

Hertfordshire Cattle and London Meat Markets in the 17th and 18th Centuries

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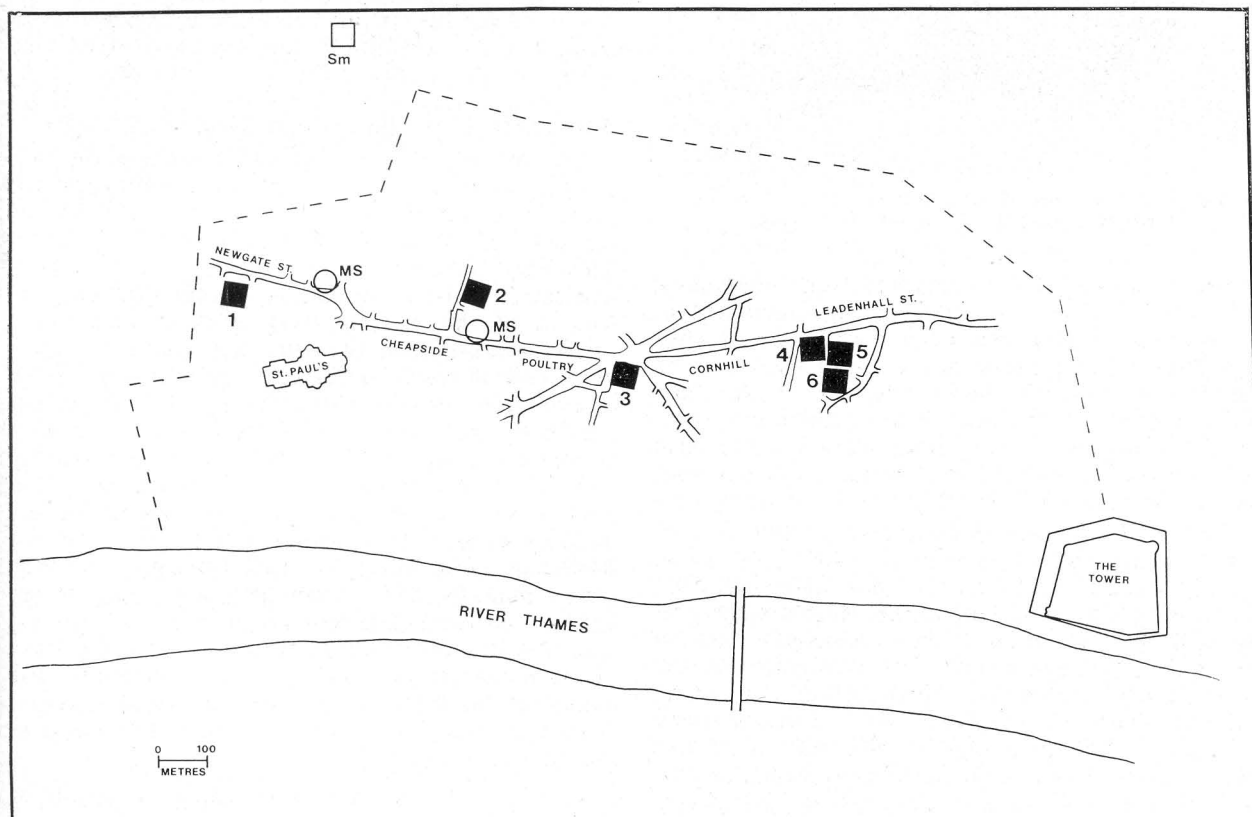


Fig. 1: The City of London in the late 17th century: location of the principal public meat markets.

