

# Butchery as a Tool for Understanding the Changing Views of Animals: Cattle in Roman Britain

Krish Seetah

## Introduction

The determination of exploitation patterns of animals by past cultures is one of the unequivocal functions of zooarchaeology (Zimmerman Holt 1996). The domestication of *Bos primigenius* is certainly one of the most significant animal exploitations to have occurred in human history, and can be considered one of the defining moments in prehistoric man's taming of nature (Davis & Dent 1966: 65-66); this statement is made without the intention of detracting from other advances in agricultural development or animal husbandry. However, it would be a mistake not to recognise the significance of cattle domestication as being of paramount importance to the establishment of a sustained meat supply for early human societies and throughout history.

This point having been made it must be remembered that cattle are not always the most important domesticate to any given society, nor are they always kept solely or even predominately for their meat. It is likely that cattle have been valued for secondary products from early in their domestication (Milisauskas & Kruk 1991), and consequently have always been seen as a multipurpose animal (Bartosiewicz *et al*, 1997). It has even been speculated that the secondary products attainable from cattle are in fact the main reasons for their domestication (Urquhart 1983: 78), and when both osteological and historic evidence is evaluated this proposition is certainly plausible. Indeed it has been suggested that up to and including the Roman period cattle were kept mainly for traction and other secondary products, and culled for meat only at the end of their working life (Maltby 1984).

This paper briefly evaluates some of the changes that are evidenced in the archaeological record relating to changing priorities in the use of cattle. It will then go on to explore issues that are rarely analysed from archaeological data, focusing on butchery analysis from the Romano-British period as a foundation for evaluation of non-economic attitudes to cattle within this period. Whilst Holt (1996) is accurate in stating that the determination of *exploitation* is a key function of zooarchaeology, this need not be the sum of what faunal analysts can do with animal bones. We need only look at the multitude of viewpoints that contemporary humans have towards animals to see that this is certainly an area worth further exploration. However, while we are clearly able to make direct observations of modern attitudes, as archaeologists we are very limited when attempting to analyse our ancestor's perceptions. This does not however imply that there is no starting point; on the

contrary this paper will demonstrate we can use economic factors to increase our level of interpretation beyond the purely exploitative.

## A brief history of cattle exploitation

Although the aim of this paper is to provide the reader with a sense of the potentially broader interpretations that might be achievable with animal bone data, particularly the perceptions intrinsic to human / animal relationships, it is useful to outline the background to the key issues. This essentially relates to how attitudes may have changed from the initial appropriation of *Bos primigenius* to the period under investigation employing the economic data available.

The main underlying zooarchaeological perspective relates to whether the aurochs, the progenitor to all domestic cattle breeds, was originally domesticated for its secondary products or for meat. Secondary products can be taken from an animal while it is still alive without the need for its slaughter. The three main secondary products from cattle are dairy goods, traction and dung (Clutton-Brock 1981: 62; Bowman 1977: 9; Sherratt 1983; Charles *et al* 1998).

Until the domestication of equids, cattle played a pivotal role in land expansion (Bartosiewicz *et al* 1997; Bowman 1977: 5). Archaeological evidence for traction comes from a range of sources such as iconographic representation and even preserved plough marks (Sherratt 1983). More important are actual osseous deformities, either of the lower extremities (termed exotoses) (Fig 1), or of the horn cores and cervical / thoracic vertebrae (Fig 2) (Bartosiewicz *et al* 1997, Milisauskas & Kruk 1991, Sherratt 1983). Other sources of evidence include the presence of bones from castrated animals (oxen) (De Cupere *et al* 2000; Milisauskas & Kruk 1991) and characteristic age at death ranges favouring older animals.

As with traction, evidence for milking practice again comes from artistic sources as well as representation in the archaeological record. Sex ratios of bone assemblages that show a kill off pattern predominating in older female animals and juvenile males, have been taken to indicate dairying husbandry (humans seen as a competitor with the calf for milk) (McCormick 1992). Furthermore, a lack of adult males reinforces this notion as this is taken to indicate exploitation for traction was not a priority (Sherratt 1983), although these activities are not mutually exclusive.

