Chapter 1 – Livestock and Landscape – an introduction

Animals in the south west of Britain during prehistory have tended to be either neglected by studies or invoked as blanket explanations. Likewise, farming has been accepted as a widespread and vital enterprise, but has only been considered in the broadest terms when it has suited other arguments. This study seeks to characterise the ways in which people interacted with domestic and wild species of animals during the Bronze Age and Iron Age. The need to improve understanding was identified as Research Aim 19 of the South West Archaeological Research Framework (Webster 2008:283-4). However, the questions identified by SWARF do not address the fundamental problem that there has been generally inadequate study of the faunal record and its relationship to other data in the south west of England. This study attempts to redress that balance for the prehistoric period.

1.1 The state of play

The south west of Britain, comprising the modern counties of Cornwall, Devon, Somerset and West Dorset, has often been assumed to be peripheral in social and economic systems in prehistory; this is almost certainly mistaken. Modern concepts of marginality, influenced by demographic, economic, environmental and cultural factors (Bertaglia *et al* 2007:659) have probably influenced this. These assumptions have been recently challenged (Herring 2008). Furthermore, archaeological models developed in central southern England may not apply directly to the south west, where localised traditions occur (*cf* Jones 2008). In wider considerations of settlement, society and economy, the character of exploitation, and attitude to animals needs examination as it underpins many interpretations. Study has, however, been limited by problematic soil conditions and the general perception that there are no data (*cf* Hambleton 2008). Whilst this is true for much of the peninsula, compounded by lack of excavation, it is by no means universal. There are bone assemblages from the western part of the region where calcareous sands in coastal areas of Devon and Cornwall (Straker 2003:58-9) result in localised preservation of bone and shell. Soils are variable but offer good preservational conditions in most of Somerset.

General reviews of prehistoric farming have covered aspects of animal husbandry, but this is often a smaller component than discussions of arable cultivation (e.g. Mercer 1981; Fowler 1983). Fields have been more frequently regarded as equating to arable cultivation, possibly as a result of attitudes regarding it as symbolic of greater 'civilization' (Wickstead 2008a:31). There also appears to be an assumption against more complex types of livestock management (Legge 1981:169; Ryder 1981:182). This may be the case, but the rejection of a mosaic of choices and strategies available for animal husbandry appears to be based on assumption and assertion rather than reasoned rejection. Whilst there have been a number of regional or period-based studies of animal exploitation, there has been limited coverage of the south west of England, although Hambleton includes the area in her reviews of Iron Age and Bronze Age husbandry practice (1999;2008). Where animal husbandry is mentioned in broader regional studies it is characterised by bald assertions such as:

'sheep, cattle and pig were exploited at most sites with variation depending on local agricultural regimes' (Moore 2006:205),

but there is little attempt to understand the data or integrate them with other information.

The region is particularly variable in topography, geology and soils, but also in the distribution and types of sites, and these variations can be fairly localised. For example, during the Iron Age, hillforts and other enclosures take a different form in the west of the region than in the east, and appear to relate to localised chronologies (Cripps 2007). The agriculture of the south west of England might be expected to have a regional identity, given that in the modern period it is dominated by pastoral farming, and where arable is practised, it is often to provide fodder crops. The south west peninsula was not generally subject to the 'classic' expression of medieval open field systems, and developed the distinctive system of 'convertible agriculture'. This involved a long-term rotation of pasture and arable and appears to have developed in the later 1st millennium AD (Rippon 2004: 13), but begs the question whether there were ways in which the arable and pastoral economy were regionally distinct much earlier. The stability of landscape division and utilisation in some areas are

demonstrated by the preservation up until the present of prehistoric field boundaries in areas such as West Penwith, Cornwall.

Animal bones in the south west have received little attention in general terms. Until 1970, no medieval animal bones from south west Britain had been published (Levitan 1987:51). However, some aspects of faunal exploitation or husbandry have been inferred. Finds of Bronze Age pottery from near Brixham and Prawle have been described as relating to 'fishing communities' merely because they are on the coast (Fox 1964:111). The Bronze Age Dartmoor reaves have been interpreted as being associated with large-scale stock production, although many were regarded as not intended to be stock-proof (Fleming 1978a:109). The pastoral nature of multiple enclosure hillforts has been inferred from the obviously 'pastoral economy of their region', whilst those without the 'pastoral enclosures' were 'agricultural' (Grinsell 1970:77). In Quinnell's discussion of 1st millennium BC use of Dartmoor, she postulates use for grazing, probably for sheep, drawing on a nearby lowland assemblage. She rightly comments that effort should be given to considering the husbandry activities that might leave archaeological traces (Quinnell 1994a:80). Consequently, there is a need to understand how animals, their husbandry, exploitation, consumption and deposition relate to settlement, land use and diachronic change at general and regional levels and that of the individual locale.

1.2 The questions to ask

For the Iron Age, the animal bone assemblages included in a national survey for the west of Britain appear to indicate higher representation of pigs than in the south and southeast (Hambleton 1999:47). Questions therefore arise as to whether there was a regional difference; whether this might be related to the particular and varied topography of the region or social or ideological organisation and creation of identity; how localised and variable practices were; and whether these changed over time. There is value in looking at both the particular (site) and the general (region), as one provides the foundation for the other (Albarella 2006:173; Richmond 1999:2). However, there is also a need to embed the direct information from animal bone with our understanding of settlement patterns, landscape division, and stock control

features, alongside environmental information and evidence of arable agriculture. None of these can be separated one from the other, either in understanding them as operating systems, or in describing the socially constructed world. We need to ask the question, how did agricultural landscapes function?

Research objectives at sites within or close to the region have often focussed on environmental and economic matters (e.g. Maiden Castle (Armour-Chelu 1991:139); Meare Village East (Coles 1987)). Deeper understanding of the economic role of animals is desirable, particularly in understanding how livestock relates to land use within specific landscapes, but this need not preclude exploration of depositional practice and its implications. The bounding of landscape by field systems from the end of the Early Bronze Age has been described as the domestication of landscape (Fitzpatrick 2008:117). The variety of social interpretations that have been drawn from the study of land division are discussed in a later chapter, but animal remains may also illustrate social structure and world views. Whilst certain types of context can be regarded as skewing 'economic' data and are problematic to interpret, recognition of the context and the socially-embedded nature of animal husbandry can reduce the problem (Pollard and Healy 2008). As Thomas points out (1999:26), 'what one finds in a faunal assemblage depends on where one gets it from', so the specificity of particular assemblages and how they formed needs to be taken into account. There are opportunities to examine, not only how different domestic and wild species were husbanded and obtained, but how they were prepared and consumed, how that operated, and what meaning accrued in their deposition. The role of animals in feasting can be explored, although as Parker Pearson points out, differentiation from the remains of day-to-day consumption are difficult (2003:10). Hill has proposed wider geographical consideration of structured deposition (1995a:41,45,126-7), which very frequently involves animal remains and hints at people's attitude to animals. Moore (2006:122), considering the wider Cotswold-Severn region, identified a need to assess whether the patterns of deposition in Iron Age Wessex are repeated elsewhere. If there are similarities and differences between times and places, we are afforded the opportunity to consider why.