Key: 1-6 Public meat markets:—

Sm Smithfield livestock market
MS Site of medieval shambles

- 1 Newgate market
- 2 Honey Lane or Milk Street market
- 3 Woolchurch or the Stocks market
- 4 Leadenhall market
- 5 the Beef market
- 6 the Herb market

EXCAVATIONS carried out by a team of archaeologists¹ from the Department of Urban Archaeology (Museum of London) south of Aldgate in 1974 revealed the presence of relatively undisturbed mid 17th/early 18th century levels lying sealed beneath

1. Directed by Alan Thompson.

modern railway tracks in a goods yard. The structural features uncovered comprised the surviving foundations of a row of six, small terraced houses built of brick, and two kilns used for the manufacture of clay pipes. Closely associated with these features were several dumps of refuse which yielded



Fig. 2: Horn cores of long horned (A) cow, (B) ox. Hertford Castle, late 17th/early 18th century.

(Photo: Jenny Orsmond)

groups of animal bones, including large numbers of horn cores and post cranial elements identified as those of cattle. More recently (April 1978), a collection of over 200 cattle horn cores was discovered by the D.U.A. beneath the warehouses of the East India Company, Cutler Street, London. These cores are the waste from horn working, and have been provisionally dated to the late 17th/early 18th century (certainly pre 1800)².

As the archaeozoologist attached to the D.U.A., it will be my task to examine and comment on the skeletal remains from the Aldgate and Cutler St. sites, but before embarking on the studies much preliminary research needs to be conducted. It is, for instance, of some importance to recognise that the 17th century marked the beginning of the era of the great cattle droves, when store animals destined eventually for the meat markets of London were sent "on the hoof" from as far north as Berwick, as well as from North Wales and Cornwall, to graziers in the South Midlands, East Anglia and the Home Counties for finishing; the fatted "beeves" subsequently being sold to butchers for slaughter in the City³. The remains of cattle recovered by excavation in the City of London can not, therefore, be viewed

in isolation, and in order to interpret bone material from sites such as Aldgate and Cutler St., a knowledge of the different stocks of cattle to be found throughout the whole of Britain during the late 17th /early 18th century is required.

As a contribution to the history of livestock of the early modern period, I have planned a series of investigations into assemblages of cattle bones from post medieval sites in South Eastern England. The results of the first of these studies, carried out on a group of horn cores from Hertford Castle, forms the subject of this paper.

Expansion of the Metropolitan Meat Market

London in the 17th century experienced an amazing growth in population, when, between the years 1631 and 1665 the number of inhabitants increased from an estimated 130,000 to over 500,000⁴. This very considerable and unwanted rise in population placed an intolerable strain on the resources of the existing food markets, and it became necessary for the City authorities to intervene and attempt to remedy the situation. Their efforts were unexpectedly aided by the destruction caused by the Great Fire of 1666, which cleared a large section of the overcrowded City and thereby offered a good opportunity for the relocation of the old markets as well as providing space for the building of new ones with better facilities for the tradesmen. The survey carried out by Leybourn⁵ shows that, by 1677, there had been built in the City six principal markets, all of which were licensed to sell meat (Fig. 1). But even the provision of these new markets was to prove inadequate, and numerous butchers' shops and unofficial markets dealing in meat sprang up throughout London during the late 17th century⁶.

To supply the markets with the large quantities of livestock required⁷, a national network was set up whereby cattle born and raised in the remoter parts of Britain (i.e. Scotland, North Wales and Cornwall) were sold to graziers operating nearer the Capital, who then fattened them ready for sale

2. J. Schofield, P. L. Armitage & H. Wade (in prep.).
3. F. J. Fisher, "The development of the London food market 1540-1640." *Economic History Review* 5 (1935) 50; P. V. McGrath, *The Marketing of Food, Fodder and Livestock in the London Area in the Seventeenth Century*, M.A. thesis, University of London (1948); C. Skeel, "The cattle trade between Wales and England from the fifteenth to the nineteenth centuries," *Transactions of the Royal Historical Society* 4th series 9 (1926) 156; A. R. B. Haldane, *The Drove Roads of Scotland*, Newton Abbot (1973) 18.
4. Information from the Librarian, Guildhall Library, London (1978, pers. comm.).
5. B. R. Masters, *The Public Markets of the City of London Surveyed by William Leybourn in 1677*, London Topographical Society Publications No. 117 (1974).
6. P. E. Jones, *The Butchers of London*, London (1976) 95; P. V. McGrath, *op cit* (1948) 9.
7. There is insufficient information available to enable the exact size of the traffic in fat cattle to be calculated, but this must have been considerable. The extant records of the Markets Committee of the City of London do show that the number of cattle brought to Smithfield each market day in 1696 was estimated at 1,200 animals (Guildhall Record Office, Journal of the Markets Committee 1696-1698, fo. 17).