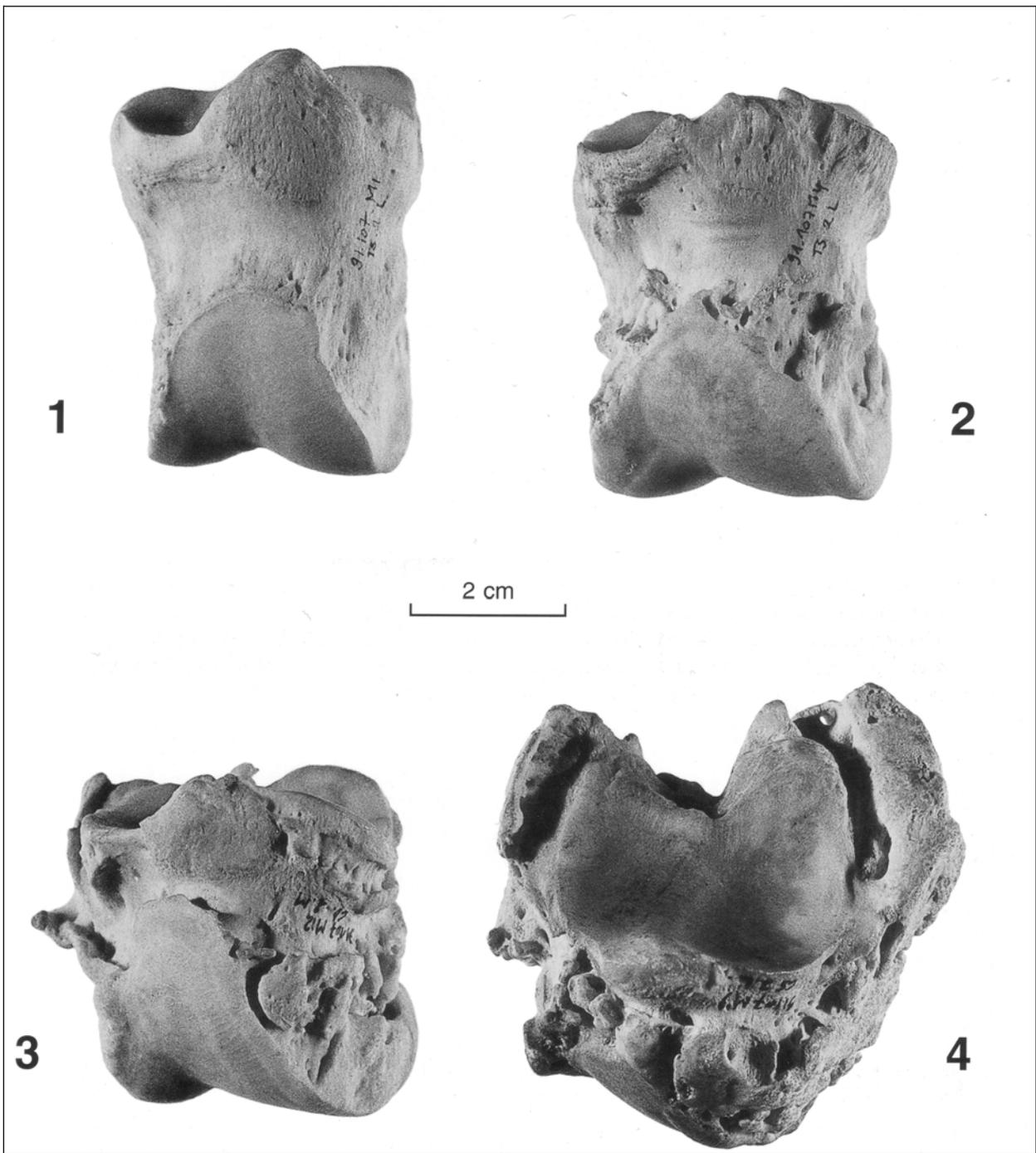


Figure 1.1: Range of deformities; 1 – normal, 4 – heavily deformed (Bartosiewicz et al 1997: 10).

Dairying is a highly efficient means of exploitation, yielding four or five times the protein of meat production (Sherratt 1981: 284), traction is not productive unless the results in agricultural gains outweigh the expense of maintaining the plough animal. This is convincing in its simplicity; it basically does not make economic sense to maintain older animals (especially large animals such as cattle) unless they can be productive in other ways. Therefore, changes in these factors should indicate a shift in priority, subsequent exploitation, and socio-cultural / ritual / symbolic perceptions from the Neolithic onwards.