1.3 Approaching the problem

Mercer's review (1975:27-29) of early settlement and farming in the south west of Britain, identified a trinity of elements required to understand a more regionalised and nuanced late prehistoric economy: settlement and field systems, artefactual information and environmental evidence. The latter included a suite of environmental information including animal bones. Rarely, however, has anyone sought to combine such data to address questions of landscape and animal exploitation directly. This may in part be due to the recent development of the view (discussed further below) that boundaries are all about society, animals about subsistence, and they have nothing further to tell us. It is the contention of this study, that in the combination of the data and understanding the ways that people inhabited their natural and constructed landscapes with animals, a better understanding of broader social behaviours can be obtained. Study of this material has considerable possibilities for addressing the 'empty space' of prehistoric peoples' 'experiential realm' (Hamilakis 2002:121). As such we must consider:

'*Individuals are not abstract social actors, de-personalised, disembodied elements, but embodied realities, incorporated and incorporating social relationships*' (Hamilakis 2002:121).

It has been observed that phenomenological approaches to British prehistory have privileged sight as 'a primary experiential mode' although this has started to be balanced with other senses and aspects of human experience (Hamilakis *et al* 2002:5). This has certainly been the case when considering the nature and location of bounded landscapes (i.e. Bender *et al* 1997). It has also tended to consider the point of view of the single individual, whereas the landscape experienced in animal husbandry may be more related to movement, and both solitary and social by turns. The body is, however, also a consuming body (Hamilakis 2002:122). Consumption of produce is the primary outcome of farming. Neither is it possible to separate the technological and social (Jackson 2002) and given the equipment and processes involved in farming, we should perhaps understand it in similar terms to technology. Technological choice (Pfaffenberger 1988; 1992) is as equally applicable to farming as it is to other activities.

Animal husbandry is a deeply experiential process. It engages with all the senses, from the physicality of moving and handling stock, through the smells of a goat in rut, the heat in the base of the horns of a sick cow, changes in the vocalisation of animals and a variety of visual cues that they give when hungry, angry or about to give birth. We have a tendency to think about animal husbandry in the abstract and fail to engage with the embodied experience of inhabiting the same landscapes as animals. When we make sweeping statements about agricultural landscapes as arenas for social reproduction or animals as economic resources, we fail to appreciate that the fundamental daily experience of interaction with animals is neither simple, nor socially, emotionally or spiritually neutral. It is regular, seasonal, and timeless, whilst punctuated and involving the necessity for considerable human interaction. Understanding the practical necessities of husbandry enables us to understand the degree of required expertise and the opportunities for ideological and social reproduction. Animals inhabit landscapes as much as or more than people do; landscapes have been organised primarily for their needs, through which other agendas are played out. Only by understanding their needs and the attitudes towards and choices made for them by people can we disentangle a complex accumulation of motivations.

Very few of us now live in a way that connects us directly to the livestock animals on which, for many of us, our diet depends. If we live with animals it is in a role of companionship that is largely different from the way in which most animals would have been experienced in the past. Because of our semi-detached view of the animals which we choose to eat, and the arguably sentimentalised way we relate to our pets, we have a tendency to read our understanding of livestock as a purely economic factor into the past, and possibly exaggerate the specialness of other species. An additional side effect of not directly experiencing and appreciating most animals is that as archaeologists we fail to see them in their proper context. Animal remains have had a tendency to have been regarded in isolation; often there is a lack of integration of the economic inferences gained from livestock, to the operation of the arable economy. Even less frequent is an attempt to understand animals as inhabitors of landscapes. Fields and boundaries are rightfully discussed as indicators of control of resources and

social expression. However, we lack understanding because of a failure to engage with how they functioned and related to their original purpose, in whatever particular form that was expressed. We also need to remember that boundaries are more essential in livestock handling than arable, and that assumptions that 'field' mean 'crops' are probably simplistic. We gloss over the close interrelationship in most systems of arable and pastoral agriculture, gleanings from arable providing valuable feed, animals providing valuable soil conditioner. Approaching the issue from the assumption that daily care for animals and dwelling within a more or less structured landscape was a default setting for prehistoric people, we need to integrate information to a much higher degree. Animal bone assemblages alone, out of context, lack relevance and fail to assist in understanding processes and practices in the past. Fields, pens, and droves equally lack point if we do not understand the contemporary animal populations, husbandry and settlement.

1.4 Aims and Research Questions

The approach that is used in this study is to integrate disparate strands of data to address questions relating to the husbanding, utilisation and meaning of animals. This has grown from the fact that in some landscapes, including the southwest, the information provided by animal bone assemblages is limited by uneven distribution, variety of scale, and variable condition. Therefore, to gain a more nuanced understanding we need to consider the other material residues that relate to the management of animals. Land division and animal handling components and their layout within any given landscape are therefore a valuable but under-utilised resource.

The aim of this study is:

To explore later prehistoric (Bronze Age-Late Iron Age) domestic and wild animal production, consumption and deposition, within the landscapes of south western England.

Research questions that arise are:

- What types of livestock were kept and why?
- What, if any, economic role did wild species play?

- How were livestock managed and what practical and social choices are detectable in the methods employed?
- Did husbandry methods, approaches and choices change over time?
- Can we determine between technological and social choices in the form, organisation and arrangement of ancient landscapes?
- What are the implications of different approaches to landscape and livestock management (i.e. nomadic/transhumant, extensive and intensive) for understanding society?
- How were the products of animals consumed, what significances might these actions have carried and how did this change spatially and over time?
- What social and ritual roles did animals fulfil at different times and was this separable from their economic role?
- Is it possible to provide a methodological approach for other faunal/landscape analyses?

1.5 Approaches, Methods and Case Study

To date there has been little detailed consideration of landscapes, fields or stock handling features related to neighbouring animal bone assemblages. Lack of excavation or retrieval of animal remains often hampers interpretation, particularly of the relationship of arable and pastoral activities. However, if diverse lines of enquiry can begin to provide more nuanced narratives for individual locations, it may be possible to begin to infer interpretation for areas where data such as animal bone are unavailable. As Chadwick (2008a:205) indicates:

'Through weaving the lives of people, plants and animals together with these more critical ideas, we can produce more challenging and more explicitly theoretical narratives that explore routine, everyday practices in the past'.

General considerations of farming have focussed on the inception of agriculture as technological change (Barker and Gamble 1985:23). Field systems have been considered as evidence of the relationship between social control and subsistence

agriculture, and social and territorial implications (Barker and Gamble 1985:18; Fowler 1978; Fleming 1978a; 1978b; 1983; 1985; 1988; 1998; Johnston 2000:53). Discussion of tenurial systems has been undertaken with a view to understanding the organisation of labour and socio-economic development (Fleming 1985:129), although this has concentrated in Britain on the Bronze Age (Chadwick 2008a:205). The emphasis of discussion lies with social meaning and roles in social reproduction and construction, ideas of ownership, control of resources, and power (*cf* Yates 2007:122-138); thus, understanding of change in farming regimes underpins arguments about social changes at the beginning of the Bronze Age, in the Middle and Late Bronze Age and the Later Iron Age. It should be stressed however, that whilst many studies of specific site and places continue to be '*considered within meta-narratives of agriculture or economy*', apparently failing to address wider issues, (Chadwick 2008a:205), we need to recognise that not only do boundaries have wider meanings, but that the agricultural meta-narrative itself would be a considerable portion of the experience and ideology of individuals and societies.