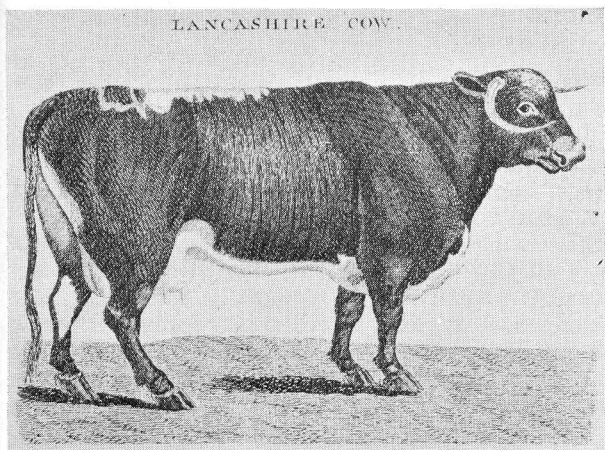


Fig. 3: Engraving of a Lancashire Longhorn cow, 1776
(Photo: Jenny Orsmond)

to the City butchers. The increased demand for meat thus provided the stimulus for farmers to specialise in the production of livestock, and those in the counties immediately adjoining London, including Hertfordshire, found it highly profitable to finish store cattle and raise calves for veal. This last practice was commented on by Mortimer in 1707⁸, who wrote that "In Hertfordshire, Essex, and most places near London, they commonly fat all their calves for the butcher, because they have there a good market for them, and their lands are not so profitable to breed on as in cheaper countries; a good calf there often selling for as much as a good heifer, especially if they are very fat and white . . ." The suckling of young calves on Hertfordshire farms is further described by Ellis⁹ in his book published 1732.

Cattle in Hertfordshire in the Late 17th and Early 18th Centuries

There was apparently no discrete, indigenous population of cattle in Hertfordshire in the 17th and early 18th centuries as there was, for example, in Devon, where the local red cattle are believed to have an unbroken ancestral line which goes back at least to the late medieval period, and possibly even earlier¹⁰. The cattle kept on the pastures of Hertfordshire were brought-in animals supplied by the livestock rearing farms established in Scotland, Wales, Lancashire and the Midland Plain. Contemporary documentary sources are, disappointingly, unhelpful as regards the appearance of these imported beasts.

8. J. Mortimer, *The Whole Art of Husbandry*, London (1707) 169.
9. W. Ellis, *The Practical Farmer or, the Hertfordshire Husbandman*, London (1732) 105-9.
10. R. Trow-Smith, *A History of British Livestock Husbandry to 1700*, London (1957) 112.

The probate inventories relating to South West Hertfordshire that have been recently examined by Longman¹¹, for instance, provide only details of size of herd and value of the cattle, with an occasional reference made by the appraiser to the colour of the coat of an individual animal; as in the inventory dated 1618, which includes in the list of items left by the deceased, George Hayward of Sarratt, "a black bullock" and "a red cow"¹². Because of the rather limited descriptions contained in the written records, information on size and conformation can only come from study of the skeletal remains of cattle recovered during excavation. The most valuable assemblage of cattle bones dated to the late 17th/early 18th century that has been discovered in the county so far is from Hertford Castle.

