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THE NORMAN CONQUEST: A ZOOARCHAEOLOGICAL PERSPECTIVE.

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ABSTRACT

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by Naomi Jane Sykes

Although it has long been recognised that the Norman Conquest was a significant historical watershed, archaeological evidence, in particular artefact-based studies, have produced little evidence for its impact on Anglo-Saxon life. As a result, the effects of 1066 have come to be viewed as archaeologically invisible, with emphasis being placed on pre- to post-Conquest continuity. Yet, since there is seldom a direct link between ethnic identity and material culture, it should not be expected that Norman influence would manifest itself as obvious changes in artefact forms. Instead, shifts may have been more subtle, perhaps reflected by inter-site variation in the distribution of different products.

This thesis studies the effects of 1066 from a new perspective, that of zooarchaeology. In conjunction with other archaeological and historical evidence, the animal bone data are examined, in detail, at three levels: the Norman Empire, Saxo-Norman England and the individual site. At its most basic, this thesis provides a development and synthesis of current zooarchaeological data for 5th-14th century England and France. Beyond this, it assesses the role of the Conquest as an instigator for economic, social and cultural change. Saxo-Norman shifts in the management and utilisation of domestic and wild animals are considered, with particular attention being given to diet, husbandry and hunting strategies. The belief that the Normans impacted upon Britain's wildlife, with the introduction of fallow deer and rabbits, is also re-examined.

In some instances, sample sizes are still small and further research will be required before the situation is understood fully. Nevertheless, it is hoped that this thesis sets the agenda for future investigations.

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Chapter 1: Introduction

Investigation of social and economic change has always been central to archaeology. As part of this, population movements have frequently been emphasised as instigators of transition. This is particularly the case in British archaeology where, as an island, migration episodes tend to be viewed as highly significant. The Norman Conquest was the last and perhaps most famous of Britain's invasions, which resulted in almost complete replacement of the Saxon elite, both lay and ecclesiastical. Because the events surrounding the Conquest are so well documented, 1066 has come to be widely held as a significant watershed.

Yet, despite the notoriety and abundance of historical information concerning it, the Norman Conquest has received surprisingly little attention from archaeologists. For example, whilst there are numerous archaeological texts concerning the Roman (for example, Millet, 1990), Saxon (Myres, 1970; Webster, 1986; Welch, 1992) and Viking invasions (Graham-Campbell, 1990; Richards 1992) only one major book (Rowley, 1997) has attempted to examine the Norman Conquest from an archaeological perspective. Furthermore, Rowley's book placed more emphasis on the historical than the archaeological evidence, arguing that the archaeological record is a poor medium for detecting Norman impact, and re-iterating the widely held belief that, without guidance from historical texts, the Conquest is archaeologically invisible.

While I accept that archaeological evidence for Conquest-related change may be difficult to discern, it seems possible that the current dearth of data may be due to a lack of investigation, rather than an actual absence. To date, both the range and depth of archaeological analysis has been limited. For example, although it is commonly cited (for example Hurst, 1976:343; Rowley, 1997:26) that pottery does not change between the pre- and post-Conquest period, this subject is, in truth, extremely under-researched (Duncan Brown personal communication). Furthermore, when detailed analysis has been undertaken, it has produced promising results (for example, Brown, 1997a, 1997b; Cotter, 1997)

It is on this basis that I set out to undertake a detailed zooarchaeological analysis of the Norman Conquest. Since previous archaeological examination has demonstrated no dramatic changes in material culture, I adopt a contextual approach, whereby data are considered by site-type, to detect subtle variations, if present, in systems of animal management, distribution, consumption and symbolism. It is only in recent years that sufficient information, from all types of site, has become available to allow such a study. Before this, researchers were generally able to consider animal management only at a site level.

Some inter-site comparisons (Clutton-Brock, 1976 and Grant, 1988a) and regional syntheses (Levitan, 1987a,1987b; Crabtree, 1994, and Huntley and Stallibrass, 1995) have been undertaken but most have been spatially or temporally restricted, focusing on either the pre- or post-Conquest period. One notable exception is Noddle (1975a) who studied eight medieval sites from across southern England which spanned the Saxo-Norman transition period. Noddle also considered continental data, which she recognised as vital for discerning potential foreign influences. Similar considerations of foreign assemblages have since been achieved by O'Connor (1989a) and Crabtree (1994). There remains, however, substantial scope for the multi-period analysis of regional/national animal economies and their comparison with continental data.

My aim in this thesis is to show that zooarchaeological and historical data can profitably be used together to provide a new perspective which will either strengthen or question current perceptions of the Normans and their Conquest of England. In order to achieve this I shall examine the Norman Conquest at the macro, meso and micro scale, which can be translated as the Norman Empire, Saxo-Norman England and specific Saxo-Norman sites, respectively.

1.1 The Norman Empire

Although in Britain the Normans are most famous for their Conquest of 1066, Figure 1 shows that by the late eleventh century the Normans were active not only in northern

Europe but also in southern Italy, Sicily, the Levant and areas of north Africa. Throughout the twelfth century, links between the different regions of the Norman Empire, especially between England and Sicily, became increasingly close, resulting in considerable political and cultural exchange (Cassady, 1986). To understand the impact of 1066, England cannot, therefore, be viewed in isolation. It is my aim to examine the influences that may, or may not, have stemmed from these regions. This will necessitate, where possible, consideration of zooarchaeological data from Norman sites in France and southern Europe. From this it may be possible to detect the introduction of foreign elements or customs into post-Conquest England.

Figure 1: Map showing the extent of the Norman Empire in the twelfth century.

At the same time, because the Normans have been hailed as catalysts, rather than importers, of change (Rowley, 1999;13) , post-Conquest England may demonstrate social or economic shifts that cannot be linked to the imposition of foreign traditions. It is for this reason that I shall examine the situation in both pre- and post-Conquest England. This will allow Norman-instigated development of the pre-existing set-up to be recognised.

1.2: Saxo-Norman England

Since at least the 1860s scholars have debated whether the Norman Conquest caused significant change to Anglo-Saxon society (for example Round, 1895, Stenton, 1908; Brown, 1973, 1984) or if continuity prevailed (notably Freeman, 1867-1879; Stenton, 1943; Barlow, 1966): the history of the debate concerning the Conquest has been summarised by Chibnall (1999). Originally it was considered that 1066 resulted in the introduction of a pre-existing 'Norman Package' containing, amongst other things, feudalism, motte-and-bailey castles and Romanesque architecture. It is now recognised that the arrival of these elements was less clear-cut. For example, there is evidence for the construction of at least five motte-and-bailey castles in pre-Conquest England (Thompson, 1991). Furthermore, Davison's (1969) study of fortifications in northern Europe demonstrated that motte-and-bailey castles actually have few roots in pre-Conquest Normandy. Instead, they were found to be an amalgam of various continental traditions that only came into being shortly before 1066.

Although most modern academics (such as Chibnall, 1986, Campbell, 1991; Golding, 1994 and Williams, 1997) now accept basic continuity and reject the concept of an imported 'Norman package', some elements, in particular rabbits and fallow deer, continue to be cited as Norman introductions (Rowley, 1997:131, 1999:104; Yalden, 1999:157; Bartlett, 2000:672). Historical evidence to support these beliefs is sparse and a zooarchaeological investigation would appear to be the best method for determining the date and route by which these animals arrived in England. In this thesis I shall examine the evidence for both rabbits and fallow deer to establish whether their importation can legitimately be considered a Norman achievement.

Rowley (1984:21) has stated that 'agricultural and industrial processes were unaffected by the Conquest'. Certainly historical evidence provides little indication of economic change. However, most late eleventh- and twelfth-century documents refer to the aristocracy and the Conquest itself, rather than the activities of the lower classes. It seems highly possible that changes in animal husbandry or exploitation could have occurred whilst escaping the attention of the medieval writer. Even in the more recent post-medieval period there seems to be some discrepancy between the historical evidence and the 'true' situation. For example, the 'Agricultural Revolution' has been dated to the eighteenth century by some historians (Orwin, 1949; Trevelyan, 1957, and Ritvo, 1987) but other ascribe the transition to the sixteenth-seventeenth century (Trow-Smith, 1957, and Kerridge, 1988). If historians have found it difficult to date such a significant phenomenon, which occurred in a period when writings on agriculture were common, it seems unlikely that subtle changes in Saxo-Norman husbandry practices would be historically detectable. Consequentially, zooarchaeology may hold a key to establishing whether shifts in the rural economy occurred. The synthesis of information concerning animal husbandry, management and product distribution systems, therefore, forms a major area of my research. Animal-based industries, such as butchery, bone working and tanning are also investigated to inform on this question.

Through zooarchaeological analysis I also intend to examine whether or not the social structure of Saxon England was affected by the Norman Conquest. Particular consideration will be given to the development of social hierarchy as, although it is now recognised that the Normans did not introduce feudalism, the extent to which the Conquest defined social inequality remains uncertain. To answer this question, emphasis will be placed on the examination of consumption practices, since ethnographic studies have demonstrated that cuisine is strongly linked to social structure (Goody, 1982). Status-based variation will also be examined through the study of wild resource exploitation. It has long been argued that, on their arrival in England, the Normans restricted hunting to the upper echelons of society (for example, Bartlett, 2000:673).

Medieval Ireland provides a useful comparison for the situation in Saxo-Norman England. The Anglo-Norman Conquest of Ireland occurred in 1169 and McCormick (1991) has studied its effects on the country's wild and domestic fauna. Although the Conquest of Ireland took place more than one hundred years after 1066, the patterns of social change, such as the dispossession of the elite, were the same as those experienced in England. Historical evidence for rural life in pre- and post-Conquest Ireland is far superior to that for England. By considering this information in conjunction with the zooarchaeological data, McCormick has developed a detailed picture of Conquest-related change. In this thesis, McCormick's findings are used as a model against which the English evidence can be viewed.

Examining synthesised evidence at a national or regional scale obviously results in a loss of definition concerning site-based patterning, such as that demonstrated by Wilson (1996). It is for this reason that the evidence is also considered at a more detailed level.

1.3: The Site Level

Any examination of the Conquest at a meso and macro scale must be borne out of detailed studies at the micro, or rather site, level. Such analyses provide not only the basic data for studies of economic and industrial change but also allow evidence pertaining to social or ethnic-related customs to be sought.

The issue of Norman identity has been a topic of considerable debate. Whilst historical evidence suggests that, regardless of their geographic location, the Normans possessed a common identity (see for example, Loud, 1981; Bliese, 1991; Potts, 1995; Shopkow, 1997), absence of a distinct material culture led R.C.H Davis (1976) to question whether the Normans of the tenth and eleventh centuries actually perceived themselves as a people. Jones (1997), however, has demonstrated that there is not a fixed one-to-one relationship between ethnic groups and their material culture.

Problems of identifying ethnicity from artefactual evidence have led some scholars (for example Trigger, 1995:277) to conclude that this issue should not be explored archaeologically. Jones (1997) however, has developed a theoretical framework through which material expressions of ethnic identity can, perhaps, be recognised. She argues that whilst material culture is frequently involved in the construction of identity, its use is fluid, situational and generally enmeshed with status, political and economic systems. As such, Jones suggests that detection of ethnicity from archaeological remains can only be achieved through the analysis of subtle trends and changes. In this thesis I, therefore, apply Jones' model to the zooarchaeological data.

Crabtree (1991) has highlighted the difficulties of distinguishing ethnicity from zooarchaeological evidence. Perhaps the main reason why zooarchaeological detection of ethnicity and social relationships has been so problematic is due to the coarse nature of the analysis that has, until recently, been undertaken. To date, zooarchaeological studies of complex societies have tended to focus upon the ratios of cattle, sheep and pigs (King, 1991; Hamshaw-Thomas, 2000). It has, however, been demonstrated repeatedly that it is the rarer animals that are generally more significant, either because of social differentiation or taboos (Goody, 1982; Simoons, 1994). If zooarchaeological evidence for Norman identity is to be recognised, it is necessary to examine the 'social life' of a wide variety of different animals and their products (Appadurai, 1986; Hamilakis, 1998). Through this it may be possible to gain a better understanding of their changing value and social significance.

The methods by which foodstuffs are processed for consumption can also incorporate expressions of cultural identity (Sackett, 1986; Crabtree 1991; Kenyon, 1997). In this thesis I shall, therefore, give particular attention to inter-period variation in butchery patterns.

Documentary evidence can also provide an insight into the thoughts and beliefs of the people concerned. As a result it may be possible to highlight potential areas for investigation. For example, Potts (1995) and Shopkow (1997) have demonstrated that the Normans were keen to cultivate a pious image. Zooarchaeologically this can be examined by considering dietary change. Medieval consumption practices were heavily influenced by the Christian church and if the Normans were attempting to emphasise their piety, this may be reflected in their dining customs.

The Norman 'love of hunting' has also come to be viewed as a marker of their identity. Whether this was actually the case will be considered by studying the way in which wild animals were incorporated within consumption practices and patterns of display.

1.4: The Data-Set

Investigation of Norman impact requires the synthesis and examination of a large quantity and range of zooarchaeological data from England and the Continent. The majority of this information was derived from zooarchaeological reports but some first-hand analysis of assemblages in both England and France was also carried out.