Field systems in southern Britain have received a considerable amount of attention (e.g. Bowen and Fowler 1978), especially in Wessex. In general studies, where the agricultural function of landscapes has been mentioned, it has tended to be in generalised statements. For example, Yates' study of Bronze Age land division, says,

> '*the importance of large scale animal husbandry in the mixed farming regimes as evidenced in the design of the field systems which incorporate droveways, stock-proof fencing, watering holes, cow pens, sheep races and gateways for stock handling*' (2007:x),

But there is no analysis of how these features 'worked'.

Cadbury Castle, Somerset offers the opportunity to compare extensive animal bone assemblages dating to the Bronze and Iron Age with the changing form and organisation of the landscape known from extensive field survey. To this end, this thesis will:

- consider the variables, challenges and opportunities for animal husbandry, and identify classes of data that can be utilised in the interpretation of husbandry strategies;

- record, analyse, and characterise animal bone assemblages from selected sites in the region, principally Cadbury Castle hillfort and surrounding sites;

- review published and 'grey' literature from prehistoric animal bone assemblages from south west England and consider it in the light of available environmental and field data;

- relate the faunal analysis to environmental, landscape and artefact data;

- produce site and inter-site narratives of animal husbandry, exploitation and deposition, in relation to the questions outlined above;

- seek a characterisation of prehistoric husbandry and consumption practices in the wider region, and consider the wider issues that the approach can address.

The rest of this chapter reviews the current position. We then look at the needs of animals, the ways that landscape division functions and the strategies available to pastoralists (Chapter 2); consider how these factors might be archaeologically recognised (Chapter 3); and apply this to a study area (Chapter 4), before looking at its broader application across the south west region and considering the major strands and themes that result (Chapter 5).

In order to define the issues and questions that need to be addressed for the role of animals in the later prehistoric south west, we need to consider the backdrop. The following outlines the current state of research in understanding the relationship of landscapes and animals. It also provides a broad outline of the archaeology of the south west peninsula to set the scene.

1.6 Farming the Earlier Bronze Age

'cultivation sufficiently stable and protracted as to produce fields, or remains capable of surviving for us to recognise, [do] not at present appear to go back before the middle of the Bronze Age' (Bonney 1978:49).

Bonney was discussing the appearance of fields in Wessex, and it still appears that land division was not an early occurrence in most of the British Isles; Neolithic examples are restricted to Ireland and the north west of Britain (Johnston 2000). The inception of the Bronze Age in Wessex appears to have brought about expansion into more marginal areas such as the heaths of the Weald, the New Forest and south eastern Dorset. Although few areas in which Bronze Age barrows were built were used for the first time, frequently there is evidence of Neolithic use. This pattern is replicated in the Thames Valley (Bradley 1978:99). Woodland grazing, possibly seasonal and carried out from more permanent bases on the chalk or gravels may have given rise to clearance. Deliberate clearance immediately prior to use for grazing has been assumed from upland peat pollen, but may not hold true for lowland areas. Buried soils below barrows show use for cultivation and it was suggested that there was a new pastoral economy linked to declining soil fertility with the uplands providing seasonal communal pastoral grazing (Bradley 1978:100-101), although the evidence for extensive cultivation in the Neolithic has dwindled and a more mobile pastoral lifestyle is now proposed (e.g. Thomas 1999:29). Marking the landscape with barrows and other monuments could relate as much to co-operative approaches to exploitation of places, as much as social appropriation of land and the physical or conceptual division of it. Observation of activities at these sites could operate as an indicator to others passing the same way that the land had been recently visited and grazed.

'*Unless we can confidently ascribe more sedentary systems of agricultural landuse to these particular populations, there is nothing to prevent us from seeing such smaller monuments as representative of a continuing system of essentially mobile landuse based predominantly on the husbanding of animals*' (Kitchen 2001:115-6).

1.7 Farming the Later Bronze Age

'*To nomadic pastoralists, 'place' moves with the herd, everything else being 'space', although natural features within the landscape...may over time acquire the status of permanent 'places' through memory of past visits...the fields themselves should not be seen as 'space'. To their users, they would probably have been intimately known, and they may have even had place names...just as fields are places to modern*

farmers, they are likely to have been perceived as <u>places</u> *in the Bronze Age. The coaxials effectively civilised space; they organised and tamed it'* (Field 2001:57,59).

The transition between the Early and Middle Bronze Age has been understood in terms of a perceived change from a landscape and archaeology dominated by ritual concerns to one orientated around economy and domesticity, made evident by the more widespread remains of fields and 'farmsteads' (Barrett 1999:253). Fields are often seen as having origins in earlier patterns of land use. The earlier 'economically viable system of agriculture' led to more territorial division and social stratification (Wainwright 1975:68), although this is not necessarily an interpretation that continues to hold sway. Communal and ritual activities became focussed on the settlement space (Barrett *et al* 1991:239), the main focus for social and agricultural reproduction (Brück 1995). Perception of place would have changed with the creation of fields, the humanly created landscape subsuming natural features (Field 2001:57). Fields indicate investment in the land, a more static lifestyle, and a new conceptual landscape.

The appearance of fields has been understood in terms of intensification of production, a response to falling productivity. As will be explored in a later chapter, intensification does not necessarily preclude mobile pastoralism, and is not an inevitable result of permanent field systems. The social pressure and the necessity for production maximisation, has also been challenged. The greatest difference between the Early and Middle Bronze Age is between a largely mobile lifestyle and a fixed one, large-scale to small-scale communities, and extensive networks to households. Changes in subsistence practice were not necessarily the cause of the change but contingent upon it (Brück 2000). Land division has been primarily considered from the perspective of ownership, tenure and territory (e.g. Fleming 1978; 1983; 1998). Understanding has moved from highly organised, rigid and regimented territorial models (Burgess 1980), via views that see groups as mobile and land use and tenure fluid. Paths and specific places may have been more subject to tenure, but not land itself (Barrett 1994; Kitchen 2001:110; Tilley 1994; Whittle 1996:19). Tenure is a mode of appropriation related to social relations of production, an ongoing process that involves the natural world in society. Territoriality is a communication mode related to the material forces of production and can involve synchronicity, moving sequentially

through a variety of states (Kitchen 2001:111). It is also a mediator between the social and natural world and represents the appropriation of it by humans (Johnston 2001:101). Features of land division and clearance are seen as methods by which relations have been negotiated and legitimated, variety related to the diversity of tenure types (e.g. Johnston 2001).