Cattle horn cores from Hertford Castle

Old maps of Hertford show that the perimeter defences of the castle consisted of two ditches dug round the east, south and west sides of the building¹³. A section of the inner ditch was located during excavations carried out in the grounds of Hertford Castle in 1970¹⁴: from the stratigraphy it appears that there were several phases of re-cutting of the ditch and the strengthening of the banks. This was confirmed by observation of sections on an adjacent site (Hertford Museum E. R. 70). The horn cores came from a layer of grey clay, which represents a period of silting. Beneath this layer was a complete Bellarmine bottle of c. 1660, which had sunk into the sediment at the bottom of the ditch before the grey clay layer was deposited. The latest date for the layer containing the horn cores is determined by the next re-cutting and revetting of the ditch: the revetment, a mixture of rubble and clay, contained pottery of the 18th century. A date of c. 1700 is therefore suggested for the horn cores.

With the exception of one metatarsal bone of a calf, there were no postcranial elements of cattle with the horn cores in the ditch, and it seems likely therefore that the assemblage represents the discarded waste from a horn working industry. This interpretation is supported by the presence on the specimens of marks made by a cleaver when the bony core with its sheath were being removed from the skull shortly after slaughter of the animal. The complete outer sheath would have been pulled off the bony core after it had been softened by immersion in boiling water, and the unwanted core thrown away. Horn was used as the raw material for

11. G. Longman, *A Corner of England's Garden 1600-1850*, 2 vols. (1977). Privately published.
12. G. Longman (1977, pers. comm.).
13. H. C. Andrews, *The Chronicles of Hertford Castle*, Hertford (1947) 7.
14. Directed by M. G. Gribble for Hertford Museum.

the manufacture of such items as spoons, buttons, combs and handles for cutlery.

This group is of value from the point of view of agricultural history as it represents the remains of cattle slaughtered locally and whose horn cores were discarded probably over a short period. The specimens therefore form a closely related group unlike those from other dumps of refuse frequently found on archaeological sites where deposition of the bone material is known to have occurred over a prolonged period.

Age of the cattle at slaughter

The horn cores can be classified into the following three age classes on the basis of the density of the bone:—

Age class	Description	No. specimens	% of Total
1. Juvenile (1-2 yrs)	spongy bone, very light in weight.	3	6%
2. Sub-adult (2-4 yrs)	porous bone, especially around base of core.	34	64%
3. Adult (over 4 yrs)	hard, compact bone.	16	30%

The age range given for each of the three classes is tentative, and is based on the series of skulls of Chillingham cattle held by the British Museum (Natural History)¹⁵. If, as is indicated by the large size and long tapering shape, the majority of the specimens assigned to the sub-adult group are from castrated males (oxen) then they may have been of greater age than four years at time of death. This is because, if the normal practice of castrating a bull calf at 10 to 20 days after birth is carried out, the growth pattern is much

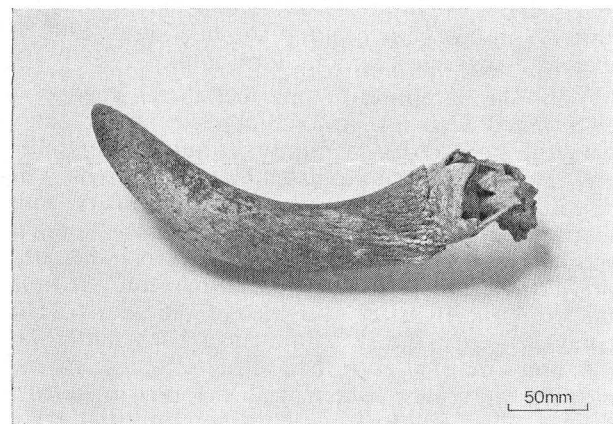


Fig. 4: Horn core of medium horned cow. Hertford Castle, late 17th/early 18th century

(Photo: Jenny Orsmond)

15. Described by C. Grigson, "The craniology and relationships of four species of *Bos*. 1. Basic craniology: *Bos taurus* L. and its absolute size." *Journal of Archaeological Science* 1 (1974) 353-379.

affected and the onset of maturation of the skeleton delayed.

Sizes of the cores

1. Length of outer curve

There are only two complete, unbroken cores, with lengths of 290 and 375mm (11.4 and 14.8in.) (Figs. 4 & 2a). Both of these specimens have hard, compact bone and are therefore from adult animals. A massive core, believed to be of an ox, with part of the tip broken off, has a length of outer curve estimated at over 440mm (17.3in.) (Fig. 2b). There are at least three other specimens whose length approaches 400 plus mm (16in.), although the exact dimension can not be determined with any degree of precision as the end of the core is

missing.