1.4i: English Sites

Although this research concentrates on the Saxo-Norman transition the need to demonstrate that changes, if present, were Conquest-related, rather than reflections of long-term trends dictated the decision to consider sites dating to between the fifth and fourteenth century. The main hindrance to this approach was the problem of dating. Since material culture does not change with the calendar, excavators have often found it difficult to assign assemblages to specific dates. For example, the similarity of late pre-Conquest and early post-Conquest artefacts has given rise to the label 'Saxo-Norman', which covers a date range of, approximately, AD 950-1200. Despite these problems I was able to categorise most assemblages, albeit with some overlap, as either 'Early-Middle Saxon', 'Late Saxon', 'Norman' or 'Angevin' (the date ranges for each are shown below in Table 1).

It could be argued that the use of these cultural labels is misleading and encourages assumptions of total population change (Williams, 1997:2). In this thesis, however, they should be viewed only as convenient labels, adopted for reasons of practicality: many site reports do not give calendrical date-ranges and refer to material simply as 'Late Saxon'.

Period	Date Range	Number of Assemblages
Early and Middle Saxon	5th -mid 9th century	45
Late Saxon	late 9th- mid 11th century	59
Norman	late 11th-mid 12th century	70
Angevin	late 12th - 14th century	73

Table 1: Date range and sample sizes for each Period group.

Figure 2: Map showing the location of the British sites examined in this study.

Table 2: List of British sites examined in this study. * = examined personally.

No	Site	No	Site	No	Site
1	Mawgan Porth, Cornwall	40	Wraysbury	73	**Norwich, Norfolk**
2	Launceston Castle, Cornwall	41	Ufton Nervet, Berkshire		Alms Lane
3	Westward Ho!	42	Abbey Wharf Reading		Castle Mall
4	Oakhampton Castle, Devon	43	Thatcham, Berkshire		Fishergate
5	Bantham, Devon	44	**Newbury, Berkshire**		St Martins-at-palace plain
6	**Exeter, Devon**		Bartholomew Street		White Friars, Norfolk
	Exeter, Devon		Cheap Sreet	74	Caister-On-Sea, Norfolk
	High St, Exeter, Devon	45	Faccombe Netherton, Hampshire	75	**North Elmham, Norfolk**
	Trickhay, Devon	46	Brighton Hill South, Hants		Spong Hill
7	**Taunton, Somerset**	47	Cowderys Down, Hampshire	76	Sedgeford, Norfolk
	Benhams Garage , Somerset	48	**Winchester, Hampshire**	77	Castle Rising Castle, Norfolk
	Priory Barn, Somerset		Abbots Worthy	78	Kings Lynn, Norfolk
8	Canning Cemmetry, Somerset		Crowder Terrace	79	Brandon, Suffolk
9	Brean Down,		East Suburbs	80	**Thetford, Norfolk**
10	Cheddar Palaces, Somerset		Henleys Garage		Brandon Road
11	Eckweek, Avon		New Road		Redcastle Furze
12	Cleeve Abbey, Somerset		North Suburbs		St Nicholas Street
13	**Glastonbury**		Sussex Road		Thetford 1092
	The Mound		Victoria Road		Mill Lane
	Wirral Park		Winchester Defences	81	West Stow, Suffolk
14	Cadbury Congresbury, Somerset	49	**Southampton, Hampshire**	82	War Ditches,
15	**Bristol, Avon**		Hamwih	83	West Cotton, Northampton
15	Bristol Castle		Quilters Vault	84	Maxey, Northampton
15	Mary-Le-Port		Southampton New Town	85	**Northampton**
15	St Marys	50	Bishops Waltham, Hampshire		Lyvden
16	Bath, Avon	51	Portchester Castle, Hants*		Marefair
17	Trowbridge, Wiltshire	52	Carne's Seat, Sussex *		Saxon Palaces
18	Ilchester, Somerset	53	Guildford Castle, Surrey*		St Peters Street
19	Catsgore, Somerset	54	Bell Street, Surrey		Woolmongers Street
20	Poundbury, Dorset	55	Burpham, Sussex*	86	Brixworth, Northampton
21	Christchurch, Dorset	56	Steyning, Sussex*	87	Leicester, Leicestershire
22	Carisbrooke Castle, Isle of Wight	57	**Bramber, Sussex**	87	Bonners Lane
23	**Gloucester**	57	Boltophs*	87	St Austins Friary
	Upton	57	Bramber Castle *	87	St Peters Lane
	West Gate	58	Old Erringham, Sussex	88	**Droitwich, Hereford and Worcester**
24	Winchcombe, Gloucestershire	59	**Lewes, Sussex**		Friars Street
25	Barnsley Park,		Lewes Castle *		Upwich
26	Postern Mill, Wiltshire		Lewes Friary *	89	**Hereford, Herefordshire**
27	Yatesbury, Wiltshire*		Lewes Priory		Croft Ambrey
28	Ramsbury, Wiltshire		North Street, Sussex *		Deansway 1
29	New Wintles, Oxford	60	Bishopstone, Sussex		Hereford City
30	Cassington and Eynsham Abbey	61	Pevensey Castle, Sussex *	90	Wroxeter
31	**Oxford**	62	Battle Abbey, Sussex	91	Dudley Castle, West Midlands
	Audlett Drive	63	Sandtun, Kent	92	Dominican Friary, Chester
	Barton Court	64	**Canterbury, Kent**	93	**Lincoln, Lincolnshire**
	Dean Court		Canterbury Castle		Flaxengate
	Old Gaol sites		Canterbury Cathedral		Lincoln City
	Oxford Castle		St Gregorys Priory	94	Goltho, Lincolnshire
	Queens Street	65	Monkton, Kent	95	Riby Cross Roads, Yorkshire
	Shaken-Oak	66	**London**	96	Nettleton, Lincolnshire
	St Aldates		Barking Abbey	97	Sandal Castle, Yorkshire
	St Ebbes		Baynards Castle	98	**Beverley, Yorkshire**
	Stert Street		Billingsgate, London		Eastgate
	The Hamel		Jubilee Hall		Lurk Lane
32	Banbury Castle, Oxford		Lombard Street, London	99	**York, Yorkshire**
33	Castle Lane, Brackley		Maiden Lane		Coppergate
34	Chichley, Buckinghamshire		National Gallery		Fishergate
35	Middleton Stony		Peabody Buildings		General Accident
36	Aylesbury, Buckinghamshire		St Magnus		Skeldergate
	George Street		Westminster Abbey	100	Wharram Percy, Yorkshire
	Walton Road		Whitehall, London	101	Crossgates, Yorkshire
	Walton Vicarage	67	Mucking, Essex	102	Catterick Bridge, Yorkshire
37	**St Albans, Hertfordshire**	68	Hadleigh Castle, Essex	**103**	**Hartlepool, Cleeveland**
	Gorhambury	69	Wicken Bonhunt, Essex		Morrison Hall
	St Albans Abbey	70	Culver Street, Colchester		Church Close
38	Latimer, Buckinghamshire	71	Ipswich	104	Yeavering, Northumberland
39	**Maidenhead, Essex**	72	Scole Dickleburgh, Norfolk	105	Jarrow, Northumberland
	Lake End Road and Lot's Hole			106	Prudhoe Castle,
				107	Ribblehead

In total, data from over 180 British sites were utilised. These sites are listed in Table 2 and their geographic locations are shown in Figure 2. For some research questions, sites outside these date groups were considered and they are also shown on the site list and location map.

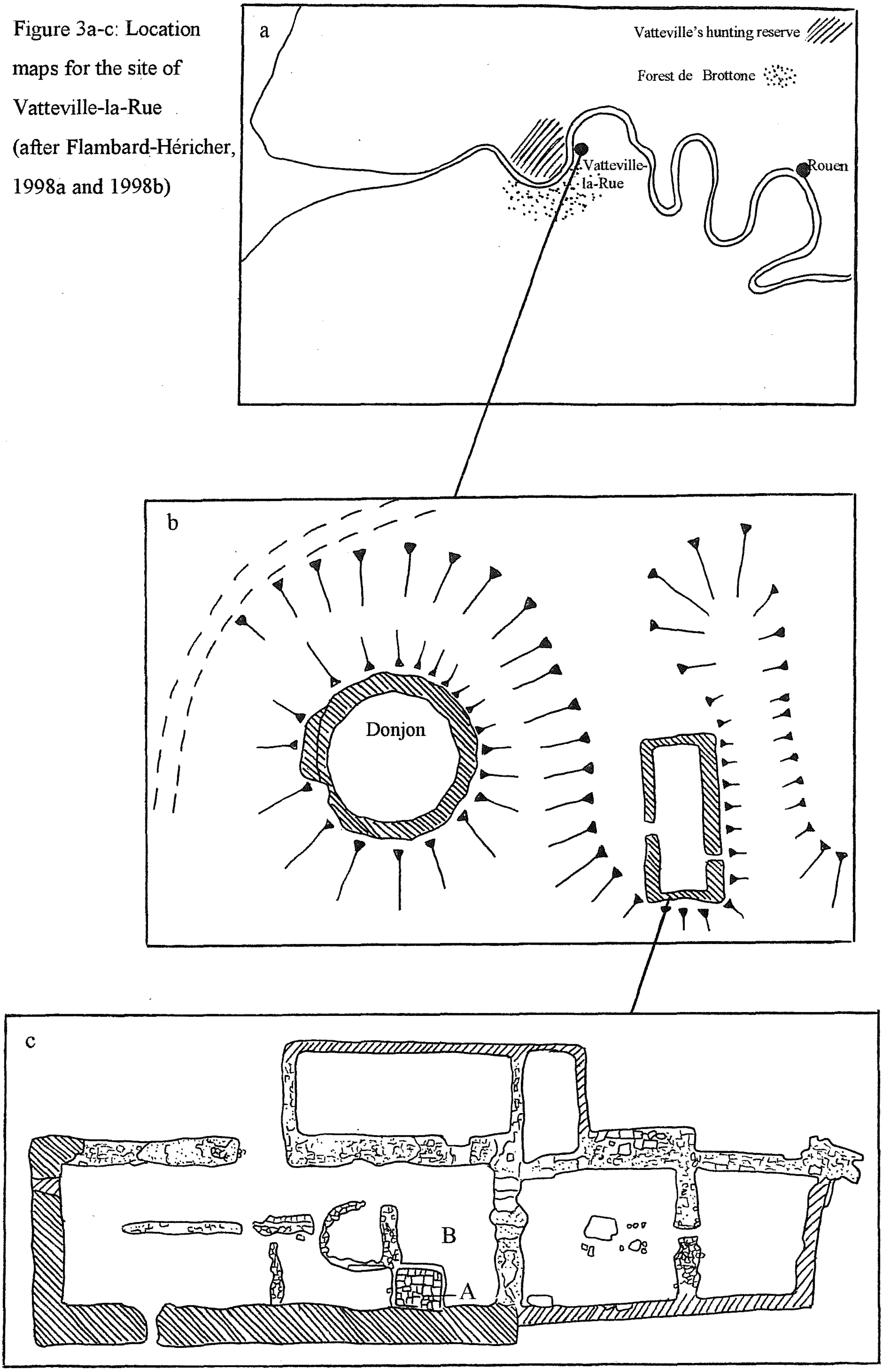
Not all of the British data came from published reports. I also personally examined, or reanalysed, a number of assemblages. Surrey Archaeological Unit offered me the opportunity to study the eleventh to fourteenth-century material from Guildford Castle. This assemblage provided useful results, in particular those relating to butchery practices and hunting traditions. Re-analysis of previously examined assemblages was undertaken if their reports suggested they contained particular information relating to my research questions. For example some sites, such as Steyning, Boltophs and Burpham (all in Sussex), were re-examined specifically to check claims of fallow deer and rabbit representation. Other sites were examined in greater detail on the basis of their superior dating and multi-period status; these include the Cheddar Palaces in Somerset, and Portchester Castle in Hampshire and Pevensey Castle in Sussex. These sites, along with others that I examined are highlighted on Table 2 with an asterisk.

My concentration on high-status sites could be criticised for undermining the value of archaeology as a voice-giver to the poorly documented lower classes (Wolfe, 1982). However, my reason for undertaking detailed analysis of these sites was two-fold. First, since 1066 is believed to have mostly affected the upper echelons of society, I considered that any evidence for change would be more apparent on these sites. Secondly, a data-set derived from high-status settlements is more compatible with that from France, where Medieval research has, as yet, concentrated mostly on monumental sites such as castles.

1.4ii: French Sites

In comparison to the situation in Britain, French zooarchaeology has not been undertaken on the same scale. The value of evidence from faunal remains is not widely recognised and animal bones are studied in only a few centres. As a result, on many sites bones are often discarded without analysis. During fieldwork in France I found only one site in Normandy, that of Vatteville-la Rue, for which the bones had been retained.