#### Patterns of Exploitation over time

Cattle domestication is thought to have first occurred during the Neolithic with a subsequent 'secondary products revolution' taking place (Sherratt 1983). Cattle decreased in size from the archaic *Bos primigenius*; possibly as a result of night penning or by specific breeding and selective processes (Fries & Ruvinsky 1999: 15; Barker 1985: 30) (See fig 3 exhibiting decrease in size of astragalus and phalanx in Neolithic cattle; Jope & Grigson 1965: Pl Xb).

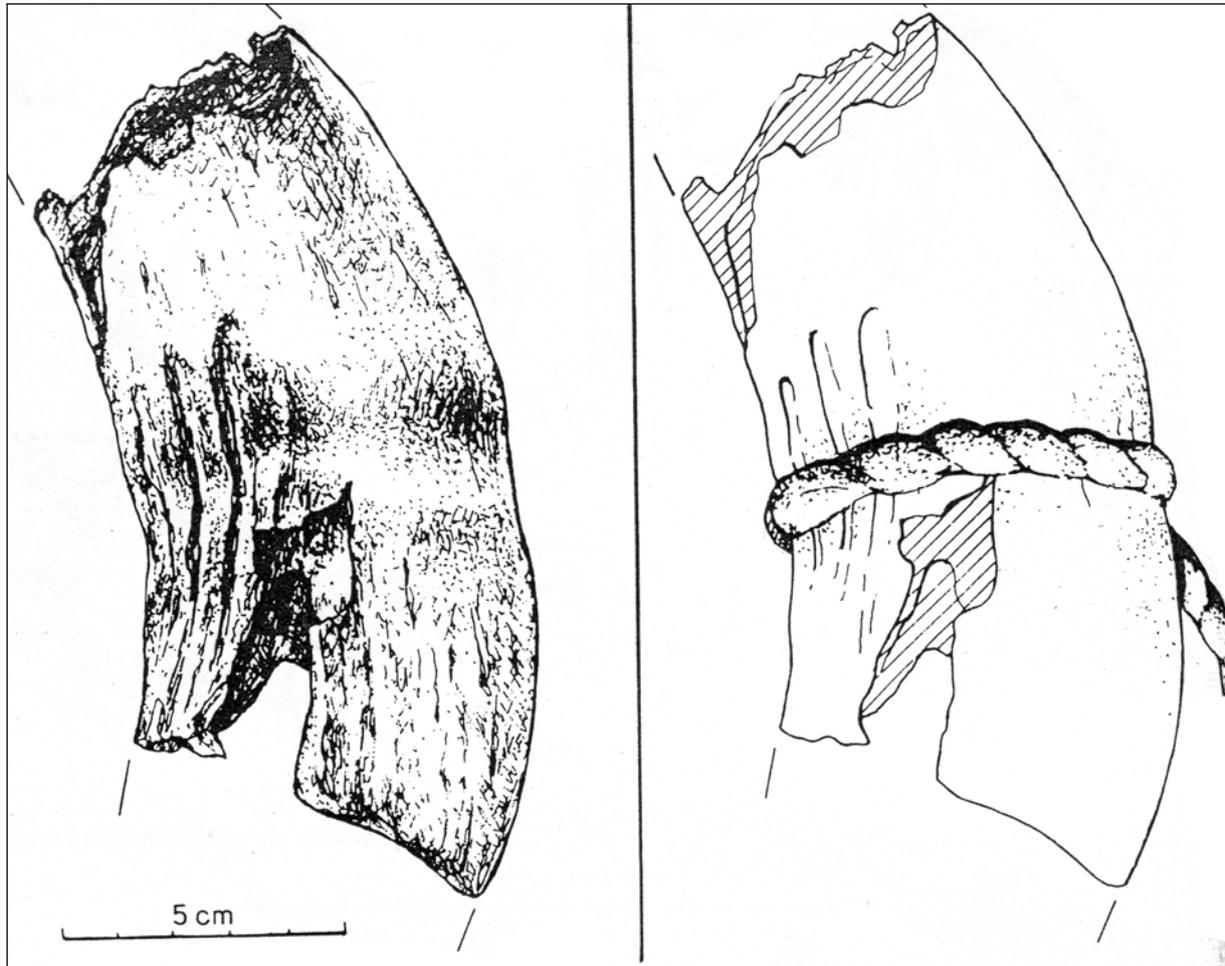


Figure 1.2: Rope marked horn cores (Milisauskas & Kruk 1991: 564).