2. Basal circumference

The distribution of values for the basal circumference, shown below, was obtained by measurement of 39 cores (adult & sub-adult, complete & broken specimens):—

Basal circumference class limits (mm)	No. of specimens
150 - 159	1
160 - 169	1
170 - 179	2
180 - 189	4
190 - 199	3
200 - 209	6
210 - 219	3
220 - 229	8
230 - 239	3
240 - 249	4
250 - 259	3
260 - 269	4
270 - 279	3
280 - 289	1

N.B. one inch is about 25mm.

No. specimens = 39

Mean value = 224.7 mm (8.84in.)

Range = 168 - 284 mm (6.6 - 11.2in.)

Standard deviation = 27.8 mm (1.1in.)

Standard error of the mean = 4.5 mm (0.2in.)

16. As discussed in P. L. Armitage & J. Clutton-Brock, "A system for classification and description of the horn cores of cattle from archaeological sites." *Journal of Archaeological Science* 3 (1976) 329-348.

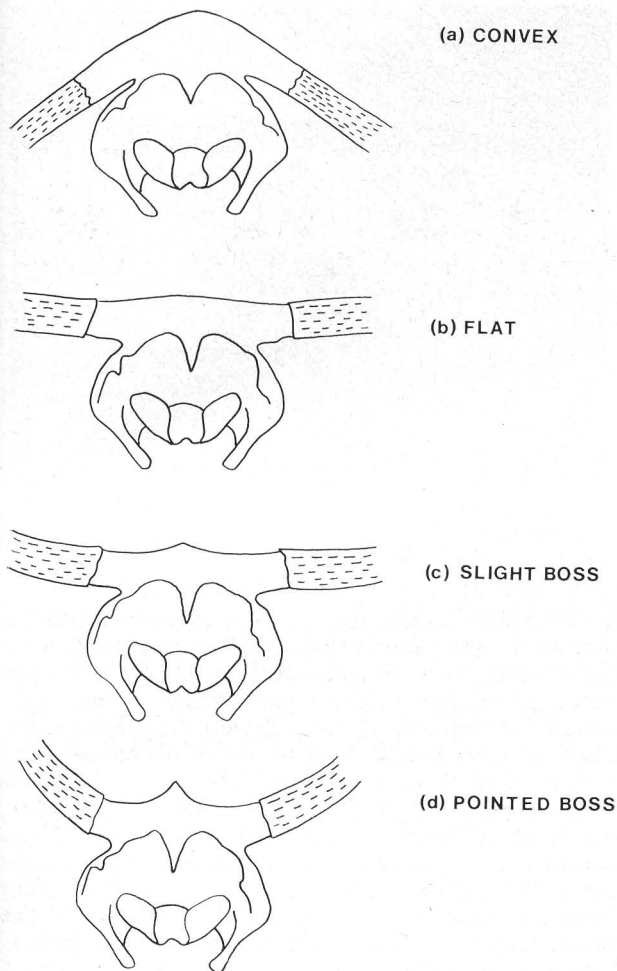


Fig. 5: Cattle skull, nuchal (back) view. Shape of frontal eminence and direction of horn core.
(drawn after Grigson, 1973)

The stocks of cattle represented

As well as the large range in size, there is also considerable variation in the shape of the specimens. These differences in size and shape can in part be ascribed to the sex of individual cattle¹⁶, but they also indicate that more than one stock is represented. Two discrete groups can be identified, these being:

1. Long horned cattle

Apart from the six specimens described below, all the cores come from the unimproved progenitor of the Longhorn breed of cattle. These small, mainly black cattle with long horns were, in the late 17th century, widely distributed throughout Britain¹⁷.

17. see G. Markham, *Cheape and Good Husbandry*, 9th edition, London (1657) 69.