Figure 3a-c: Location maps for the site of Vatteville-la-Rue (after Flambard-Héricher, 1998a and 1998b)



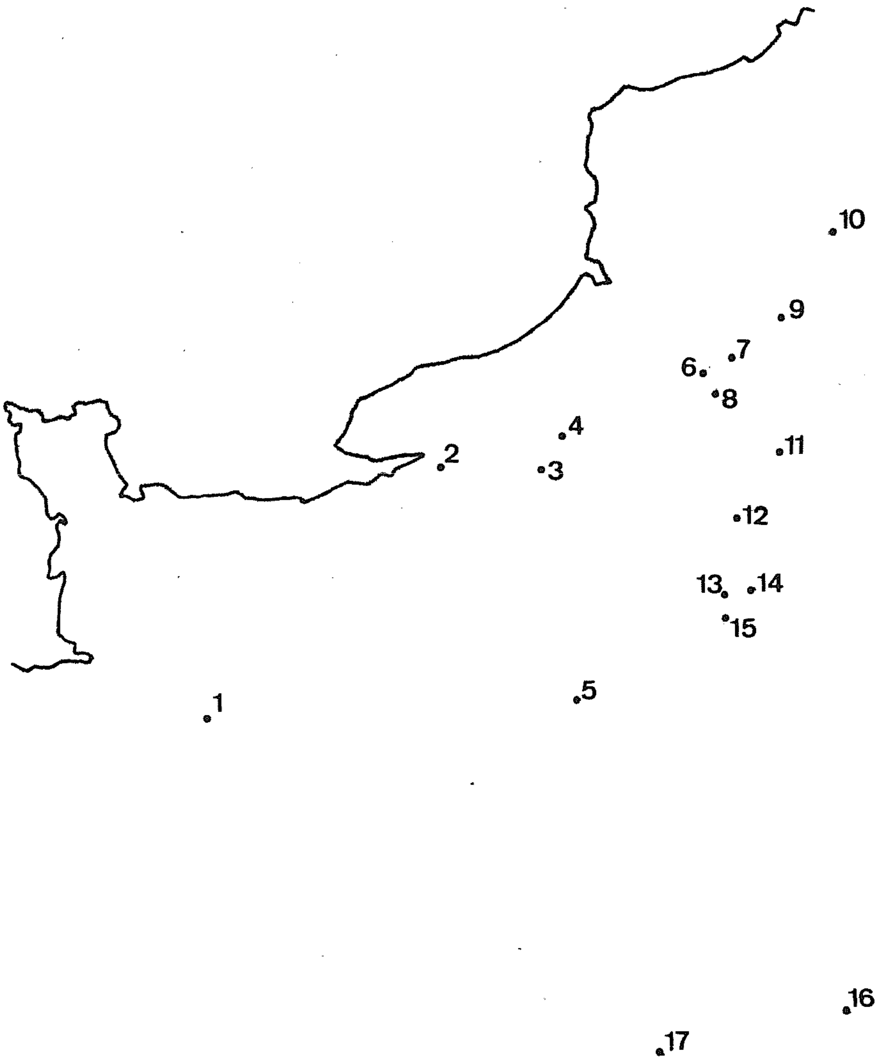
The Vatteville-la-Rue Assemblagae

The structural remains of Vatteville castle are located in a unique environment, close to the River Seine and bordering the Brotonne Forest (Figure 3a). The original castle was constructed between 1059 and 1090 by Robert of Beaumont, who had received the region from Duke William of Normandy (who later became William I of England). The castle at Vatteville is first mentioned by Orderic Vitalis, for the year 1124, when he records that it was besieged by King Henry I of England (Chibnall, 1978:353). Although it is only a single site, the historical significance of Vatteville-la-Rue means that its potential for revealing zooarchaeological information concerning the Normans should not be underestimated.

The site was excavated, between 1994 and 1996, under the direction of Flambard-Hériche (1996a, 1996b, 1998a, 1998 b). Figure 3c shows the building which was the focus of the investigation. This complex, situated within the bailey, had long been interpreted as a chapel but excavation revealed that the building was residential and contained a substantial kitchen. During three seasons of excavation a large quantity of well preserved but poorly dated animal bone was recovered by hand (the site was not sieved). The material was originally identified and recorded by Flambard-Heriche's students, who undertook a spatial analysis of the assemblage. Subsequent to this, I re-examined approximately half of the material (6087 identifiable fragments) from the better dated contexts. Of this material it was possible to assign approximately one-third to a date-group (twelfth, thirteenth, fourteenth or fifteenth century) the remainder was classified as twelfth-sixteenth century. Sample sizes for the phased material were, for some research questions, large enough to allow valid inter-period comparisons. It proved necessary, however, to combine the phased data for the construction of cull and body part patterns. Although this made the results less relevant to the Norman period, it was felt that the information was representative of the twelfth-century situation.

This assemblage, although constituting an important advance in Norman zooarchaeology, was insufficient as a comparative sample for the British data. Contact with the Laboratoire d'Archéozoologie in Compiègne, therefore, proved vital for my thesis. By contrast to the general situation in France, this department has been studying

Figure 4: Map showing the location of the French sites examined in this study.



No	Site	No	Site
1	Chateau de Mayenne, Mayenne	10a	Douai, Nord
2	Vatteville-la-Rue, Seine Maritime	10b	Parc St Julien, Nord
3	Rouen, Seine Maritime	11	Compiegne, Oise
4	Grand Besle, Seine Maritime	12	Villiers-le-sec, Oise
5	Chartres, Eure et Loir	13	Saint-Denis, Paris
6	Saleux, Somme HMA	14	Roissy, Paris
7a	Amiens, Somme ALHZ4	15	Rue de Lutece, Paris
7b	Savy, Sommes	16	Charite-sur-Loire, Nievre
8	Dury, Somme	17	Ecuelle-Ravanne, Indre
9	Comble, Somme PII		

Table 3: List of northern French sites examined in this study.

zooarchaeology for more than twenty years. Researchers such as Jean-Claude Leblay, Sébastien Lepetz and, in particular, Jean-Hervé Yvinec have produced numerous reports for Medieval sites in Picardie, many of which have recently been synthesised and published by Clavel (2001). Yvinec supplied me with much of my French data, including site reports unobtainable in Britain and also some unpublished information. Although, the data set does not, therefore relate purely to Normandy, it provides the best available opportunity for recognising French influence. All of the French sites considered in my research are shown in Table 3 and Figure 4.

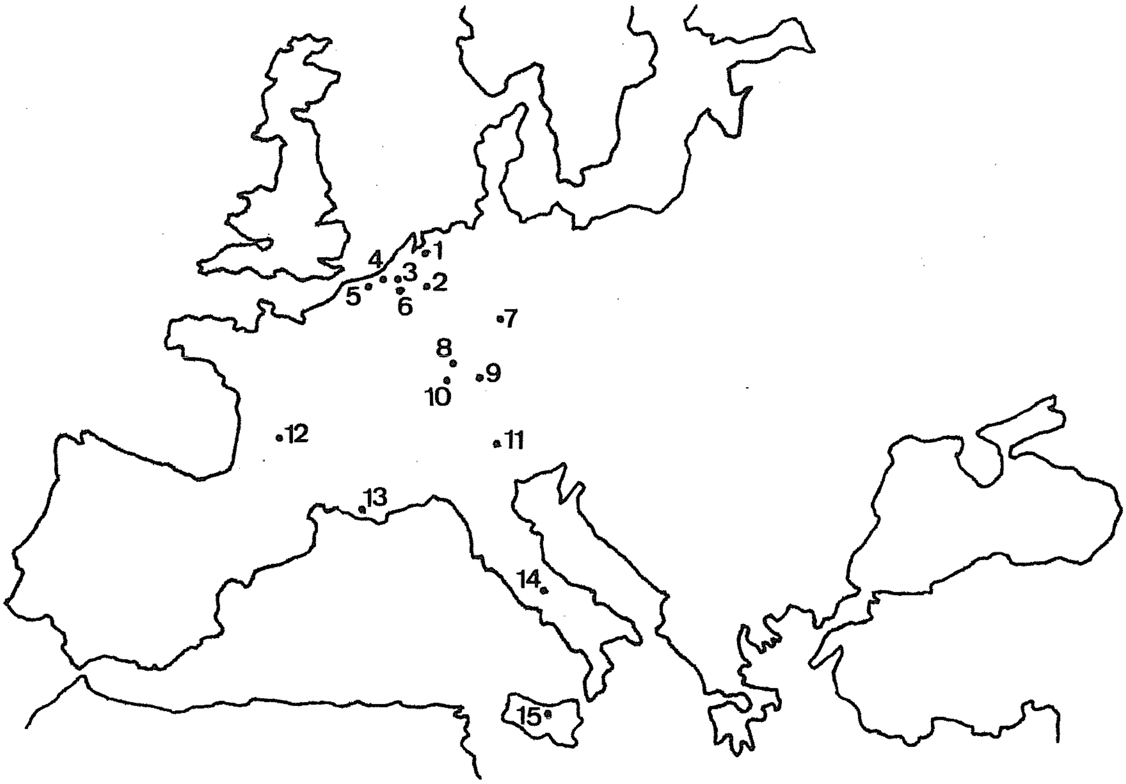
1.4iii: Other Continental Sites

It has been mentioned above that, in the eleventh century, the Normans were active not only in Normandy and Britain but also in Southern Europe (Figure 1). The possibility that influence may have stemmed from these regions, rather than Normandy, required that some consideration was given to the situation in these areas. Unfortunately, zooarchaeological data for Medieval Italy and Sicily is even more scarce than for France. Work by Bossard (1984a and 1984b), Baker and Clark (1993), Baker (1993) and Audoin-Rouseau (1993) has, however, permitted limited investigation of these regions. In order to highlight trends that may have been unrelated to Norman influence, data from non-Norman areas of Europe have also been examined. All of the sites from areas outside England and Northern France are detailed in Table 4 and Figure 5 .

No	Site	No	Site
1	Huis te Merwede, Netherlands	9	Heuneburg, Germany
2	Valkenburg, Holland	10	Augst, Switzerland
3	Ename Abbey, Belgium	11	Schiedburg, Switzerland
4	Laarne, Belgium	12	Saint Avit-Senieur, France
5	Dune Abbey, Belgium	13	Marseille-La Bourse, France
6	Tourinness-Saint-Lambert, Belgium	14	San Potito-Ovindoli, Italy
7	Unterregenbach, Germany	15	Brucato, Sicily
8	Münsterberg and Hochstetten, Germany		

Table 4: List of Continental sites discussed in this Study.

Figure 5: Map showing location of Continental sites examined in this study



1.5: Methods

The majority of assemblages considered in this thesis were examined for four basic groups of zooarchaeological data: taxa ratios, age profiles, body part patterns and metrical data. Some research questions required the adoption of additional methods and these are detailed in the relevant chapters.

1.5i: Taxa Ratios

The primary aim of zooarchaeology has always been to obtain the relative frequencies of the different taxa within an assemblage. Numerous quantification techniques have been developed but after 30 years of debate there is still no consensus regarding standardisation (Casteel, 1977; Chaplin, 1971; Gautier, 1984a; Grayson, 1984 and Klein and Cruz-Uribe, 1984). In practice, two techniques have become the most commonly used: a basic fragment count, or NISP (the Number of Identified Specimens Present) and the more interpretative MNI (Minimum Number of Individuals). Neither technique is without problem but I deemed MNI, which is heavily susceptible to inter-worker variation, unsuitable for this study and have based my work on NISP data.

In this thesis I have utilised several systems of NISP analysis. For basic studies of domestic mammals, NISP information was collected for cattle, sheep and pig only when their combined fragment count exceeded 100 specimens. The relative percentages for each of the three main taxa were then calculated for each site. In order to synthesise this data, the relative percentages were summed for each taxon and the mean percentage was ascertained by dividing the summed figure by the number of sites that had contributed to it. This method of synthesis was selected preferentially to the system of summing all the NISP figures for each taxon and then calculating their relative frequencies because it lessened the effects of outlier sites. An example of the potential problems caused by the latter method can be seen in Appendix 1b. Here the data for Early-Middle Saxon villages demonstrate that West Stow was the only assemblage in the north and east of England to show a dominance of sheep. However, this assemblage was also by far the largest. If the relative frequencies had been calculated on the basis of raw fragment count, the cattle-dominated patterns, suggested by all of the other smaller assemblages, would have been subsumed by the West Stow data. Whilst this method of calculation is not suitable for large assemblages, it was employed for the examination of the other animal categories (domestic birds, wild birds, wild mammals and fish) which, on any single site, are likely to be represented by less than one-hundred specimens. Again this system reduces the impact of outlier sites.

The decision to examine these animal categories beyond the taxonomic level of 'fish' or 'bird', introduced a number of logistical problems. For example, although it is recognised that the rarest components of an assemblage are often the most significant, it was beyond the possibility of this thesis to consider every species that had ever been recorded for Medieval Europe. Instead, I included in the study only the most commonly occurring taxa. Using this system, the domestic bird, wild bird and wild mammal data were synthesised and analysed without difficulty. The fish data, however, presented further theoretical problems. In particular, the degree to which the taxa frequency data were representative of the 'true' situation was highly questionable. There is considerable inter-species variation in both the number of skeletal elements and the degree of bone calcification. Cartilagenous fish, such as the Lamprey (*Lampetra sp*), are generally archaeologically invisible, whereas other fish species are represented not only by their internal skeleton but also by their scales. Taxa frequencies are also affected by sampling strategy and sieve sizes. Inter-observer variation in identification and recording methods may also cause problems when results from different specialists are combined: I have attempted to limit the impact of these factors by using the work of a restricted number of researchers (see Appendix Idii). Nevertheless, the resulting data should not be viewed as an accurate reflection of the range and frequency with which different fish types were eaten. It does, however, allow some trends to be recognised, which is useful for a period when fish consumption was of great importance.

The need to gain a general overview of inter-period variation between the different animal categories posed the most fundamental problem. Ascertaining 'bird' or 'fish' frequencies relies on comparison with the wider assemblage. However, differences in the survival, recovery and analysis of mammal, bird and fish remains means that these animal categories are not highly comparable. Indeed, some scholars (Serjeantson and Locker 1997) have warned against this form of analysis. These concerns were balanced against the potential information that such a study could provide and, consequently, I determined to examine the relative frequencies of the different categories. This was undertaken with the provision that the results would not be accepted uncritically and that, where possible, work by other researchers, as well as historical evidence, would be used to calibrate my findings. Fragment counts for each animal group were, therefore, summed, by period and site type, and then displayed as a percentage of the wider domestic animal assemblage. In order that recovery-related problems might be reduced, for the calculation of fish relative frequencies I considered only sites that had been well sieved. This reduced sample sizes and as a result, no evidence was obtained for village sites. The results for the taxa ratio studies are provided in Appendices I a-f.