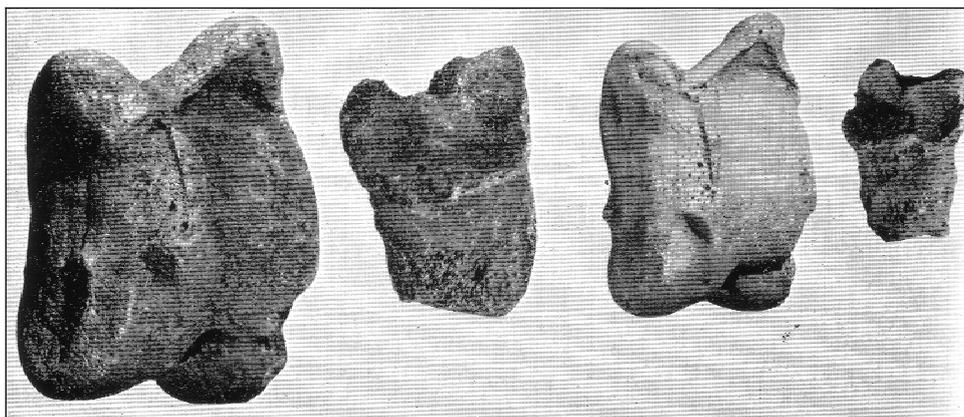


Figure 1.3. *Bos primigenius* (right) compared to Neolithic cattle (left) (Jope & Grigson 1965: Pl Xb).

Unfortunately while this reduction is noted from a number of Neolithic sites such as Maiden Castle, Dorset and Windmill Hill, Avebury (Jackson 1943: 362; Jope & Grigson 1965: 145), the possible implications are not discussed. A smaller animal may have a lower work capacity or produce less milk. However, a smaller animal should reach maturity earlier and is therefore able to work from a younger age. Diminutive animals would also be easier to house and importantly, to manage, while still maintaining the majority of their power.

Other evidence supporting the importance of secondary products comes indirectly from sites such as Stonehenge (Maltby 1990: 248; Serjeantson 1995: 440). Animals falling into an 'intermediate' size category are thought to be female aurochs, however, it is feasible that these are castrates. The development of traction and dairying are likely to have occurred during this phase, although it is difficult to show the extent to which these activities were actually exploited from the archaeological record.

Sites such as Grimes Grave, Norfolk, give a valuable, if somewhat restricted (due to small sample size) view of the Bronze Age. Morphologically the cattle at Grimes Grave fall between Neolithic and Iron Age ranges, reinforcing the notion that size was an important aspect of husbandry and not coincidental. However, from an archaeological perspective the most salient features are the presence of a potential castrate, and the relatively high representation of adult females within the bone assemblage (Legge 1981: 81). While it can be speculated that the presence of a castrates indicates possible traction for this particular site, this in no way can be taken to represent an exploitation pattern for the Bronze Age as a whole. Furthermore, a single animal could actually reinforce notions of ritual activity more so than traction, as it might be hypothesized that this individual was of 'special' significance.

During the Iron Age the management of cattle for secondary products reaches a more advanced level. Excavations from Wessex suggest that cattle may have been calved in enclosed settlements such as Danebury, Hampshire, leading to the development of a dairy economy in that region, but with grazing taking place on lowlands (Hambleton 1999; Grant 1984: 107-10). Further to this is the proposal that castration was first used as an extensive management mechanism during this period and that there was an average increase in secondary products such as dairy and traction (Grant, 1991: 467). While the above supports secondary product exploitation, it has been suggested that Iron Age farmers employed a less 'intensive' cattle husbandry regime (Grant 1991: 470), and even shifted towards more primary product exploitation (Hambleton 1999).