Understanding of the farming regime during the Bronze Age is dominated nationally by information from upland areas (Yates 2001:65). In the south west, Feacham's (1973:332) consideration of upland field systems acknowledges investigation, but summarises it in the briefest fashion. The extensive evidence of Bronze Age land division on Dartmoor has received much examination (Fleming 1978; 1983; 1998; Johnston 2001; Wickstead 2008b). Accepting fields as indicative of intensive livestock rearing and arable agriculture, Yates has shown the extent of Bronze Age field systems in lowland Britain and identified cases in the south west peninsula (2001:78; 2007), considering them as part of the entire phenomenon.

1.8 The Transition

The transition between the Late Bronze Age and Earlier Iron Age is now largely accepted as *c*800BC, contemporary with the inception of the continental Hallstatt C (Haselgrove and Pope 2007:4), but is particularly unclear along the Atlantic seaboard (Henderson 2007:306). Agricultural change at the end of the Bronze Age was accompanied by social changes, including a shift in regional power and wealth to the south east of England (Yates 2001:65; 2007:124-5); the change in location of the deposition of metalwork to watery locations (Needham 1988:246); an increase in the range of site types, including small enclosed and open sites, ringworks, hilltop enclosures, middens, and platforms in wetlands (Brück 2007:25-6). There is evidence for large scale food consumption at particular sites (e.g. Mucking, Thwing etc), and middens and cooking sites indicate the importance of social eating in the later Bronze Age. However, excavated data of this sort are missing from Cornwall (Jones 1999a:43), and most of the southwest. Hill (1995) focuses on the cessation of the deposition of metalwork at the end of the Llyn Fawr period (*c*800-600BC) and creation of ringworks, continuity of domestic ritual traditions, and the appearance of middens. Decline in

Late Bronze Age metalwork circulation may have resulted in a reduction of interest in metals produced in Atlantic areas creating a new dynamic (Henderson 2007:307).

Although there are some elements of continuity, stress seems to currently lie on the changing character of societies in Britain (Haselgrove and Pope 2007:4). Later Bronze Age and Iron Age regionalisation may result from 'crystalization' of earlier long distance systems (Kitchen 2001:118). The extensive field systems of the Thames Valley go out of use in the later Bronze Age suggesting a system collapse (Yates 2001:78; 2007). Re-organisation in Wessex began around 1000BC, lasting into the eighth and seventh centuries BC. Long linear boundaries slighted earlier systems, often radiating from what later became hillforts, indicating their role as focal points in the landscape (Cunliffe 1995). The linears may relate to large scale cattle ranching and the early hilltop enclosures have been suggested as stock enclosures or meeting places (Field 2001:60-1). Although ditches of this type are missing from the Severn-Cotswold area, Late Bronze Age land division occurs (Moore 2007a:263). However, as yet, no linears have been identified in the south west peninsula. There is general lack of earlier Iron Age sites in the peninsula (e.g. Fitzpatrick *et al* 1999), and a decline in sites in the south west uplands from the later second millennium, although some continued into the Early Iron Age. Contraction in settlement in the uplands at this time, may relate to environmental deterioration. Some of this change may, however, relate to a reduction of use of ceramics which renders these sites less detectable (Quinnell 1994b:76; Jones 1999a:42).

1.9 Farming the Iron Age

'*The contrast with the earlier period may be characterised almost as an inversion, for where previously settlement activities were contained within the settings of a sacred landscape it was, by the Iron Age, either marginal to or subsumed within the structure of a settled agricultural landscape*' (Barrett 1999:254).

The structure of landscapes changes in the Iron Age. Although there are many unenclosed settlements in particular areas, the broad trend was toward enclosure, becoming characteristic of the 1st millennium BC. Enclosures occur in a wide variety of forms, are often regionally distinctive, and apparently mark a break with the past

(Thomas 1997:211-2). Barrett sees institutional practices of social life as creating enclosed settlements and intensive field systems in the 1st millennium BC, whilst lack of interference with earlier monuments indicates the formation of a mythical past (1999:262). Control of land and agricultural production may have succeeded control of the circulation of prestige goods as the basis of power (Thomas 1997:213). Hillforts emerged in a landscape of fields and enclosed settlement, possibly foci of an integrated productive system (Barrett 1999:254).

The forms of settlement and large enclosures in the south west are variable and distinctive and further discussed below, but have much in common with those of south west Wales (Henderson 2007:314). Lack of material culture in the Atlantic area should not lead to the assumption that geographical isolation equates with peripherality (Henderson 2007:321). Movement around land would have been easier than movement over it; there may have been some degree of exchange of livestock products and livestock, given that animal populations in some parts of the zone, particularly on islands, may not have been viable without exchange (Henderson 2007:323). An increasing preoccupation with grain has been observed throughout the Iron Age, with those activities relating to unmanaged land being more marginal; its contrast with less controllable resources has been noted (Willis 2007:119). In general terms there is a lack of coastal settlement in Britain in the Iron Age, although settlement is greater in coastal western and northern Britain. There is also a general reduction in the utilisation of wetlands; where it occurs it is often seasonal or temporary in nature. Relationships with and attitudes to the sea and watery places in the Iron Age probably varied between and within regions (Willis 2007: 110,115-6,123).

1.9.1 The Earlier Iron Age

In general terms there are few identified Early Iron Age sites outside the hillfort dominated zone, and little non-hillfort settlement within it. In some areas this may be explained by avoidance of heavy soils; visibility issues; a variety of problems with dating; and longevity of stone built structures in Atlantic areas (Haselgrove and Pope 2007:5; Henderson 2007:306,308). There may have been a reduction in population as a result of climatic change affecting subsistence (Haselgrove and Pope 2007:6). The few

sites in Devon and Cornwall that have been dated to the Early Iron Age, are morphologically similar to rounds, generally regarded as dating from 2nd C BC- 5th C AD, implying that many undated enclosures may be earlier in date (Henderson 2007:316-7). However, there is a general lack of fields being created in this period (Haselgrove and Pope 2007:7).

1.9.2 The Later Iron Age

The term Later Iron Age generally covers the period from the mid 4th Century BC onwards (following Moore 2007b:47,57). The period is characterised by increased enclosure, elaboration, and division of landscapes. Greater emphasis on the dichotomy between insiders and outsiders may explain the increasing bounding of domestic spaces; marking ditches and entrances with elaboration and deposition supports this. This may be rooted in agricultural intensification, due to greater investment of labour and resources in maintaining the fertility of land. This in turn would generate a stronger concept of property, and closer associations of families with particular areas of land. Structured deposition in pits seems to emphasise the importance of control of agrarian resources (Thomas 1997:215-216). In Atlantic areas there is little evidence for social centralisation beyond household level, with sparser hillforts and large enclosures containing few, if any, buildings (Henderson 2007:308). There is generally greater settlement density and diversity after 400BC, and occupation of more marginal areas, although in Wessex the number of sites may have declined as settlement became nucleated in hillforts in some places (Haselgrove and Pope 2007:8).