1.5ii: Age profiles

Analysis of cull-patterns allows inferences to be made concerning a wide range of issues, including animal management and provisioning. Standardisation of ageing methods, by authors such as Silver (1969), Getty (1975), Payne (1973) and Grant (1975a and 1982), has meant that valid inter-site comparisons can now be undertaken. Inter-worker variation still exists, however, and in this thesis I was unable to overcome incompatibility problems relating to bone fusion data. Dental ageing proved less problematic and by using the broad eruption and wear categories (as given by O'Connor, 1988), the majority of information could be converted from the format in which it was presented. The system used for making the data comparable is shown in Table 5. I synthesised the information from the various sites by summing the number of mandibles recorded for each age category. The kill-off pattern was then calculated as though it were for a single assemblage. Sample sizes for dental data were much smaller than those for taxa ratios but the raw data are provided in Appendix II.

Stage	O'Connor's Age Classes		Grant's Mandible Wear Stages	Payne's Stages	Suggested Age
Cattle					
1	Juvenile	M1 not in wear	1-7		0-6 months
2	Immature	M1 in wear M2 unworn	8-16		6-15 months
3	Subadult	M2 in wear M3 unworn	17-29		15-26 months
4	Adult	M3 in wear but not heavy	30-47		2-6 years
5	Elderly	M3 heavily worn	47+		6 years + (after Legge, 1992)
Sheep					
1	Juvenile	M1 not in wear	1-7	A and B	0-6 months
2	Immature	M1 in wear M2 unworn	8-16	C	6-12months
3	Subadult	M2 in wear M3 unworn	17-27	D	1-2 years
4	Adult	M3 in wear but not heavy	27-47	E-H	2-8 years
5	Elderly	M3 heavily worn	47+	I	8-10 years + (after Payne, 1973)
Pig					
1	Juvenile	M1 not in wear	1-7		0-7 months
2	Immature	M1 in wear M2 unworn	8-16		7-14 months
3	Subadult	M2 in wear M3 unworn	17-26		14-21 months
4	Adult	M3 in wear but not heavy	27-40		21-27 months
5	Elderly	M3 heavily worn	41+		27 months + (after Hambleton, 1999)

Table 5: Conversion Table used for Dental Ageing Data.

1.5iii: Body Part Representations

Skeletal representations can provide useful information concerning provisioning systems and craft activities. Unfortunately, researchers seldom display data in the same way. In general it is provided either as raw NISP or MNE (Minimum Number of Elements) counts (Grant, 1975a, 1975b, 1977); in a graphic percentage MNI format with no raw data supplied (Smith, 1994); or as skeletal groups, for example 'head' elements, 'hind limbs' and forelimbs (Noddle, 1976; O'Connor, 1984, 1988, 1989a). Such information is difficult to compare and, therefore, I decided to utilise only those data presented, by element, as raw NISP or MNE counts. Because most of the data were derived from NISP counts, the degree of fragmentation-based variation was unknown. Although it was not possible to compensate for this, the inter-taxa variation in element frequency could be standardised by dividing the count for each element by the number of times it occurred in the body; this provided a basic MNE. In order to synthesise the various data, I summed the MNE counts for each element. The element with the highest total MNE was then used as the denominator from which the percentage frequencies for all other elements were calculated (see Appendix III).

1.5iv: Biometrical Data

In this thesis, metrical analysis was used in numerous ways: to check fallow deer and rabbit identification as well as to make inferences concerning animal husbandry and level of skeletal improvement. Much of the data for cattle and sheep were derived from archaeological reports and, in particular, from ABMAP (Animal Bone Metrical Archive Project), an English Heritage funded metrical database (Centre for Human Environment and Ecology, University of Southampton, 1995). Additional measurements, were taken during the analysis of sites such as Guildford Castle and the Cheddar Palaces, following the standards of von den Driesch (1976).

For reasons of archaeological abundance and ease of measurement, the cattle and sheep study was based on metapodia. Greatest length (GL) and smallest diameter (SD) measurements were selected as the primary variables on the basis of data comparability. Figure 6 shows the method by which these were taken. Cattle wither heights were calculated using Foch's factors (cited in Driesch and Boessneck, 1974).

Figure 6: Methods for taking metapodia measurements SD (smallest diameter) and GL (greatest length).

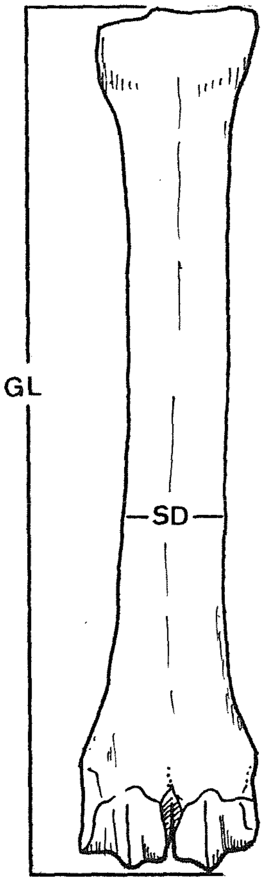
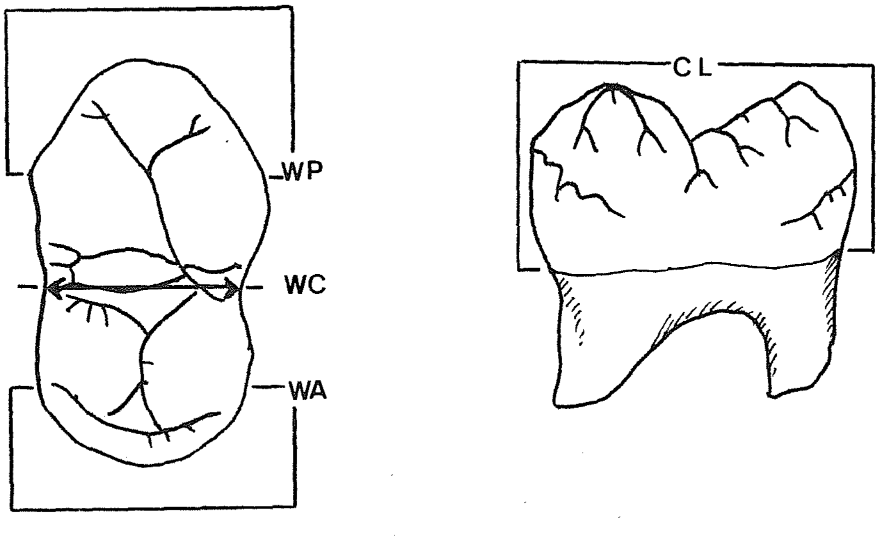


Figure 7: Methods for taking pig tooth measurements WA (width of anterior), WP (width of posterior), WC (width of constriction) and CL (cervical length).



Lack of measurable (mature) pig bones necessitated the collection of a new data-set. Archaeologically, pigs tend to be best represented by their teeth and, as such, I targeted mandibular M1 and M2 for metrical analysis. Measurements were taken following the standards set by Payne and Bull (1988) but the width of constriction (WC) and cervical length (CL) were suggested by Sylvia Warman (personal communication), the latter on the basis that it is unaffected by inter-tooth attrition (Figure 7). I re-analysed three multi-period assemblages (Faccombe Netherton, the Cheddar Palaces and Portchester Castle) with the specific purpose of recording of these measurements, and these data, along with those for cattle, sheep, deer and rabbits are supplied in Appendix IVa-e.

Appendix IVbii provides the results of my horn-core study, which I undertook to assist with the detection of different sheep types. Techniques were developed using 134 individuals from 12 modern rare breeds. The type and provenance of the material is provided below, placed in order of breed improvement level (as indicated by Ryder, 1964, 1983,1991a-c and Noddle 1978 and 1983a).

Breed	**Sample Size**	**Sex**	**Where Archived**
Mouflon	16	15 males 1 female	Museum of Wales
Soay	15	2 male, 2 castrates, 7 females and 4 sex uncertain	7 Ancient Monuments Laboratory 1 Faunal Remains Unit 7 Museum of Wales
Orkney/North Ronaldsay	30	6 males, 2 females and 22 sex uncertain	16 Institute of Archaeology, 1 Ancient Monuments Laboratory 13 Museum of Wales
Shetland	9	8 males 1 sex uncertain	7 Ancient Monuments Laboratory 2 Museum of Wales
Castlemilk Moorit	4	2 males and 2 females	Museum of Wales
Jacob	8	all sex uncertain	Museum of Wales
Norfolk Horn	2	1 male 1 female	Museum of Wales
Portland	8	1 male,1 castrate, 6 females	Museum of Wales
Scottish Black Face	16	1 male 15 females	1 Museum of Wales 15 Faunal Remains Unit
Swaledale	9	1 male 8 females	Museum of Wales
Exmoor Horn	5	1 male 4 females	Museum of Wales
Dorset Horn	12	1 male, 2 females, 9 uncertain	Museum of Wales

Table 6: Details of the modern breed specimens utilised in this study.

In order to test for age, sex and residual variability, individuals of all ages and sexes were recorded. Detailed descriptions of my methods and results have yet to be published but, in summary, after testing several variables I found that, because horn core development is influenced by numerous factors, such as castration (Hatting, 1975) or poor nutrition (Albarella, 1995), their overall shape is too variable to provide reliable differentiation between breeds. However, four of the variables tested did provided useful results:

1. **BA**: greatest length of the basal section taken using callipers (Figure 8)
2. **BB**: greatest width of the basal section taken at 90° to BA, using callipers (Figure 8)

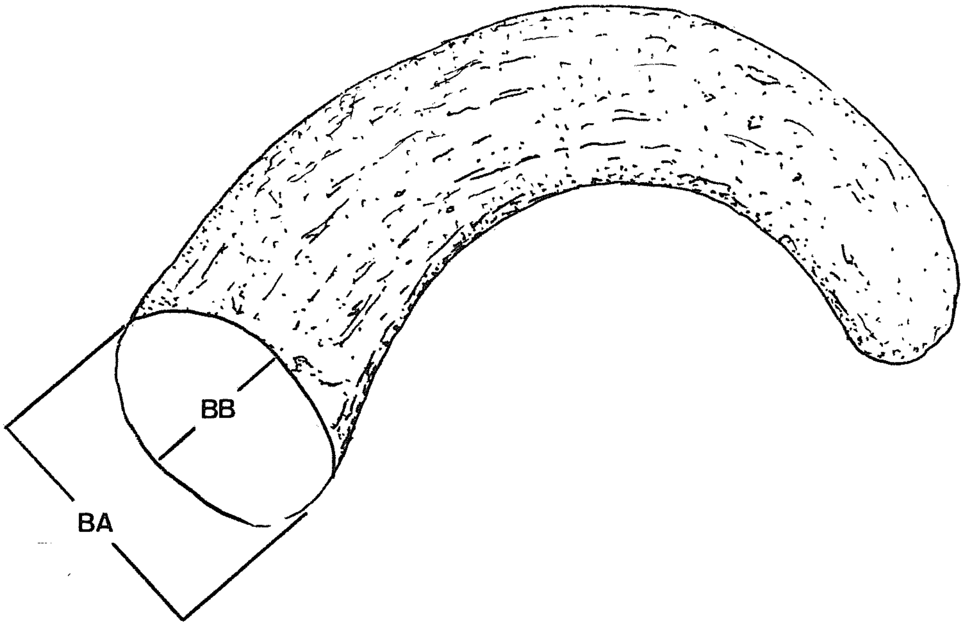
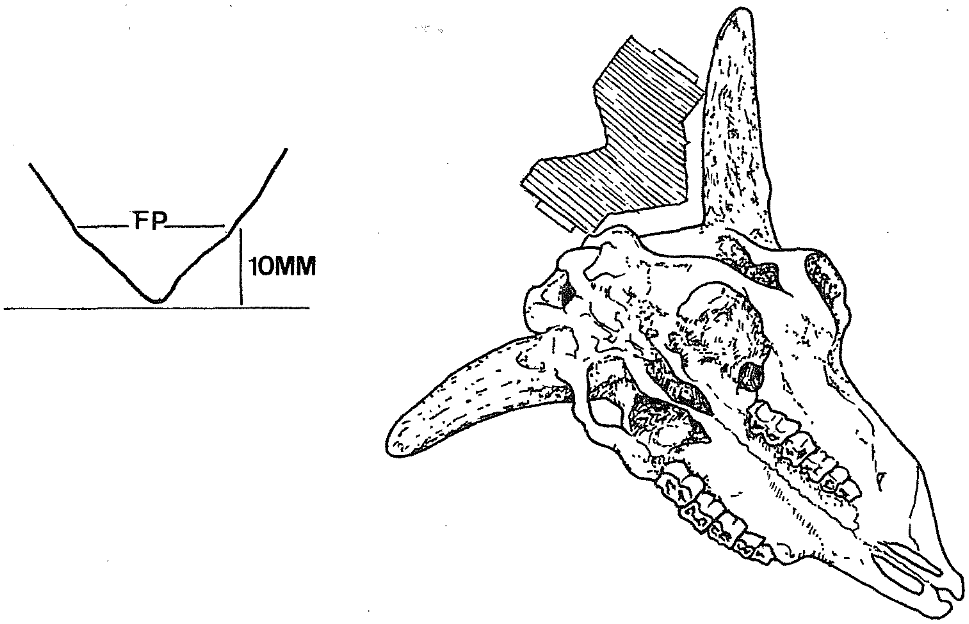


Figure 8: Methods of taking BA and BB.