The trend of size diminution, which had been seen from initial domestication in the Neolithic, is reversed during the Roman occupation (Allen 1990: 60). However, this has been attributed to the importation of larger animals, rather than specific breeding practices (Murphy *et al* 2000). Possible implications of this relate to an increased need for animals capable of prolonged ploughing, or for carrying heavier burdens than native cattle were capable of doing. This is supported by traction related pathologies from sites such as Great Holts Farm, Essex, and Frocester in Gloucester, (Murphy *et al* 2000; Noodle 2000: 236-7) which seem to indicate an increased need for traction, although in the absence of data relating to previous periods this is purely speculative. Also, it must be remembered that poor soil conditions and heavy terrain, as well as old age can lead to pathological abnormalities (Maltby 1993; Bartosiewicz *et al* 1997; Murphy *et al* 2000).

Indirect evidence for the possible increased need for traction comes from the fact that horses only account for 1-6% of fragments from Greyhound Yard, Dorchester. Even though only a small number would need to be maintained for traction purposes, this is still a low value when one takes into account that cattle accounted for

between 22 and 47 % (average 35 %) (Maltby 1994: 87-89).

Furthermore, it is naïve to analyse the Roman assemblage without taking into account the cultural context of the invading peoples. It has been suggested that cattle in Italy were valued predominately as beasts of burden and for dairy produce (Grant 1975: 384). This is supported by the various trends identified by King (1984) where the *Coloniae* sites, with strong military associations and Romanised settlements, show the greatest numbers of cattle, and the unromanised settlements demonstrating a pattern closer to that seen in the Iron Age.

The problem of actually deciphering secondary exploitation of cattle from the Roman period arises from the sheer variability of husbandry patterns. Aside from the trends highlighted by King, evidence for large-scale cattle processing makes comparisons between sites hard to interpret (Maltby 1994: 88). How many of the animals from the processing sites were important for traction? If numbers of cattle have increased proportionally with the Roman occupation it is possible that animals are being killed earlier, following a period of secondary exploitation. Sites such as Pasture Lodge Farm, Lincolnshire, report some 50 percent of animals being slaughtered before full maturity (Leary 1998: 51). Therefore it is highly likely that the remaining 50 percent are being kept for secondary products. Dairying during this period is also likely to have been important due to the storage potential of cheese.

### Linking Functionality with Perceptions

It can be seen that the trends in exploitation of cattle secondary products has seen considerable change over the time frame in question, generally with greater dependence on one type or another depending on the period. Secondary exploitation during the Neolithic to Iron Age seems to indicate an even dichotomy between dairying and traction, although the need for traction seems to become more important from the Romano-British period onwards. The greatest advancements in relation to 'improvement' of cattle also appear in this period where animals are evidently imported from overseas; also it appears that trade and specific exploitation, for example through butchery sites, and 'knackers yards', occurred (Done 1986: 145).

Issues of trade and specialisation have recently been reinforced by research into the butchery practice from the Romano-British period (Seetah 2004; Seetah in prep). The main methodology involved the replication of cut marks from a number of archaeological assemblages in order to identify the patterns of butchery from this period. The Romano-British period was of particular value as urban Romano-British sites tended to show a great deal of uniformity in how the animals were apparently processed. The results indicated a principle of butchery clearly based on a need for quick and efficient carcass dismemberment;

implement and technical specialisations were apparent to meet this end and it was speculated that a degree of cross trade interaction must have taken place in order for the level of tool specialisation to have occurred (Seetah 2004).

Linking this into the information highlighted in earlier sections of this paper it is clear that the Romano-British period shows evidence of a significant shift in the level, if not the diversity, of exploitation. Clearly it can be seen that secondary products had played a major role in the exploitation of cattle up to this point, not only influencing the morphology of the animals, but also the numbers of animals kept and their overall value as a symbol of wealth. However, there is tangible evidence for a dramatic shift in the level of exploitation for meat, and the way this resource itself was used.

Up to the Romano-British period it might be argued that cattle were indeed seen as primarily a beast of burden. Despite evidence from the Continent to suggest that cattle in the rest of the Empire were kept principally for traction (Murphy *et al* 2000), it would appear that in the urban and military enclaves (both of which exhibit a similar, systematic method of butchery) of Roman Britain, cattle were mainly a source of meat.