18. E. Kerridge, *The Agricultural Revolution*, New York (1968) 146.

They were tough, rangy beasts with thick hides and dense coats, able to thrive equally well on the open mountains and moorlands of Scotland, North Wales, Westmorland, Yorkshire and Derbyshire, as on the gentler pastures of Cheshire and Staffordshire. The very best animals were acknowledged to come from the stock-rearing farms situated in Lancashire. Here, the rearing of cattle to supply the graziers of the South Midlands and South Eastern England was conducted on a large scale, with a few of the farmers in the country owning herds of up to 4,000 animals¹⁸.

Figure 3 shows one of the earliest engravings that I know of a Lancashire Longhorn cow, and is taken from the book on *British Zoology* by Pennant (1776). Through following a policy of close inbreeding coupled with rigorous and careful selection, the pioneer livestock improver, Robert Bakewell (1726-1795), wrought considerable changes upon the conformation of this animal. The improved Longhorn, also referred to as the new Leicester or Dishley Longhorn, was less coarse in the bone, and had a greater propensity to fatten at an earlier age compared with its unimproved predecessor. Other alterations occurred, most noticeably in the head, where the frontal eminence of the skull became convex, producing a dome-shaped forehead with the horns directed backwards (Fig. 5a). The length of the horn also increased and, in some animals, took on a bow-shaped configuration, sweeping first downwards and then curving sharply inwards towards the nose.

The cattle from Hertford Castle predate the improvements made to the Longhorn stock and they do not, therefore, exhibit the characteristics previously described, instead they have a frontal bone that appears flat, or only very slightly convex, when viewed from the back of the skull (Fig. 5b), the horn core standing outwards from the head throughout its length, with, in some specimens, the end curving gently forwards (Fig. 2a). In appearance, a long horned cow of 17th/18th century Hertfordshire probably resembled the animal shown in Figure 3, except that the white belly and stripe along the back would not have been present, the coat being entirely black (or possibly red) in colour.

2. Medium (or middle) horned cattle

Six of the 53 cores from Hertford are from individuals whose length of horn would have been intermediate to that of short and long horned cattle. Only one specimen in this medium horned group has the core complete and unbroken. This core is seen to be markedly twisted i.e. has a primigenius spiral¹⁹ (Fig. 4). In this respect, it resembles closely the horn

19. C. Grigson, *The Comparative Craniology of Bos taurus L., B. indicus L., B. primigenius Boj., and B. namadicus Falc.*, Ph.D. thesis, University of London (1973) 196.

core on the skull of the modern Ayrshire cow in the collection of the British Museum (Natural History) reg. no. 1952.8.15.1. It would, however, be extremely unwise to assume on the basis of this observation that we are therefore dealing here with the skeletal remains of the progenitor of the present day Ayrshire breed²⁰. This assumption would be especially ill-founded as it is believed that the striking, upturned, lyre-shaped horn of the Ayrshire was inherited from a cross made in the late 18th century to the Fifeshire breed of cattle, a breed which is now extinct²¹. All that can be stated with any degree of certainty is that the animal from which the specimen came would have had a horn configuration not unlike that of the modern cow shown in Figure 6.

In the group, three different forms of skull are represented, these being described as follows: —

- (1) Frontal bone is flat, or only slightly convex, with the horn core in a horizontal position (Fig. 5b), 1 specimen.
- (2) Frontal eminence forms a slight boss, with the horn core held straight out from the skull (Fig. 5c), 3 specimens.
- (3) Frontal eminence forms a pointed boss, with the horn core directed sharply forwards away from the forehead (Fig. 5d), 1 specimen.

It is not possible to ascertain the shape in the sixth specimen as the frontal bone has broken away and only the core remains intact.