The 'Late' Iron Age may not be a distinct entity beyond the south east of England. It is increasingly seen as a cultural element in the last centuries BC, rather than a definable period (Fitzpatrick 2008:128). It is accepted that especially for the south west there is little evidence for a definable 'Late' Iron Age in cultural terms. Emerging information emphasises regional diversity (Moore 2007b:41), especially in settlement styles along the Atlantic coast (Henderson 2007:306). Existing settlements were probably well integrated into systems whereas new types of settlement such as oppida appear to have developed in more peripheral or liminal areas, or involved in new types of activities (Moore 2007b:55). After 400BC there was a decline in pottery quality,

possibly relating to a decline in need to signal role and status (Haselgrove and Pope 2007). New and distinctive pottery forms appeared in central southern Britain by 300BC, and contact between the south west of Britain and Armorica can be seen in certain ceramic styles and metalwork from the 5th Century BC (Henderson 2007:320-1). However, in the Severn-Cotswolds, stylistically Middle Iron Age pottery occurs in contexts with radiocarbon dates in the 1st Century AD, and older styles may linger on in Somerset (discussed below). New styles owe as much to status and cultural identity as to chronology. Material culture plays a role in establishing identities and is embedded in exchange systems. Examination of these can reveal structures and relationships but exchange may also have involved less archaeologically visible commodities such as labour, salt, agricultural produce, and livestock (Moore 2007b:51).

1.10 National and regional animal bone reviews

National reviews of later prehistoric animal remains often do not distinguish regionally (e.g. Grigson 1981; Tinsley & Grigson 1981; Turner 1981). The socio-economic role of animals has been considered for Neolithic and Bronze Age economies in Britain, but the Neolithic in particular, is heavily dominated by mortuary contexts (Richmond 1999:75). Regional reviews have been carried out for the Iron Age including Wessex (Maltby 1994), and the Upper Thames Valley (Lambrick 1992), and more generally (Hambleton 2008). A comparative survey of the utilisation of the main domestic animals has been undertaken for Iron Age southern Britain, and this seems to indicate that there are some differences in the representation of species in the south west (Hambleton 1999:47). The likelihood of livestock distribution reflecting topographical variation in the south west has been proposed by Quinnell (1994b:80) but there has been no study to examine the assertion. Hambleton highlighted the dearth of large published assemblages in the south west and the lack of information supplied, meaning that husbandry regimes could not be identified. She indicated the need for more datasets, but also noted the topographical variability of the region, and a need for study of seasonality, husbandry strategies, intra-site analysis and taphonomic information (Hambleton 1999:90-91). A recent review of Bronze Age and Iron Age assemblages indicates that little has changed (Hambleton 2008).

1.11 Faunal material in prehistoric south west Britain

The perceived lack of animal remains in a region dominated by acidic soils has led to interpretation of south western sites and landscapes being reliant on generalisations based on assumptions from topography (*cf* Quinnell 1986:119; Hamond 1979:155); enclosure form (e.g. Silvester 1979:182); or make no mention of an animal economy at all (e.g. Christie 1986). The rarity of published data has led to the inclusion of south western material alongside that from Wales (e.g. Hambleton 1999), producing possibly distorted comparisons with other regions given the large and diverse area. Acid soils mean that bone and shell disappears completely (Bell 1984:58), creating considerable difficulties in areas that have been well examined and excavated (e.g. Balaam *et al* 1982). This situation also pertains on Bodmin Moor (Johnson & Rose 1994:2), and lowland Cornwall (Quinnell 2004:157). Most Cornish sites with preserved bone are coastal (e.g. Chaplin and Coy 1964:32-34) and in particular the Isles of Scilly (e.g. Ashbee 1968:30; Turk 1967; Turk 1973); they are normally situated away from areas of igneous rock (Bell 1984:51); otherwise, bone occurs only in a calcined state, (*cf* Cornwall 1978:431). In addition, the lowland areas are less well archaeologically understood (Richmond 1999:102), whilst interpretations of upland grazing, as in Devon during the Iron Age, are based on the lowland assemblages (Quinnell 1994b:80). South, central, and eastern Devon has few sites with animal bone, excepting those from cave contexts (Bell 1984:64-66). Even the multivallate hillfort at Hembury, East Devon, is in a zone where bone does not survive (Todd 1984:258).

The area is comprised of a range of coastal and inland landscapes with high moorland and downland contrasting with wide river floodplains and wetlands, providing a variety of preservational environments. Despite generally acidic peat conditions, bone is preserved on the Somerset Levels (Bell 1984:78; Coles & Orme 1980:3; Coles 1987:228), although most material from early excavations was not retained (Coles 1987:230,231). The Avon Levels provide additional information about the exploitation of these landscapes during the later Bronze Age and have good bone preservation (Locock 2001:124-6). A variety of sites in northern Somerset and on the Mendips have yielded animal bone, from the Neolithic onwards (e.g. ApSimon *et al* 1976:165), including bone rich caves and swallets. Work in south Somerset has been limited, but

bone from this area is relatively well preserved (Bell 1984:83-4,88). There are no known bone assemblages from West Dorset.

Published animal bone reports frequently fail to present data fully. Some discussion is scant or it is difficult to disentangle information relating to a variety of periods (e.g. King & Cottam 1977; Saville & Ellison 1983), whilst at sites where prehistoric bone preservation is fair (e.g. Levitan 1994:173), the prehistoric material is poorly represented due to the concentration on features of other periods. Numerous small assemblages have been regarded as not meriting in-depth study due to their size or the limited contexts from which they have been recovered. Some have had a limited consideration (e.g. Everton 1981:223), whilst others are referred to in passing, but have not been studied (e.g. Adkins & Adkins 1988). At Ham Hill, excavations, watching briefs and trial trenches in advance of quarrying have been carried out since the beginning of the 20th Century (e.g. St George Gray 1910; 1924; 1925; 1926). Some of the animal bone from larger trenches has been examined and published (e.g. Smith 1991:43), some examined but not adequately published (e.g. Adkins & Adkins 1992:93) and some remain unexamined (e.g. Smith 1994). The provenance and dating of most features are good and, taken as a whole, the collection becomes a valuable resource. At Glastonbury and Meare, additional to the limited information available from Bulleid and Gray's early 20th Century excavations (Coles & Minnitt 1995:27), are published data from the Somerset Levels Project (Coles 1987:43-48; Levine 1986; Bailey *et al* 1981). Material excavated by Avery in the late 1960s has only been cursorily examined and partly published (Cornwall and Coles 1987:232-233).

The large multi-phase Cadbury Castle animal bone assemblage was only partly examined for the 'final' publication (Barrett *et al* 2000). The assemblage includes Bronze Age and Iron Age material and was deemed worthy of further examination by Hamilton-Dyer and Maltby (2000: 278-9,291). This is one of few assemblages that could be compared directly to the large contemporary Danebury assemblage in Wessex (Grant 1984;1991), which remains one of the largest and most completely reported Iron Age faunal assemblages. A range of unreported contemporary assemblages come from excavations carried out by the South Cadbury Environs Project (SCEP), which also provides a large amount of data on the development of

fields, settlement and stock handling features in the landscape surrounding the hillfort.

