement to the change that was found in the exploitation of the produce of rural husbandry, when after the relative limitations of the earlier years the later medieval townspeople—or those at least whose dwellings have been excavated—were able to draw so well on the basic resources of the land that they could pick and choose on

criteria more of taste than of serious need. At the same time there was a new and considered exploitation of the wild environment, in the cause of sport, sophistication and cuisine.

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