Discussion

Two, distinct, groups of cattle, representing long and medium horned animals, are identified from the collection of horn cores from Hertford Castle. The relative number of specimens in each of the groups show that the preferred stock was the longhorn. This evidence of the preponderance of the longhorn over the other classes of cattle fits very well the picture we have of 17th and early 18th century livestock based on contemporary documentation; the earlier writers on agriculture²² declaring that the best sort of beast, and the one generally most esteemed by the grazier and butcher alike, had a black coat and exceedingly large horns. It is of interest to note that the dominance of the Longhorn had by the early

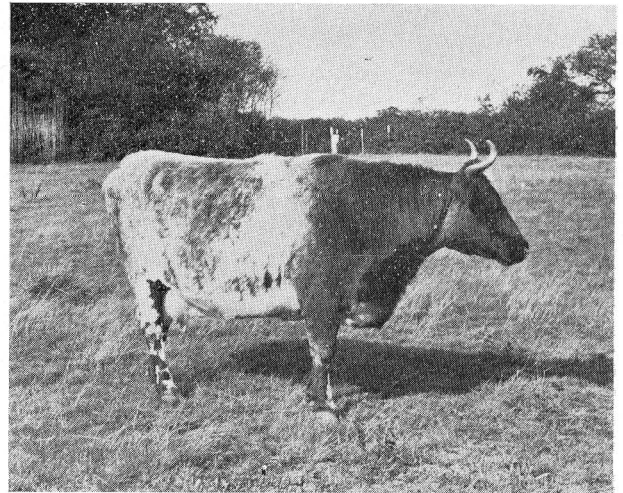


Fig. 6: Dairy Shorthorn cow photographed near Hertford 1976. Note the lyre-shaped horns, more usually found in the Ayrshire breed.

(Photo: Philip Armitage)

19th century ended, and the survey carried out by Arthur Young²³ shows that very few of these animals were being kept in Hertfordshire at this time, the cattle population in the county being mainly comprised of animals belonging to the Devonshire, Suffolk, and Welsh breeds. The decline in popularity of the Longhorn, which was general over the whole country in the modern period, can be attributed to its inferior performance; in spite of the successful efforts made by Bakewell and his contemporaries to upgrade the stock, Longhorn cattle were still unable to compete against animals of the newly improved Short and Middle horned breeds, which were faster maturing²⁴.

The absence of skeletal remains of short horned cattle at Hertford may be explained by the limited distribution of this stock in the period under review. Markham²⁵, for instance, places pied cattle that have "their horns little and crooked" as being mostly confined to Lincolnshire. Whilst another author, Mortimer²⁶, writing at the beginning of the 18th century, likewise makes reference to the presence of "long legged short horned" cattle in Lincolnshire, mentioning also that they are, by his

20. For a discussion on the reasons why modern breed titles should not be applied to the skeletal remains of domestic livestock from archaeological contexts dated before the late 18th century, reference can be made to J. Clutton-Brock, "The definition of a breed" (1978, forthcoming).
21. R. Trow-Smith, *A History of British Livestock Husbandry 1700-1900*, London (1959) 115 & 116. For an earlier discussion on the change in horn shape of Ayrshire cattle in the modern period, see P. McConnell, *The Elements of Agricultural Geology*, London (1902) 292.

22. see, for example, G. Markham, *op cit* (1657) 69.
23. A. Young, *General View of the Agriculture of Hertfordshire*, Newton Abbot (1804, reprinted 1971).
24. J. C. Bowman & C. T. Aindow, *Genetic Conservation and the Less Common Breeds of British Cattle, Pigs and Sheep*, University of Reading, Study No. 13 (1973).
25. G. Markham, *op cit* (1657) 69.
26. J. Mortimer, *op cit* (1707) 166.

time, to be seen in Kent. It was not until the early 19th century, however, that the newly improved Shorthorn began to move out from its centres in Lincolnshire and North Eastern England to challenge the supremacy of the Longhorn; the Shorthorn breed then becoming common throughout Britain.

Alternatively, the lack of cores of short horned cattle could be a reflection of the preference shown by the horn worker for horn from long horned animals. But I feel that this second explanation is unlikely as small sized horn cores have previously been found on other archaeological sites among the discarded waste from a horn working industry²⁷.