1.12 The nature of the South West

1.12.1 The form of the land

The south west peninsula (Figure 1) is diverse in its landscape, geology and environment, as well as in its archaeology, displaying variability within the region, and often contrasting with the adjacent parts of southern England. These differences are often localised in smaller units than our current administrative system, and often cross those boundaries. The sea is never more than 25 miles away in the south western peninsula. The north Cornish and Devon coasts are rugged with cliffs and inlets, with gentler rolling hills on the southern side lying along the English Channel. Most of the rivers flow south into the English Channel, with the peninsula dominated by the high ground of Bodmin Moor, Dartmoor and Exmoor, the Brendon Hills and Quantocks. The Isles of Scilly, West Cornwall, Bodmin Moor and Dartmoor were formed of igneous intrusions, whilst Exmoor is on Devonian rocks separated from the Dartmoor massif by Carboniferous formations. In the far east of the region Permian rocks along the Exe Valley give way to Keuper marls and sandstones mixed with upper greensands and gault and lias in west Dorset and southern Somerset. Limestone, oolite and Yeovil sands form the southern Somerset hills, whilst the complex limestone, sandstone and metamorphic geology of the Mendips creates a further area of high land to the north. These parent rocks inevitably give rise to a range of land forms where harder igneous, metamorphic and sandstones form ridges separated by deep valleys along the lines of shales and mudstones. Some of the soils produced, especially on the red sandstones, are very rich agriculturally, particularly in south Devon and western Somerset. The soils are as variable as the underlying rock. Given the parent rock, most of the regions soils are acidic in nature. Brown Earths are thought to have developed continuously from the Late Glacial away from the coasts and floodplains. Human impact, climate change and the effect of slope and aspect from the Bronze Age onward produced localised development, for example podsolization on the high moors (Straker *et al* 2008:104).
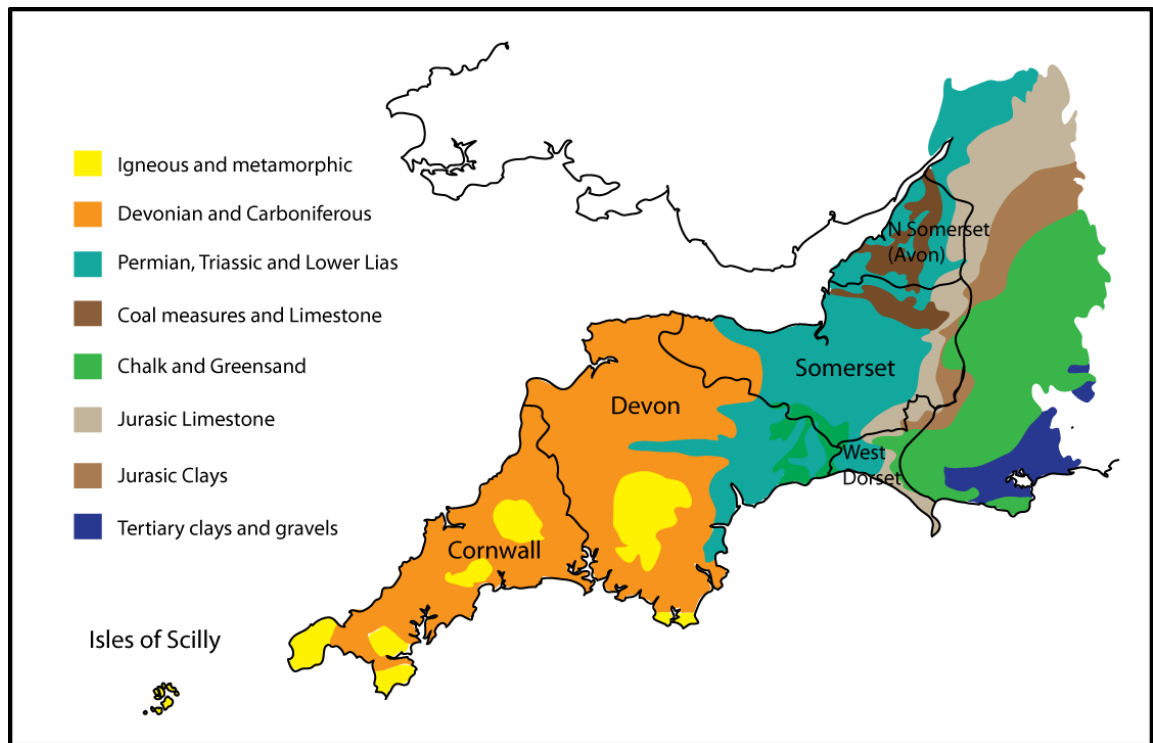
Figure 1: The south west of England, geology and modern administrative boundaries. In the east of the region, Dorset is divided arbitrarily west of the chalk.

1.12.2 The Environment

A variety of environmental data is available in the south west, depending on soil types and ground conditions. Availability varies, with some areas being much richer than others. For example, there is little palaeoenvironmental data from south Somerset (Straker *et al* 2008:110). Pollen, carbonised wood, molluscs, and plant macrofossils are available from a number of sites in north Somerset (Lewis 2005:18-22), whilst the Levels have produced numerous environmental datasets (e.g. Housely 1995:121-136; Richmond 1999:27). In Devon and Cornwall pollen is readily available and more lowland samples have been taken in recent years supplementing those from the uplands (Casledine1983:62).

1.12.3 The Climate

The south west has a maritime, moist climate with predominantly westerly winds from the Atlantic Ocean. Insect data are ambiguous, possibly suggesting conditions in late prehistory similar to or possibly slightly warmer than present (Straker *et al* 2008:104-5). Most changes in sea level had occurred prior to 5000BC, but in particular areas of

the south west, slight alterations coupled with silting of estuaries and other coastal processes influenced areas such as the Somerset and North Somerset Levels during the Bronze Age and Iron Age (Straker *et al* 2008:105). The form of south west rivers was likewise relatively stable from the beginning of the Neolithic. However, there are changes in sedimentation in the Later Bronze Age and Iron Age, probably caused by anthropogenically initiated erosion (Straker *et al* 2008:105). A great deal of the blame for the 'abandonment' of the uplands in the later Bronze Age has been changing climate, combining denuded soils with higher rainfall leading to development of blanket peat (Christie 1986:105; Quinnell 1988:10), although the sequence of events is far from clear.