This is the point at which the current research potentially has the means to make the furthest reaching contributions. The patterns of butchery seen, and the tools associated with what is arguably a burgeoning if not already established trade, point towards a set of socio-cultural factors that are not generally discussed when looking at faunal remains from a purely economic standpoint. While we might be able to speculate from the numbers of bones found on Romano-British sites that certain socio-economic developments were being made, the fact that tangible results from the butchery experimentation point to clearly visible patterns of dismemberment, as well as specific trade implements (Seetah 2004), could signify a potential transition that is indicative of further reaching attitudes.

Looking back at the periods previous to the Romano-British, it is apparent that secondary products, in particular traction and dairying were of particular importance. Cattle would appear to have been viewed as a multipurpose animal that were generally kept at least until the end of their working lives in most instances. It must be remembered that these animals more than likely shared the homes, in separate but joined pens, and therefore to some extent the living environment, of their keepers. Aside from providing the more obvious secondary products of traction and dairy produce, their dung was used for fuel and the warmth generated from their bodies was potentially an important heat source during colder weather. These less apparent archaeologically speaking, secondary products as well as the closer proximity that these animals potentially shared with their owners is likely to have had profound

implications for the way in which they were viewed and perceived within the farmer's mind, and in the wider community.

This viewpoint potentially indicates a far greater level of significance attributed to cattle than if the animal is raised and kept predominately for meat. Animals kept primarily for meat are likely to feature less in ritual activity, as the act of their sacrifice arguably has only slightly more significance than if they are being slaughtered for meat on a routine basis. Sacrifice of a larger animal and one that has a broader range of uses makes the act of sacrifice, and consequent perception associated with that act, far more significant. In short, while it is axiomatic that meat was a very important resource from cattle, the fact that the cow was also of such importance for other purposes is likely to have given it special significance. To reinforce this, one need only look at the way this species appears in iconography and in religious / cult settings on a wider geographic basis to appreciate not only how important cattle were, but also how valued socio-culturally they must have been.

What must also be remembered is that the functions and potential attitudes implied from the Neolithic onwards through faunal research, are arguably far more fluid than we are able to establish from the assemblages studied. It is likely that fluctuations noted from period to period are in fact a function of discreet advances in land use and progressive land expansion. However, the general view of the animal changes little as its overall functionality has not altered considerably, of course this only remains true until something dramatic happens to shift this balance.

Focusing on the evidence from the Romano-British period, in particular the research that points to a highly systematic means of meat processing, there would appear to have been a distinct divergence that potentially impacted on the population as a whole. The view of the cow seems to have shifted from being seen as a multipurpose, symbolically significant animal (the Romans had a strong sacrificial association with cattle; for example, white animals were sacrificed to 'celestial deities' and black cattle reserved for 'infernal deities' (Urquhart 1983: 82)) to one with more importance as a source of meat protein. Certainly it would appear that not enough is made of the changes in cattle size. While the social developments of the Roman and subsequent periods appear to indicate a need for greater work potential, initiating improvements in size, it is not out of the question that the reversal in diminution in size may indicate a desire to increase size rapidly for slaughter. Drawing on modern parallels the size of cattle, and indeed the other major domesticates, have been increased considerably in most cases purely for increases in meat production.

This is not to imply that cattle were not seen as animals of ritual significance, more that they were progressively needed to meet an increase in demand for meat.

Consequently their main significance moves from one associated with a range of activities to one based on meat production and procurement. If the rationale that perception is linked to functionality is adhered to, then the economically visible shift in use, based on increased numbers of animals seen in urban Romano-British sites (Maltby 1981; 1994), systematic butchery and trade specific implements, should be indicative of a subtle shift in perceptions.