Acknowledgements

I am indebted to Mr G. Davies, Curator of Hertford Museum for making the collection of horn cores from Hertford Castle available for study, also for helpful discussion on the stratigraphy of the site. My thanks are due to Mr. H. J. Brooks, Jepps Farm, Hertford for information on the Dairy Shorthorn cow shown in Fig. 6, also to Mr. E. M. Jones, Farm Manager, Highfield Farm (veterinary laboratory of

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Appendix: Explanation of the terms used

- (1) "longhorn" (or "long horned") denotes the unimproved form of the modern Longhorn breed; the term being used to identify the small, mainly black cattle common to Britain in the 17th/early 18th centuries.
- (2) "Longhorn" is the title of a recognised and distinct breed of cattle, and refers to the improved stock of long horned cattle present in Britain in the late 18th/early 19th centuries. These cattle were extremely variable in colour being either black, red, pied or brindled. But whatever the colour of the coat, almost all of them exhibited a white stripe along the back (referred to as a "finch back").

27. P. L. Armitage & H. Wade, "The techniques of horn working", (1978, in prep.).

Excavations & Post-Excavation work

City, by Museum of London. Department of Urban Archaeology. A series of long term excavations. Enquiries to Brian Hobley, Chief Urban Archaeologist, DUA, 71 Basinghall Street, E.C.2. (01-606 1933/4/5). For information on post-excavation work, contact Penny MacConnoran at this address.

Brentford, by West London Archaeological Field Group. Excavation and processing. Enquiries to Alison Parnum, 71-72 Brentford High Street, Brentford, Middlesex. 01-560 3880).

Fulham, by Fulham Archaeological Rescue Group.
(1) Fulham Palace, Bishops Avenue, S.W.6. Excavation work under the floor of the great hall and other rooms will reveal medieval foundations and cellars, known from 18th century plan and surveys. Enquiries to K. Whitehouse, 86 Clancarty Road, S.W.6 3AA. (01-731 0338).

(2) Sandford Manor, Rewell Street (New Kings Road), S.W.6. Excavation work in grounds of 17th century house, traceable back to at least 14th century, hopefully will find medieval and earlier occupation. Enquiries to Excavation Director, C. E. Oliver, 18 Albany Court, Ashburnham Road, Ham, Richmond, Surrey. (01-948 2633 or 661 1421) or K. Whitehouse.

Hammersmith, by Fulham Archaeological Rescue Group. All types of work and finds: prehistoric, Roman, medieval and later. Tuesdays, 7.30 - 10 p.m., 2 Clancarty Road, S.W.6. Contact: K. Whitehouse, 86 Clancarty Road, S.W.6 3AA (01-731 0338).

Inner London Boroughs, by the Inner London Unit. Several rescue site in various areas. Enquiries to Irene Schwab (01-242 6620).

Kingston, by Kingston-upon-Thames Archaeological Society. Rescue sites in the town centre. Enquiries to

Marion Smith, Kingston Museum, Fairfield Road, Kingston (01-546 5386).

North-East Greater London, by Passmore Edwards Museum. Enquiries to Pat Wilkinson, Passmore Edwards Museum, Romford Road, E.15. (01-534 4545).

Putney, by Wandsworth Historical Society. Two acre site at junction of Felsham Road and High Street lies on Roman and medieval settlements. Alternate weekends. Enquiries to Nicholas Farrant, 7 Coalecroft Road, S.W.15. (01-788 0015).

Southwark, by Southwark and Lambeth Archaeological Excavation Committee. Several sites from the Roman period onwards. Enquiries to Harvey Sheldon, S.L.A.E.C., Port Medical Centre, English Grounds, Morgan's Lane, S.E.1 2HT. (01-407 1989).

Surrey, by Surrey Archaeological Society. Enquiries to David Bird, Field Officer, S.A.S., Castle Arch, Guildford, Surrey. (0483-32454).

Vauxhall Pottery, by Southwark and Lambeth Archaeological Society. Excavation at weekends only. Processing of excavated material continues three nights a week. All enquiries to S.L.A.S., c/o Cuming Museum, 155 Walworth Road, S.E.17. (01-703 3324).

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