3. **TP** (Temporal Profile): the angle at which the horns extend from the temporal bone (see Figure 9). The profile of the horn-temporal bone junction is taken using a profile gauge. In order to convert the profile into a continuous variable, that can be compared statistically, a measurement is taken across the profile 10mm up from its base. This measurement was shown as a reliable indicator of sex, especially when used in conjunction with BA or BB (Figure 10).

Figure 9: Method of taking TP (temporal profile)



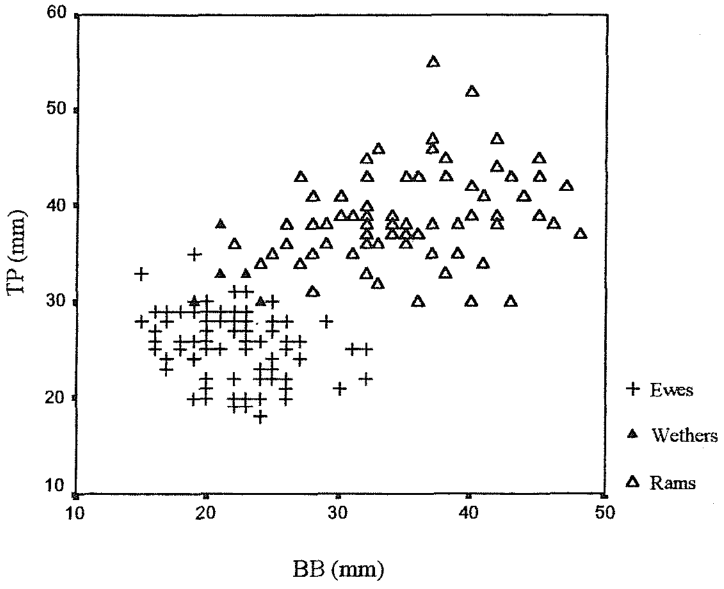
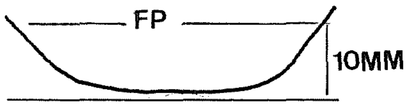
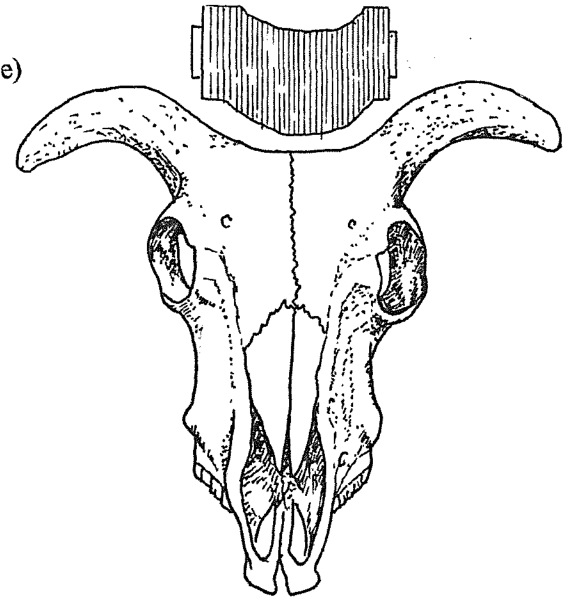


Figure 10: TP/BB Scatterplot for modern sheep of known sex (all breeds)

4. **FP** (Frontal Profile) Using a profile gauge the shape formed as the horns extend from the frontal bone is traced onto paper to provide a drawn record of each specimen. The profile is then converted into a continuous variable using the same method as for TP: a measurement is taken across the profile 10mm up from its base (Figure 11). This variable was largely unaffected by either sex or age and showed low residual variability; instead, it appeared to be closely linked to level of breed improvement, with primitive breeds (for example Mouflon and Soay) showing smaller measurements than more highly bred types, such as the Dorset Horn (Figure 12).

Figure 11: Method of taking FP (Frontal Profile)





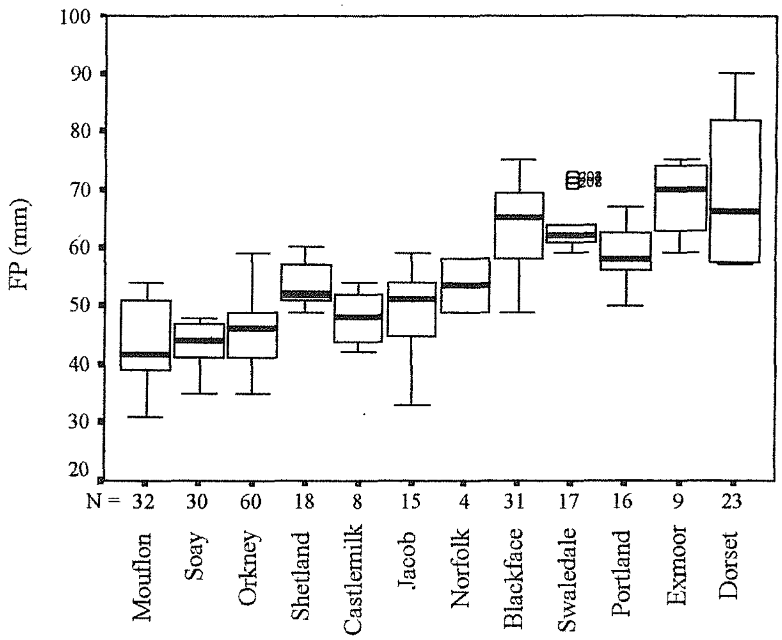


Figure 12: FP box-plots for modern sheep breeds.

The possibility of obtaining an archaeologically complete Frontal Profile (FP) was complicated by the fact that medieval skulls are often split laterally (O'Connor, 1979 and 1984; and Sykes, 1997). I found, however, that so long as the frontal suture is present, it is possible to take the half profile and estimate the overall FP. This procedure assumes that, in complete skulls, both halves of the frontal bone are symmetrical. To check the validity of this supposition 10 skulls belonging to the Scottish Blackface breed were tested for FP symmetry. The results are given in Table 7 and it can be seen that although there is some variation between the 'true' FP measurement and those constructed from the left and right halves, the degree of error is acceptable with most estimates being within ± 1 or 2 mm.

Specimen	**FP Complete**	**Estimate for left half**	**Estimate for right half**
1	75	74	76
2	52	51	53
3	61	61	64
4	49	49	50
5	66	69	66
6	65	66	65
7	65	61	65
8	73	73	74
9	75	73	71
10	66	66	62

Table 7: Results of the FP symmetry test.

1.5v: Butchery Patterns

Analysis of butchery patterns is not a prime objective for most zooarchaeologists but some researchers have developed personal systems which have enabled detailed analyses of individual sites (see for example, Maltby, 1979a; Dobney *et al*, 1995; Luff, 1994 and Audoin-Rouzeau, 1987). Occasionally, researchers have also synthesised personally collected data to allow wider observations to be made (for example, Peck, 1986; Grant, 1987; Maltby, 1989).

Because detailed and quantifiable information on butchery is not often presented in site reports, I found it necessary to collect a new data-set. This was undertaken using Lauwerier's (1988) numerical system but, because some of the butchery marks that I discovered were not included in his system, additional marks were added to the end of Lauwerier's list and they are shown, along with the raw data and summary tables, in Appendix V a-c. Over 3,000 butchery marks for cattle, sheep, pig and deer were recorded and analysed. This was achieved by targeting and reanalysing multi-period sites that are thought to have witnessed a period of Norman occupation. These included Pevensey Castle, the Cheddar Palaces and Portchester Castle. My analysis of Guildford Castle and Steyning assemblages added to this data-set. Although sample sizes were small, the Vatteville assemblage allowed some cross-channel comparisons to be made.

1.5vi: Historical Evidence

Whilst my thesis is grounded in zooarchaeology, the wealth of documentary evidence for the eleventh and twelfth centuries must be taken into account. The events of 1066 inspired many writers to analyse the Conquest and the people involved. Amongst these are William of Jumièges's '*Gesta Normannorum Duccum*' (The Deeds of the Dukes of the Normans) and William of Poitier's '*Gesta Guillemi Ducis*' (the Deeds of Duke William); Orderic Vitalis's '*The Ecclesiastical History*' and William of Malmesbury's '*Deeds of the Kings of the English*' and '*Deeds of the Bishops of the English*' (Brown, 1984; Shopkow, 1997).

Because most documents of the late eleventh century relate to the Conquest itself, they are less informative about day-to-day life. The Anglo-Saxon Chronicle (Garmonsway, 1967), Domesday Book and the Bayeux Tapestry provide some useful information pertaining to rural conditions but in general, Anglo-Saxon documents yield more evidence on this subject. For example, the Cotton Tiberius Calendar, held at the British Library, depicts numerous scenes of seasonal activities. Similarly, the *Rectitudines Singularum Personarum* (Rights and Ranks of People) also details agrarian conditions (Douglas, 1959). Perhaps the most useful text concerning pre-Conquest life is Aelfric's Colloquy, an eleventh-century Latin school book, which provides an insight on activities from hunting and fishing to trade and cooking (Garmonsway, 1978). It is, therefore, evidence from these texts (albeit derived mostly from printed and secondary sources) which I have relied most heavily upon.

1.6: Chapter Outline

From the sections above, it can be seen that this research covers a wide spatial and temporal range, and deals with issues that are discrete but at the same time inter-linking. To avoid repetition I have structured the thesis so that Chapters 2 to 8 explore individual topics in their own right, whilst at the same time they build a wider zooarchaeological perspective of the Conquest's impact.

In Chapter 2, the French data-set, in particular that derived from Vatteville-la-Rue, will be examined in terms of the agricultural economy, provisioning system and wild resource exploitation. This overview forms the benchmark against which the British situation can be compared. In Chapter 3, for example, I investigate the pre- and post Conquest economy of England to determine whether the Normans influenced systems of animal management or provisioning. Issues of Norman-instigated commercialisation are also examined by studying the development of animal-based craft activities.

Analysis of the animal economy is continued in Chapter 4, where the development of the fishing trade is viewed against wider patterns of wild resource exploitation. In this section of the thesis, I use contextual analysis of wild animal representation to investigate whether the Norman introduction of Forest Law altered perceptions of either the hunting landscape or the social significance of game. Findings from this chapter are developed further in Chapter 5, where I argue that shifts in deer skeletal representation reflect the introduction of new Norman hunting traditions.

The possibility that changes in wild mammal exploitation were somehow related to the introduction of fallow deer is examined in Chapter 6. In this section I reconsider the archaeological evidence for this deer species to determine whether the Normans should be attributed with its introduction. A similar approach is applied to question whether the Normans are correctly labelled as the importers of rabbits. In Chapter 7 attention is given to the historical and archaeological evidence for this animal and I propose a new biometrical method to assist with the definition of their introduction date.

Dietary choices are enmeshed in social, cultural and economic systems. The study of consumption practices, presented in Chapter 8, reconsiders the evidence presented in the preceding sections to determine whether the Normans impacted upon Saxon cuisine. This is investigated from three perspectives: through the study of food processing; by examining whether expressions of piety become more overt in the post-Conquest period; and by considering the development of dietary hierarchy.

The findings from all of these chapters are finally drawn together in Chapter 9 to re-examine the validity of the widely held belief, that the Norman Conquest is archaeologically invisible.

Chapter 2: The French Data-set.

It has long been recognised that conquests cannot be fully understood without examining evidence from the area whence influence was supposedly derived (Coy, 1982: 107, Brown, 1984:xvi). Analysis of the eleventh/twelfth-century assemblage from Vatteville-la-Rue formed, therefore, a vital part of my research. The material from this site was composed almost entirely of food waste, providing considerable information concerning the diet of the Norman elite. As a single site, however, evidence pertaining to the socio-economic set-up of medieval France was lacking and it was deemed necessary to view the Vatteville material in a wider setting. Unfortunately, only one other assemblages from Normandy, that from the tenth to twelfth-century seignuerial site of Grand Besle (Lepiksaar, 1966-68) was available for comparison. In order to increase sample sizes and obtain evidence for other site-types, data from other areas of northern France were synthesised and the results are presented in Appendices I-VI.

In Appendix Ibi the data are divided into two date groups: 'pre-Conquest' (seventh to tenth century) and 'post-Conquest' (eleventh to thirteenth century). Because little inter-period variation was noted, and because sample sizes are small, data from the two period-groups have been combined for much of the analysis.

By considering this data-set it is intended that an understanding of French animal management and distribution systems will be obtained. Site-type based analysis may also reveal inter-site variation in assemblage composition, potentially informing on status-based inequality in resource allocation and the use of animals to communicate wealth. In addition to socio-economic evidence, the French assemblages will also hold information concerning cultural preferences. Archaeological evidence for these will, however, become tangible only through comparison with the evidence from pre- and post-Conquest England. This chapter provides, therefore, an outline of the French situation which will be developed through the course of this thesis.

Table 8: The Vatteville assemblage in terms of fragment counts (NISP).