1.12.4 The Archaeology

The distribution of particular classes of evidence is uneven across the region. The upland areas have enjoyed a disproportionate amount of attention, due to the comparative visibility of archaeology, and differing land use pressure (Griffith 1994:85; Pollard and Healy 2008). The distribution of scheduled monuments is clustered in west Cornwall, Bodmin Moor, Dartmoor and Exmoor, the Mendip hills and across the adjacent chalk of central Dorset. The distribution of sites noted in HERs is far more even, but still indicates areas where archaeology is less understood, including the Devon Culm Measures, the lowlands of South Devon, most of lowland Somerset and very particularly west and north Dorset (Webster 2008:8,16). Construction of pipelines and motorways (e.g. Dawson *et al* 2003) has indicated that there is probably a higher density of sites than previously assumed. Archaeological activity clusters in urban areas and is sparse in rural areas, particularly across Devon and eastern Cornwall (Webster 2008:19). In addition, various parts of the region, at various times, were aceramic or nearly so. There is evidence of a deliberate avoidance of pottery in Early Bronze Age barrows and cairns in Devon when compared to Cornwall, Somerset and Dorset, hinting at differences in ritual activity (Quinnell 1988:3,5-6). There are particular difficulties across the entire region in identifying Late Bronze Age and Early Iron Age sites, probably largely due to a lack of understanding of the pottery chronology, and the unchanging nature of the Post-Deverell-Rimbury Plain Wares. This picture is gradually changing for Cornwall, but there is an identifiable step change in the

intensity of activity and settlement in general from the Bronze Age to the Iron Age across the south west (Fitzpatrick 2008:125,127).

The peninsula demonstrates regionally distinct settlement and burial traditions, for example, multiple enclosure hillforts and rounds. Whilst round barrows and cairns are the most ubiquitous form of monument, their distribution is far from even. Domestic contexts are rare through the Early and Middle Bronze Age (Pollard and Healy 2008:98-9). Moving into the Iron Age, there is little evidence for early hillforts in the south west (Fox 1964:133). The distribution of multivallate hillforts with close set ramparts are almost exclusively in the east of the region, petering out around the Exe Valley, and the majority of the rest of Exmoor, Devon and Cornwall boasting wide-spaced ramparted enclosures, which are also common in South Wales (Fox 1964:139,141) and those with dependent enclosures and annexes (Fox 1960:37-45). Given its location, the peninsula was probably outward looking from the earliest times (Christie 1986:103). Promontory forts tend to occur in areas where the coast affords suitably definable promontories, so they are more common in the west, especially on the north Cornish coast. South Western Decorated Ware demonstrates local production, normally found close to where it was produced. Six fabric groups of occur, one gabbroic from Cornwall, two with Devon Permian rock inclusions, and three Somerset produced fabrics (Cunliffe 1982:57). The form of the land itself may mean that change due to shifting environmental influence may have greater effect.

In the later part of the period, the region was apparently divided between three tribes. The Dobunni occupied north east Somerset and Gloucestershire, north of the Parrett and Axe rivers; the Dumnonii extended west from western Somerset throughout Devon and Cornwall; whilst the Durotriges occupied Dorset and south east Somerset (Minnitt 2007:47). However, recent consideration of the evidence for 'Durotrigian' indicators of identity has revealed a more complex picture. The divide in hillfort construction has been related to the tribal boundary of the Durotriges and Dumnonii, but the presence of South Western Decorated Ware, previously regarded as relating more to the area controlled by the Dobunnii, confuses the issue (Fox 1964:141). Burial practice can now be seen as more diverse and diffuse (Randall 2004), whilst the

Durotriges themselves may have been a disparate alliance of groups occupying a closely defined core area in eastern Dorset (Papworth 2008).

1.12.5 Chronology

Due to the diversity of the region, and the varying degree of excavation and recovery of dateable materials, chronologies are not necessarily clear cut for the south west. A summary chronology is included in Table 1.

Table 1: Chronological periods (after Needham 1996; Brück 2007:24).

Phase	Dates	Indications	Reference
EBA Period 1	2500-2300 BC	Earliest metalwork, coeval with Late Neolithic pottery	Needham 1996
EBA Period 2	2300-2050 BC	Beaker inhumations, copper alloys. (Lunulae from Harlyn Bay)	Needham 1996
EBA Period 3	2050-1700 BC	Late Beaker, Food vessels, collared urns, Trevisker Ware in Cornwall. Inhumations and cremations. 'Wessex I'.	Needham 1996
EBA Period 4	1700-1500 BC	Deverell-Rimbury urns in Dorset at end of period, 'Wessex II', Camerton-Snowshill, Arreton style metalwork, earliest palstaves.	Needham 1996
Middle Bronze Age	1500-1150BC	Wilburton/Wallington metalwork and post Deverell Rimbury Plain wares	Brück 2007:24
Late Bronze Age	1150-800/700BC	Metalwork, decorated biconical pottery	Brück 2007:24
Early Iron Age	800/700BC-350 BC	Pottery	Brück 2007:24; Moore 2007a
Middle Iron Age	350-100BC	South Western Decorated Ware	Moore 2007a; Cunliffe 1982
Late Iron Age	100BC-AD43	Pottery including Poole Harbour style wares	Moore 2007a; Cunliffe 1982

Whilst, as mentioned above, the Iron Age is now often referred to as earlier or later, the dividing point being in the 4th Century BC, published sites have often been discussed in terms of Early, Middle and Late, and those divisions have been offered here. It is also recognised that particularly in the west of the region, there is scant indication for the 'end of the Iron Age', with continuity in settlement, land use and material culture.

1.13 Methodology

1.13.1 Building the model (Chapters 2 and 3)

An understanding of the requirements of livestock animals must underpin any consideration of how they have been husbanded in the past. There are, however, a

wide variety of aims and strategies that can be employed in a given landscape. It is therefore necessary to deconstruct the factors that may be involved, and examine the various possible approaches that can be taken to animal husbandry, in order to ensure that we are open to the variety and implications of the various approaches. Ethnographic and historical information can also inform us, sometimes with surprising solutions to the combination of circumstances that can arise.

The aim of Chapter 2 is to lay out the needs and constraints of individual species, and consider the ways in which people may have managed and utilised them in the past. A wide range of archaeological data is available, and Chapter 3 goes on to address which, and which combinations, of these might assist in identification of the practices discussed in Chapter 2. It aims to identify what types of data we might expect to encounter in archaeological landscapes, settlements and animal bone assemblages. In general terms is seeks to demonstrate how landscape, environmental and other data can be brought together with faunal information to produce a more detailed understanding of the function and meaning of landscapes and appreciation of how that affects animal husbandry.

1.13.2 Testing the model (Chapter 4)

Once the approach has been formulated, Chapter 4 will test the approach on a particular study area. No one location can provide us with all of the possible data that could be used. This is partially because of the physical constraints of preservation, but also on the analyses that have been carried out. Many sites in the southwest were examined long ago, only limited data are available, and variation in the underlying geology limits the availability of animal bone assemblages. For this reason, the main case study, to which the approach will be applied is part of south east Somerset, surrounding Cadbury Castle.

The selection of South Cadbury could be regarded as problematic due to its location on the north western edge of the chalk/limestone complex that generally defines the edges of Wessex. However, the hill is off the chalk, and its perspective is over the expanse of the Somerset Levels. It offers the opportunity of study of an assemblage from a non-chalk landscape, but is near enough to render meaningful comparison. On

the practical level, the excavations of the late 1960s and early 1970s produced an animal bone assemblage in excess of 100,000 fragments dating from the Early Neolithic to the end of the Iron Age and beyond. Only a small portion of the assemblage has previously been studied (Hamilton Dyer and Maltby 2000). Not only is the assemblage large, but it is generally in excellent condition, offers detailed taphonomic information, butchery and pathological evidence, and its potential to inform understanding of animal husbandry, utilisation, and meaning is high.