From the various strands of evidence available, and in particular the tangible indications elucidated from the cut mark analysis, I would suggest that certainly from urban Romano-British sites, cattle are no longer afforded the same level of socio-cultural importance and are in fact seen as a commodity in the sense of 'monetary value'. The move in terms of importance is arguably balanced by a complimentary shift in their economic value, at the expense of ritual / symbolic significance. While impossible to qualify without further research, the butchery from the Romano-British period brings to mind the highly organised, 'commercial practices' of the modern meat industry, of which the author has personal experience. This should not be taken to imply that the Romano-British meat processors were dealing with carcasses in the same dispassionate manner in which modern abattoirs function; rather that if the meat processing of animals in general (not just cattle) had become orchestrated into stages of slaughter and dismemberment for greater efficiency, then potentially the individuals involved in animal husbandry were not involved in the slaughter and dismemberment process. It is likely that animals were brought to urban enclaves on the hoof in order to meet the demand that was apparently being generated (Maltby 1989); this in itself would point to a compartmentalisation of the meat procurement process resulting in less contact by urban inhabitants with the animals they consumed. This may not have been the case for the smaller domesticates such as pig and sheep, but it is probable that the larger cattle were raised away from the urban setting. This may have potentially led to a similar, if not quite so pronounced, detachment by the urban populations with the rural environment and related experiences that are apparent in modern industrialised societies. With the establishment of urban enclaves it is likely that a certain disconnection may have already occurred with wild animals; as the above demonstrates it is probable that this extended to include associated domestic animals as they no longer formed part of the urban faunal 'menagerie'.

Furthermore, it is potentially the case that the horse became more important for traction, horses being more efficient beasts of burden than cattle. Conversely cattle are a more efficient ruminant and therefore are better at converting plant material into protein. This combination of factors would ultimately reduce their importance for traction and increase their value for meat production. These issues, pooled with a potentially new attitude to animals as a whole brought in with the invading peoples,

would certainly seem to support the notion that cattle in the Romano-British period were effectively starting to be seen as a strictly economic 'commodity', a pattern that potentially continued and was reinforced in the ensuing periods.

## Conclusion

Humans are exploitative; this is an undeniable truth regarding our attitude to the environment and the animals within it. We envelop our exploitation in a mantle of culture that permits our utilization to continue. This point effectively outlines why it is of paramount importance to incorporate broader interpretations of animal perceptions into the types of information zooarchaeological research can divulge. In effect, whether we are interested in the economic / subsistence strategies or perceptions of animals it is clear that each impact on the other.

It can be argued that although many perceptions of animals relate to species that have limited 'economic' value to the society in question, there is still an element of 'functionality impacting on symbolism' that would certainly be of importance in attempting to evaluate the representational perception of the main domesticates. Using cattle to illustrate this point it is clear that to many societies across the globe, this domesticate is perhaps one of the most economically significant species; key to this broad economic value is the multifunctional manner in which this species is exploited. In tandem, there are few animals that have commanded the same ritual / cult and symbolic associations both spatially and chronologically as cattle have. It is evident that the sheer presence of a lion, for example, commands a considerable sense of awe; however associations of courage, vigour and strength are derived from the animal's hunting ability and defence of its pride / territory; the wolf is both revered and persecuted because of adeptness at hunting; the fox is considered guile and wily because of its adaptability; all of these perceptions are as much based on the way the animal functions within its environment as they are on physical presence and appearance. Thus, while there have certainly been considerable changes in the appearance and stature of cattle, we must not forget the impacts function and perceived role in the environment and society have on associated perceptions.

Therefore, we need to be aware that changes in the use of the animal are likely to be coupled with a change in the perception of the animal. These changes are frequently interpreted as a series of individual / discreet stages when in fact the whole process is likely to have been far more fluid; perceptions of animals are dynamic and reflect the attitudes of the people as the animal itself evolves within their environment. The conceptualisations / perceptions that are attributed to an animal surely echo something of the value the animal has; be that as a commodity or otherwise. Attitudes towards animals are ultimately based on how they may have been perceived due to the benefits they conferred because of the advances they allowed

early humans and subsequent populations to make. These cultural attributes and attitudes need not be beyond the remit of zooarchaeologists. We must remember that the figurines and statues of any given society that are studied in depth by other branches of archaeology, will invariably have their naissances in the animals that zooarchaeologists study on a day-to-day basis. Therefore, we should attempt to move beyond purely economic interpretations from the bone material studied and not wait for these factors to be highlighted from the study of other artefacts. To reinforce this point, I would add to our list of secondary products non-economic factors such as the place of animals within our society / the symbolic and cult representations that they personify and the fluctuating cultural perceptions dependent on our uses and modes of exploitation.

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