	11th/12th century		**13th century**		**14th century**		**12th-15th century**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
MAMMALS								
Domestic Pig *Sus* f.	218	33	28	20	16	11	824	30
Domestic Cattle *Bos* f.	101	15	52	37	41	28	476	17
Sheep/Goat Caprine	71	11	19	14	17	11	270	10
Domestic Goat *Capra* f.							1	
Domestic Horse *Equus* f.	2				2	1	9	
Domestic Dog *Canis* f.	6	1	1	1			10	
Domestic Cat *Felis* f.	1		2	1			33	1
Red Deer *Cervus elaphus*	57	9	15	11	40	27	311	11
Roe Deer *Capreolus capreolus*	21	3			2	1	40	1
Fallow Deer *Dama dama*							17	1
Brown Hare *Lepus europaeus*	2						30	1
Rabbit *Oryctolagus cuniculus*	1						7	
Badger *Meles meles*							3	
Sheep-Size	349		65		33		1137	
Cattle-Size	127		49		47		581	
BIRDS								
Domestic fowl *Gallus* f.	164	25	18	13	23	15	589	21
Goose *Anser* spp	7	1			4	3	36	1
Duck *Anas/Aythya* spp			1	1			3	
Teal *Anas crecca*	1						3	
Swan *Cygnus* spp	3						4	
Heron *Ardea* spp	1						1	
Woodcock *Scolopax rusticola*	2		1	1			18	1
Pheasant *Phasianus colchicus*					4	3	9	
Grey Partridge *Perdix perdix*	1						6	
Pigeon Columbidae	1						5	
Grouse Tetraonidae							3	
Peacock *Pavo cristatus*							1	
Lapwing *Vanellus vanellus*							2	
Golden Plover *Pluviualis apricaria*							2	
Curlew *Numenius arquata*							1	
Godwit *Limosa limosa*							4	
Peregrine falcon *Falco peregrinus*							1	
Tawny Owl *Strix aluco*							12	
'Falcon' *Falco* sp							2	
'Gull' *Larus* sp							1	
'Corvid'	1		1	1			8	
'Small bird'							9	
Unidentified	1155		284		185		5773	
Grand Total	2292		536		414		10242	

2.1 Cattle, Sheep and Pigs

2.1i: Relative frequencies

Table 8 shows, by phase, the taxa representations for the Vatteville assemblage. Without doubt, cattle, sheep and pig remains form the bulk of the material, accounting for between 50 and 71% of the identifiable fragments. Their relative frequencies are presented in Figure 13a-d and it can be seen that the ratios of the main domesticates fluctuated through time. In the eleventh/twelfth century pigs were seemingly the dominant taxa, accounting for 56% of the material. Such a high frequency fits with the synthesised data provided in Figures 14a-c, where both town and high-status assemblages are dominated by pigs. The abundance of pigs on French sites is well known and is generally attributed to the heavily wooded French landscape, an environment suited to pig husbandry, where animals could be turned out to forage for acorns and beech nuts (Audoin-Rouzeau, 1997:74).

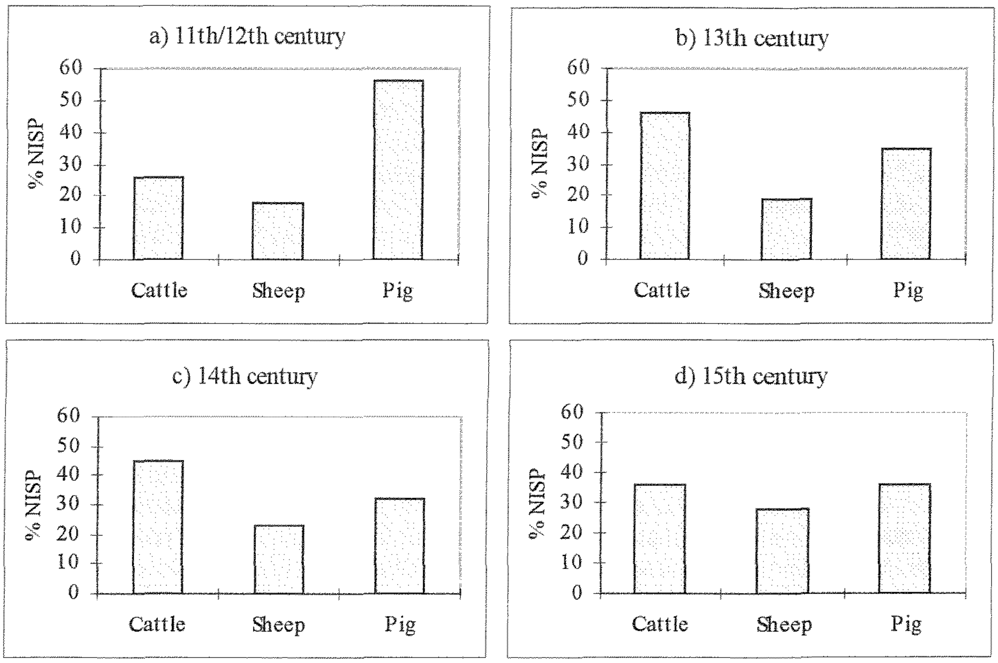
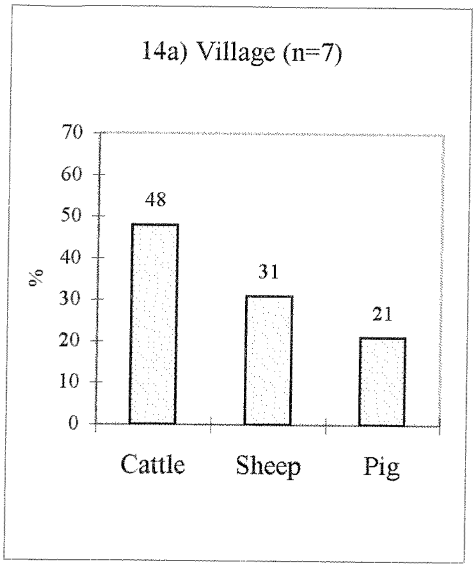
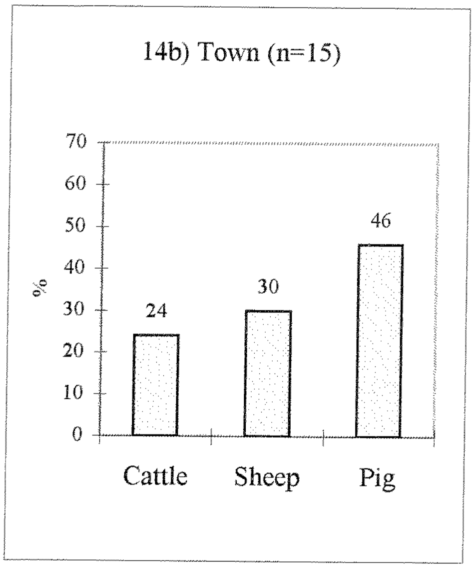
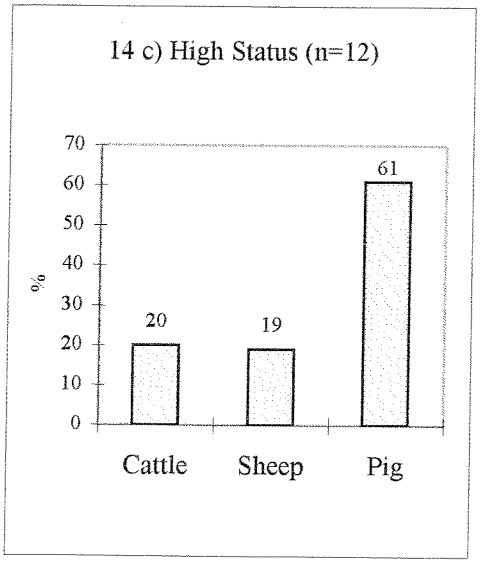


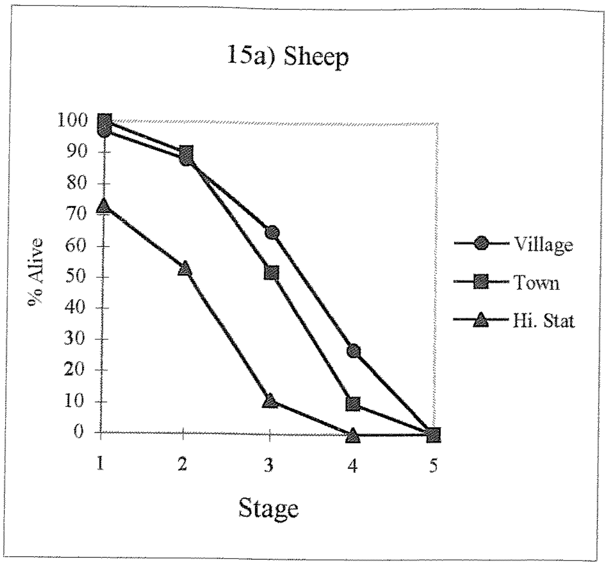
Figure 13: Relative frequencies, by period, of the main domesticates in the Vatteville assemblage (NISP and MNI counts).

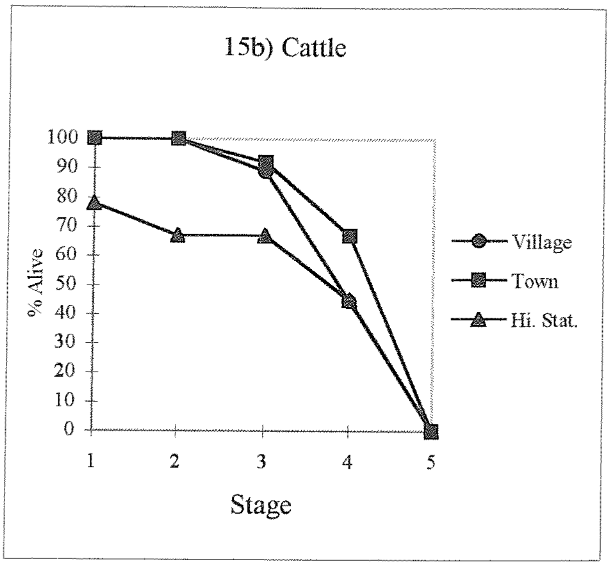
Figures 14 and 15: Taxa Ratios and Cull Patterns, by site type and animal (respectively), for Medieval France

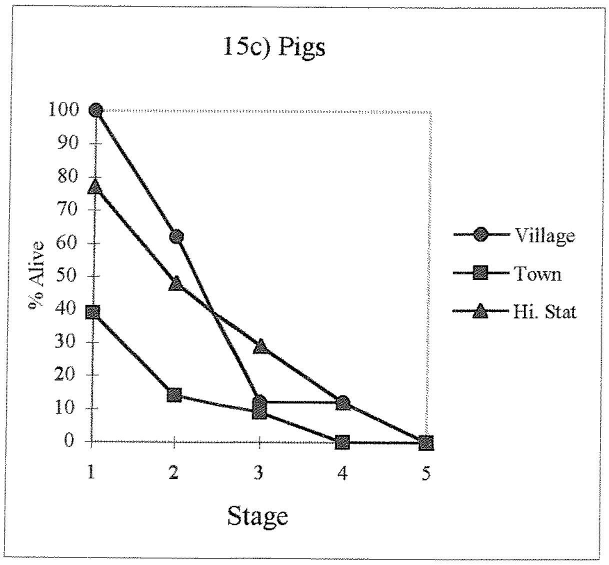

14a) Village (n=7)


14b) Town (n=15)


14 c) High Status (n=12)


15a) Sheep


15b) Cattle


15c) Pigs

According to Comet (1997:21), pannaging gradually became less common during the medieval period and by the fifteenth century most pigs were kept in sties. Such home-production would have been less conducive to the maintenance of large pig populations and it may be for this reason that both the synthesised data and that for Vatteville show a decline in pig frequencies. This reduction was compensated for by a rise in the abundance of cattle and, in particular sheep: Appendix Ibi (page 287) shows that both villages and towns display a slight pre- to post-conquest shift in the pig to sheep ratio. Audoin-Rouzeau (1997:76) also recognised a widespread increase in sheep frequencies and argued that it reflects the growth in the importance of wool in the medieval French economy.

2.1ii: Ageing Data

The theory that wool gradually became a more important commodity is supported by Yvinec's work (1998: 125). He noted that the average age-at-death for sheep increased during the course of the medieval period, suggesting that farmers were attempting to gain the maximum number of wool clips before slaughtering their animals. Cull-patterns for French sheep are shown, by site type, in Figure 15a. Those for villages and towns demonstrate clearly that at least 50% of animals were kept beyond two years of age (stage 3), with a significant number (between 10-30%) being maintained past stage 4 (2-8 years of age). By modern standards, these individuals were past their prime as meat animals, indicating that they were raised for reasons other than their flesh.

That sheep were used as dairy animals is indicated by the presence of very young animals, especially on high-status sites. By culling lambs before the end of their mothers' lactation period, the remaining milk would have been released for human consumption. Few sheep mandibles were recovered from the Vatteville assemblage but six did provide ageing data that fits with the age structure suggested by Figure 15a. Thus, it may be conjectured that in medieval France sheep were a multi-purpose animal, being managed not only for their meat but also for milk, wool and probably manure.

To some extent, the ageing data for cattle (Figure 15b) show the same pattern as that for sheep, indicating that secondary products were as important as meat, if not more so. Use of cattle as dairy animals is again testified by the significant presence of juveniles in high-status assemblages. In general, however, cattle were kept to adulthood, with the majority of animals being slaughtered after age stage 4 (2-6 years). Whilst many of these older individuals would have been used both for breeding and dairying, it seems likely that their main role was as plough animals. Comet (1997:11) has argued that climatic changes in the early eleventh century improved crop yields and encouraged concentration on arable production. Use of cattle in plough teams must, therefore, have been fundamental to the French economy, although in many areas of northern France the horse had also been adopted as a plough animal by the twelfth century (Postan, 1966:154).