However, the value of the Cadbury Castle bone is further increased by the data derived from the South Cadbury Environs Project (SCEP). SCEP was founded in the mid 1990s by Richard Tabor in order to place the multi-period site on Cadbury hill within its landscape context, and continues to the present under the aegis of the South Somerset Archaeological Research Group. It has utilised large scale geophysical survey coupled with extensive and systematic ploughzone sampling and regular test pits excavated to the natural to locate successive landscape features and map occupation and land use from the Neolithic onward (Tabor 2008). It has located considerable expanses of Bronze Age and Iron Age land division, settlement and other structural features, and several excavations have produced animal bone assemblages (Figure 2) that are contemporary with various phases of occupation on Cadbury Castle. Charred wood and plant macrofossils are currently under study as part of another doctoral project by Danielle de Carle, University of Sheffield. It therefore forms a major focus due to the quantity and quality of data, the possibility of combining the data, and the opportunity to consider associations between neighbouring locales.

Hamilton has described the problems of an integrated study of a groups of animal bone assemblages within a defined landscape (2000a:59-60) largely due to differing methods of recording and quantification. Even the Danebury Environs Programme failed to implement a single system of recording of all the sites involved; nor did it avoid the difficulties of multiple researchers. This study is able to avoid those issues by all the material from Cadbury Castle and its hinterland sites being studied by one researcher using a single set of methods. It does not, however, avoid a problem that the Danebury study did not have – a thirty year gap between the hillfort excavations and those in its surroundings.
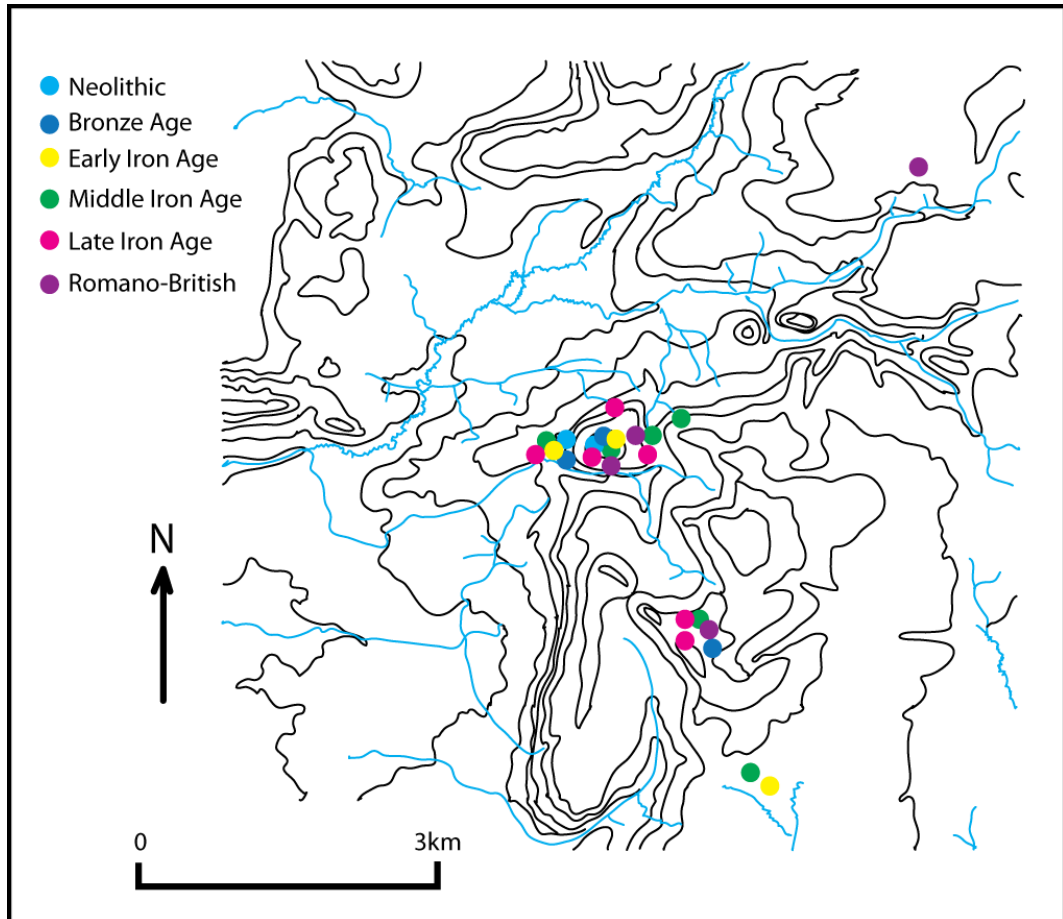
Figure 2 : Distribution of animal bone assemblages in the South Cadbury area.

1.13.3 Data recording and analysis

The Cadbury Castle and SCEP animal bone assemblages provide a rich dataset. However, together they comprise *c*130,000 fragments, so pragmatic choices needed to be employed in selection of a suitable level of recording. Several smaller, previously unrecorded assemblages from Devon, Somerset and Cornwall were also examined. All of the assemblages studied were 100% recorded, as sampling was deemed inappropriate given the likelihood of intra-site variation. The zooarchaeological methods used are detailed in Appendix 1, but although recording was carried out at a level that provides reliable quantification, taphonomic, butchery and pathological data, this was designed to answer broad questions relating to husbandry and landscape use, so much of the data collected has not been utilised in this study. This valuable resource is suitable for further detailed and specialised interrogation. Bone assemblages were recorded in Microsoft Access databases.

The information obtained is presented in Appendices 2 and 3 and was considered in the light of the landscape structure, settlement evidence and environmental data (Chapter 4). This analysis seeks to understand depositional processes and choices, and to consider sites and locales in the South Cadbury area to achieve an appreciation of how the succession of Bronze Age and Iron Age landscapes functioned, how animals living and dying within them were managed, and how those processes and events were perceived and experienced and how they related to social structures.

1.13.4 Applying the model (Chapter 5)

Having tested the approach on a single series of landscapes, the focus broadens to the rest of the south west and beyond (Chapter 5). It seeks to understand the local and regional character of landscape and animal exploitation. This gives rise to a variety of themes which are given wider comparison and consideration.

The paucity of faunal data from the southwest has been commented on above. As Turk complains,

'*Often the osteologist has to do the best that he can with fragments which would, at many sites elsewhere and following the normal routine, be discarded*' (1970:121).

In discussing the broader picture across the southwest, the full range of assemblages have been considered (and site information included in Appendix 4). Given the paucity of large assemblages, very small assemblages can indicate a sense of local husbandry. Their use is more qualitative than quantitative, and always mindful of their limitations. Small samples inevitably cause problems of lack of reliability in comparisons, but are frequently the only information available. The problems of comparison of individual site reports and cut off levels for reliable assemblage sizes are discussed by Hambleton (1999: 2-3,39-40,94), but very few assemblages in the south west exceed these levels. We now turn to considering in depth the variables and range of strategies that can be employed in pastoral agriculture.