Pig cull-patterns are diametrically opposed to those for cattle. Figure 15c shows that, regardless of site type, the majority of pigs were slaughtered before the end of their second year (stage 3). This slaughter strategy is unsurprising since pigs provide few secondary products to justify their maintenance beyond the point of their optimum meat-weight. Despite this, there does appear to be considerable inter-site variation in the age patterning for pigs, and indeed, the other two taxa. It seems feasible that this inter-site disparity is related to the supply mechanism and this possibility will now be considered.

2.1iii: Provisioning Systems

In a simple provisioning model, ‘producer’ sites are generally distinguished by the presence of young and old animals, representing infant mortalities and breeding stock, respectively. By contrast ‘consumer’ assemblages tend to consist of a higher frequency of prime meat animals (Wapnish and Hesse, 1988:84). Although sample sizes for French ageing data are small (Appendix IId) and thus provide insufficient resolution for a detailed investigation of the situation, the cull pattern, especially those for pigs, do conform to Wapnish and Hesse’s model. For example, Figure 15c shows that the majority of urban pigs (60%) were culled at a specific age (before 7 months - stage 1). Such a slaughter strategy would be insupportable on a self-sufficient site and the absence of neonatal animal indicates that pigs were not being raised in towns. Instead, it would seem that livestock were raised on rural sites, as a cash-crop, specifically for supplying consumer populations with prime meat animals; an idea supported by the lack of juveniles in village assemblages. The selectivity of the cull-patterns for urban sites is suggestive of consumer demand, with the townsfolk requesting animals of a certain age. The low frequencies of cattle in town assemblages may also reflect consumer demand: their cull-patterns show that the urban population received the oldest available individuals whose meat would have been tough and, thus, was perhaps shunned by the towns inhabitants. Taxa representations for town and high-status sites show little similarity to village patterning. Certainly the animals supplied to the consumer population do not suggest a situation where agrarian production impacted upon resource distribution. Indeed, the high percentage of meat animals in the town and high-status assemblages may indicate that consumer demand was sufficient to influence the rural economy.

An opposing situation is apparent for producer sites and Figure 14a demonstrates that, by contrast to high-status and town sites, cattle are commonly the dominant taxon within rural assemblages, with pigs being present only in low numbers. This lack of pigs is surprising when it is remembered that the availability of pannage would have enabled pork to be produced at little cost to the peasants. However, the composition of village assemblages suggests that, rather than raising animals specifically for meat, the rural population obtained flesh-foods from animals which had spent several years providing secondary products. The diet of the village population appears, therefore, to have been dictated by the agricultural economy and consumer demand, causing the peasants to have little choice over their flesh-foods.

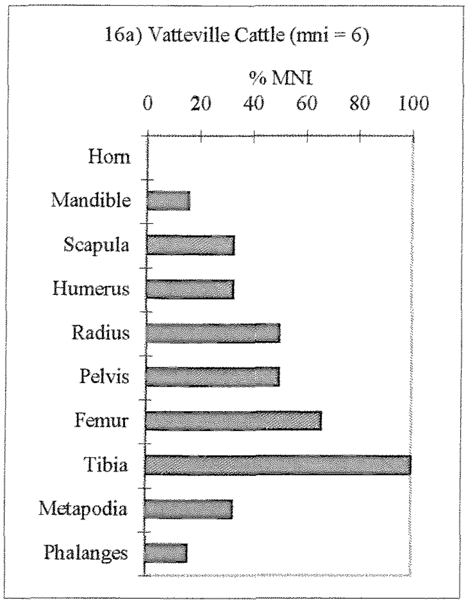
Whilst there is an obvious divide between producer and consumer assemblages, an element of status-based variation is also apparent. For example, although pigs are abundant in both town and high-status assemblages, they are significantly better represented on the latter site-type. Furthermore, both the cattle and sheep cull-patterns demonstrate that high-status sites were receiving larger numbers of animals aged under 6 months. In the case of sheep, Figure 15a indicates that just 10% of individuals were over two years of age at the point of slaughter. Such a preponderance of juveniles could be a reflection of the elite's ability to demand the tender meat from animals slaughtered at an uneconomic point in their development. Alternatively, factors other than commercial trade may have been responsible for this provisioning pattern.

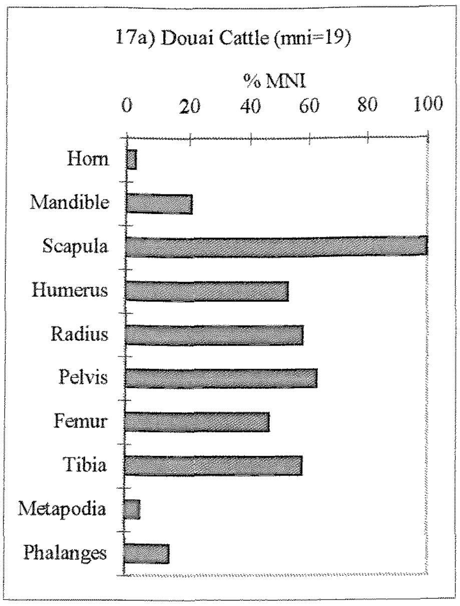
Historical evidence suggests that the French elite received a significant percentage of their supplies through food rents systems, whereby the rural population paid animal tributes to seigneurial and religious authorities in return for land use or pannage rights (Le Blay, 1993). In a situation where 'food' was the main concern, an emphasis on meat-animals is perhaps unsurprising. Pigs would have been the most suitable food rent animal because, as has been mentioned above, they could be raised cheaply and provide no secondary products, so the peasants would have lost no income through their slaughter. Production costs may also explain why the elite were provided with large numbers of infant animals. Although at face value it appears that these animals were slaughtered at an 'economically irrational' point, O'Connor (1992:104) has argued that surplus animals may have been culled because the potential cost of raising them to adulthood was too high. As such, individuals slaughtered as by-products of the dairy process would, like pigs, represent ideal food-rent animals.

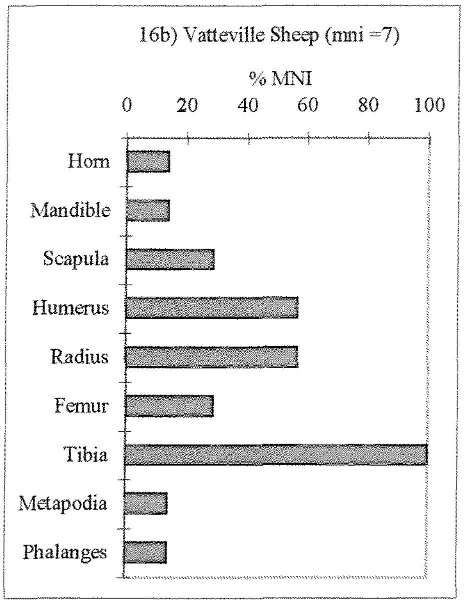
There exists, however, the possibility that the tender meat from these young animals would have fetched a good price if sold at market. That juveniles arrived at high-status, rather than urban, sites may indicate that the French aristocracy had some control, either legal or monetary, over their supplies.

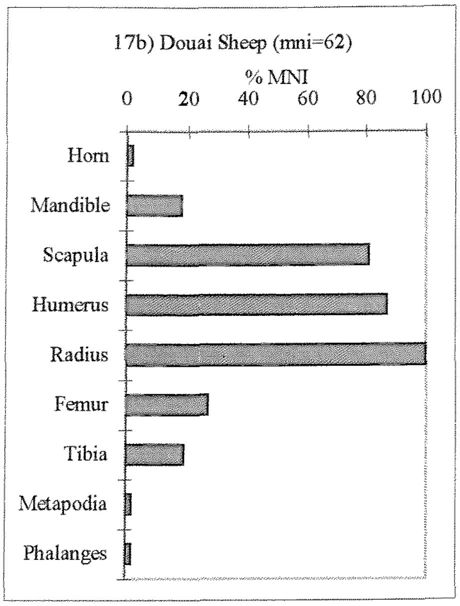
Skeletal representation data support the idea that the elite were able to requisition the best quality foodstuffs. Although few French reports provide anatomical representation data, Figures 16a-c show the body part patterns for Vatteville's eleventh/twelfth-century domesticates. It is clear that cattle were well represented by meat bearing bones, in particular those from the hind limb, but that head and foot elements were less numerous. The graph for sheep demonstrates a similar lack of extremities, with the pelvis and femur also being under-represented. Instead, the assemblage was composed almost exclusively of scapulae, humeri, radii and tibiae. Since the Vatteville assemblage comprised mostly food waste, the absence of head and foot bones may be accounted for by the fact these

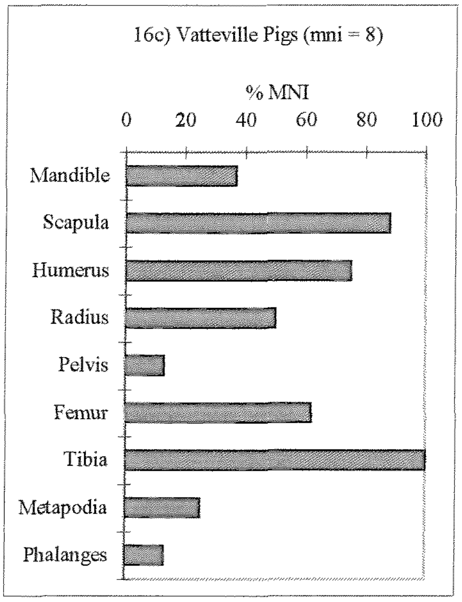
Figures 16 and 17: Body part patterns for a) cattle, b) sheep and c) pigs from Vatteville and Douai.

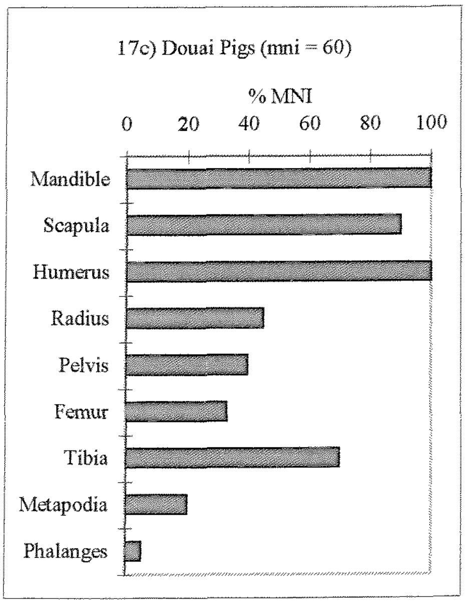

16a) Vatteville Cattle (mni = 6)


17a) Douai Cattle (mni=19)


16b) Vatteville Sheep (mni =7)


17b) Douai Sheep (mni=62)


16c) Vatteville Pigs (mni = 8)


17c) Douai Pigs (mni = 60)

elements are usually removed during primary butchery. The selectivity of the sheep assemblage is, however, surprising as it might be expected that the meat-bearing elements of the hind limb would be equally represented. A considerable portion (10%) of sheep bones had been gnawed (Table 9, page 43) and it seems possible that the observed patterns reflect inter-element variation in survival rates, due to carnivore activity. As Lyman (1994) and other authors have demonstrated, dogs will consume bones, such as the femur, in preference to those of higher density (for example the tibia and humerus).

Whilst non-cultural taphonomy may explain the anatomical frequencies at Vatteville, the similarity of their patterns to those from other French high-status sites suggests human involvement. At the castle site of Douai (Vadet and Villette, 1986), for example, the assemblage was also characterised by a high frequency of sheep and cattle shoulder elements (Figure 17a-c). Again, neither animal was represented by head or foot bones.

Further body part data, from all site types, would be required before definite conclusions can be drawn but the current evidence suggests that cattle and sheep were sent to high-status sites in a pre-butchered form, with specific meat joints (the shoulders or haunches) being preferentially selected. Such an idea does not conflict with the theory of a food-rent system as there is historical evidence to suggest that rents often consisted of set body parts: Anglo-Saxon texts, for example, commonly referred to 'flitches' rather than living animals (Hagen, 1998b). A comparable system that might explain the French cattle and sheep body part patterns is that for late medieval Poland, where butchers were required legally to send the shoulder joints of all animals slaughtered to their local castle (Lasota-Moskalewska, 1984:159)

The body part patterns for the Vatteville and Douai pigs are different to those for cattle and sheep, with most parts of the skeleton, including heads, being represented. Foot bones remain scarce but since pig metapodia and phalanges are small, their absence could, in part, be explained by poor recovery. Certainly there are few medieval sites, either in France or England, where pig trotters are well represented (Chapter 3.3). From this it may be argued that pigs were sent to high-status sites either as complete carcasses or on-the-hoof. Finds of neonatal remains at Vatteville, Douai (Vadet and Villette, 1984) and in the high-status contexts from Place des Hallettes (Yvinec, 1997: 199) indicates that some pigs were also being raised on-site.

Butchery data, recorded during analysis of the Vatteville assemblage, reinforces the theory that pigs were obtained through a different mechanism to cattle and sheep. Sample sizes are insufficient to allow the reconstruction of species-specific butchery traditions but it is clear that patterns for pigs are unlike those for the other taxa. Most obvious is the variation in disarticulation method (Tables A and B, Appendix Vc). Whereas cattle and sheep bones display a high frequency of chop marks, most probably delivered by a meat cleaver, pigs were butchered more frequently with the use of a knife: cut marks account for 47% of pig disarticulation compared to just 5% in cattle and 31% in sheep. This variation in tool use cannot be related to animal size, since both the largest and the smallest taxa were butchered primarily with a meat cleaver. Instead, the disparity in techniques may represent the difference between professional and non-professional butchery. Pigs, for example, may have been butchered inside the castle itself; the paved area, or 'dalle' (area 'A' Figure 3c), which exhibited drainage gutters would have been an ideal area for such butchery to have taken place. By contrast, specialists may have been responsible for sheep and, more specifically, cattle disarticulation. The latter suggestion is supported by the presence of saggitally split cattle vertebrae: Table F1 Appendix Vc shows that 28% of cattle vertebra had been butchered in this way. According to Grant (1987:56), the practice of dividing carcasses into equal sides emerged under the influence of specialist butchers.

From the butchery, anatomical representation and ageing evidence it would seem that French high-status sites received supplies in two ways. In the case of cattle and sheep, it might be proposed that the social elite obtained, most probably from professional butchers, pre-butchered joints of meat from young individuals that were surplus to agricultural production. Whether this was a monetary arrangement or one grounded in a food-rent system is uncertain. Pigs, however, were seemingly supplied by the rural population, although there is evidence to suggest that some were raised, and culled, on-site. They appear to have been disarticulated by non-specialists whose methods were less standardised, relying variously upon knives and meat-cleavers.

On the basis of the evidence available it appears that the French provisioning system was more complicated than market-based exchange. Nevertheless, the fact that high-status assemblages contained large numbers of meat-bearing bones (those from the shoulder and the haunch) from the most tender animals, suggests that the elite were in control of their supplies.

2.2 Domestic Birds

Domestic fowl comprised 25% of the twelfth-century assemblage from Vatteville; indeed, the total NISP shows domestic birds to be more numerous than either cattle or sheep. In terms of meat-weight fowl would, of course, have taken a secondary position to the large mammals. Nevertheless, birds obviously constituted a major component in the diet of Vatteville's occupants. This is seemingly the case for other high-status sites; the assemblages from Douai (Vadet and Villette, 1986) and Château de Mayenne (Powell, 1998) also contained large numbers of bird bones. Indeed, domestic birds are generally well represented on all site types, perhaps with the exception of villages.

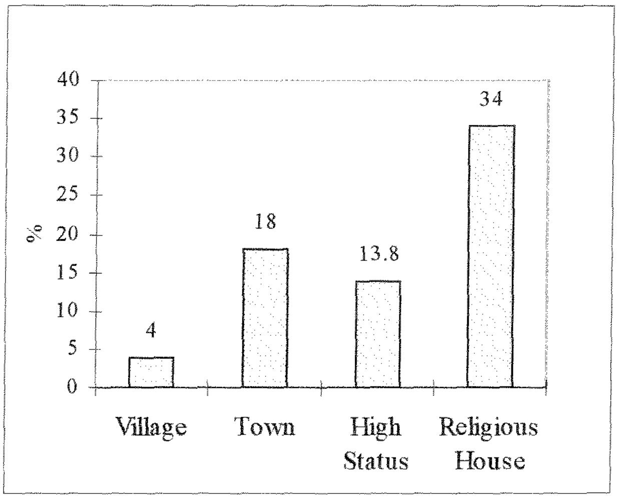


Figure 18: Relative frequencies of domestic birds within French assemblages (expressed as a percentage of fragment count totals)

Figure 18 shows that monastic assemblages are characterised by an abundance of domestic birds. It should be recognised, however, that the results for religious houses are based on low sample sizes and are skewed by the assemblage from Charité-sur-Loire, which contained an unusually high frequency (34%) of bird bones (Audoin-Rouzeau, 1986).

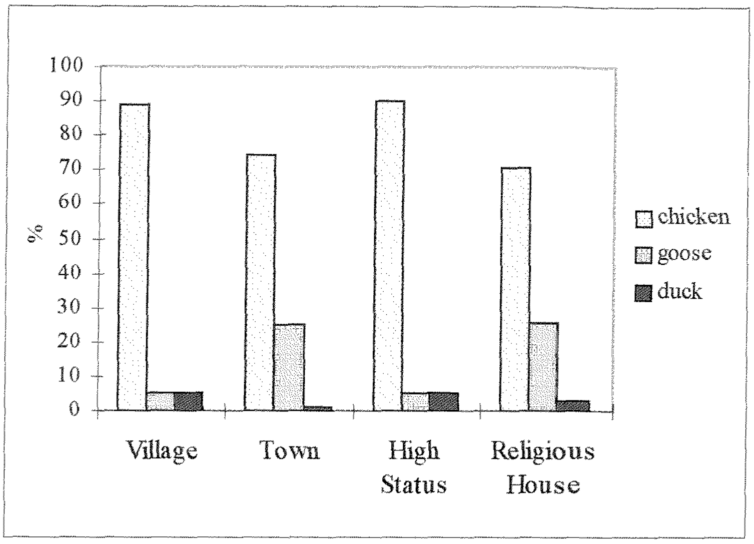


Figure 19: Relative frequencies of chicken, goose and duck on French sites

Chickens were the dominant taxon within the Vatteville's domestic bird assemblage, comprising 94% of the fragment count. Figure 19 suggests that such high percentages are typical of all French sites. The reason why chickens were generally the preferred species must surely be related to their unique value as egg producers. This idea is supported by the evidence from Vatteville. A study of the presence/absence of spurs on the tarsometatarsal bone demonstrated that 12 of the 63 recovered had spurs. From this it can be conjectured that the majority (81%) of individuals represented were probably female, although it should be remembered that male and capon tarsometatarsi do not always display evidence of spurs (Sadler, 1991). Better evidence for the importance of egg production is, perhaps, provided by the large number of specimens that demonstrated medullary bone; a calcium deposit stored (in preparation for egg-laying) in the marrow cavity of the main limb bones. Medullary bone was not specifically searched for or recorded but it was found to be present in a high proportion of the broken bones in the Vatteville assemblage, suggesting that many of the hens were 'in lay' at the point of their slaughter.

Villages exhibit chicken:goose:duck ratios similar to that of high status sites but the disparity in frequency of domestic birds on high-status and village assemblages (Figure 18), suggests that chickens were an expensive luxury, forming but a small part of the peasant's diet.

Town and monastic assemblages show much higher frequencies of goose than the other sites. Geese may have been favoured within urban environments because of their suitability to being kept, and indeed bred, within confined spaces. Since religious houses would presumably not have been subject to space restrictions, the presence of goose may reflect other factors; perhaps goose flesh was considered a suitable food for men of the cloth (see Chapter 8). Domestic ducks are not well represented on any site-type but whether this was due to dietary preference or lack of availability is less clear.

Butchery marks were present on just 1% of the bird bones (Table 9), suggesting that carcasses were cooked whole, after which the meat would have come away from the bone without requiring a knife. Roasting would have been a suitable method of cooking, and the fact that a higher percentage of birds than mammals (although still only 1%) exhibited burning indicates that this practice may occasionally have been employed.

	Total	% Gnawed	% Burnt	% Butchered
Pig	1076	14	0.09	10
Cattle	670	15	0.1	28
Sheep	377	10	0.5	8
Birds	1310	0.07	1	1
Deer	488	8	0	22

Table 9: Taphonomic evidence for the Vatteville assemblage.

2.3 Horse, Dog and Cat

The Vatteville assemblage produced horse, dog and cat only in low frequencies, their cumulative total being 1.7% of the assemblage. Their absence among the food-refuse assemblage of Vatteville is not surprising, as in the medieval period none of these animals were, generally, eaten. Indeed, from AD 732 consumption of horse flesh was banned by Pope Gregory III, due to its association with pagan rites (Simoons, 1994). As a result, their remains are seldom found incorporated with food refuse and are more frequently recovered from non-domestic features, such as boundary ditches.

2.4 Wild Mammals

Hunting appears to have been an important pastime for Vatteville's occupants. According to the *Recueil des Actes des Ducs de Normandie* Vatteville had its own game reserve by 1082/87 (cited in Gilbert, 1979). Wild mammals constitute a significant portion of the total assemblage: red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), hare (*Lepus*) and wild boar (*Sus scrofa*) were all identified as were rabbit (*Oryctolagus cuniculus*) and fallow deer (*Dama dama*). The presence of the latter two animals is particularly interesting as neither is native to northern France and both are believed to have been introduced during the medieval period (their presence in the Vatteville assemblage will be considered further in Chapters 6 and 7).

Wild mammals constituted 12% of Vatteville's twelfth-century assemblage (18% when only cattle, sheep and pig are considered). This percentage of game is much higher than the average for other French eleventh- and twelfth-century seigneurial sites. For example, Yvinec (1993) has shown that the average percentage of wild mammals (to domestic animals) to be between 2-5%.

Figure 20: Frequency of wild mammals (relative to domesticates) on French sites (after Yvinec, 1993)

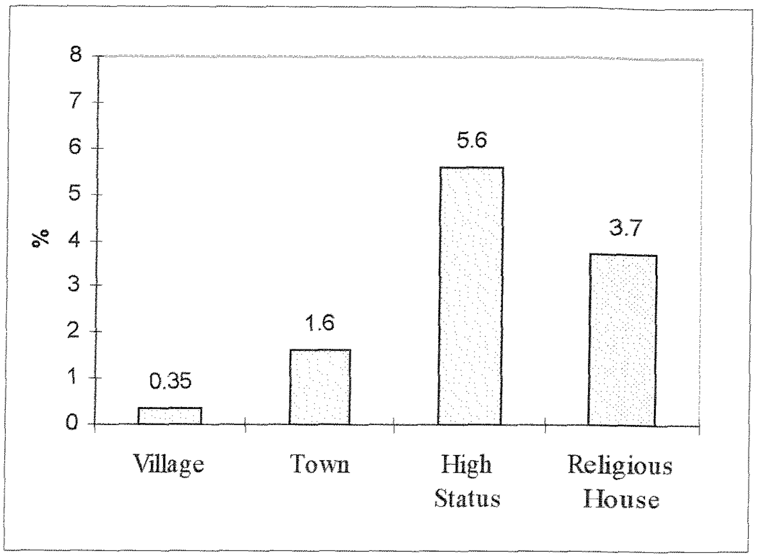


Figure 21: Relative frequencies of wild taxa on French sites (using data from Yvinec, 1993)

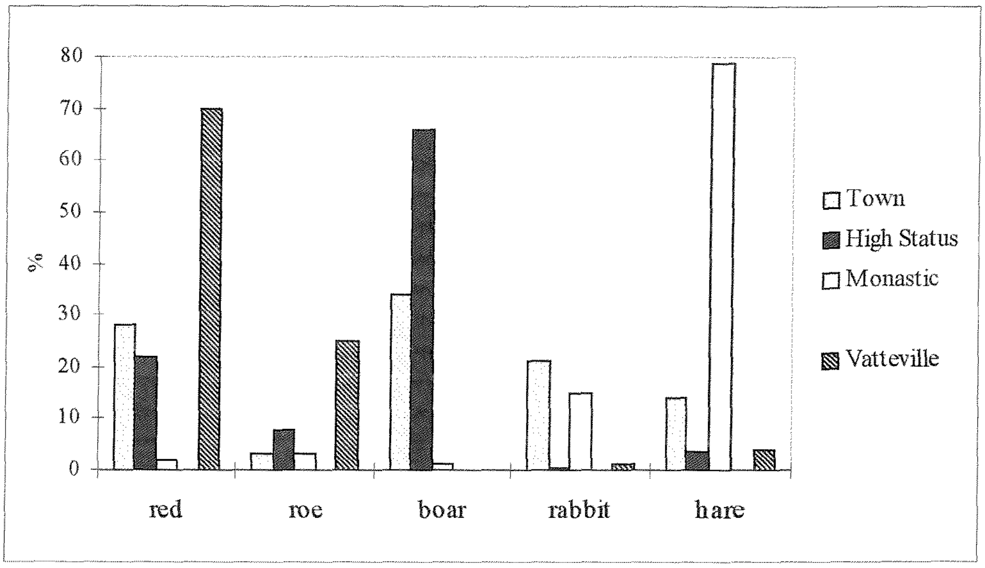


Figure 21 demonstrates that Vatteville's representation of wild taxa is also different to that found on sites studies by Yvinec. Whereas he found seigneurial sites to contain high frequencies of wild boar (an animal which Lepetz *et al.*, 1995, suggests were targeted to display the hunter's valour), these animals were largely absent in the Vatteville assemblage. Although it can be difficult to separate wild and domestic pigs, metrical analysis of the pig teeth from Vatteville demonstrated that only two teeth were of a size comparable to wild boar (Appendix IVc, Table 4a). This confirms that the majority of pig bones in the assemblage are more likely to represent domestic than wild individuals. Yvinec (1993:498) argued that a lack of wild boar is characteristic of monastic assemblages, which he suggests is related to the violence involved in the hunting of these animals. Certainly, Figure 21 shows monastic assemblages to be typified by a dearth of wild boar. Instead there is an abundance of hare which, according to Yvinec (1993:946), reflects the fact that their consumption was authorised in a number of medieval penitentials.

Rather than wild boar or hare, the Vatteville material was dominated by deer, in particular red deer, which comprise 95% of the wild assemblage. The remaining 5% were hares and rabbits. Vatteville does not, therefore, seem to fit the expected patterns for seigneurial or ecclesiastical sites, either in terms of total percentage of game or taxa representation. Yvinec (1993:498) does mention one unpublished assemblage, from the site of Ecuelle-Ravanne, where the situation is similar to that found at Vatteville. On this site wild mammals account for 20% of the hunted assemblage and red deer are the most abundant species. Ecuelle-Ravanne was originally described as a seigneurial farm but Yvinec suggests that it may be a hunting lodge. Considering Vatteville's proximity to two well known hunting grounds, it seems highly probable that the castle also functioned as a hunting lodge, from where deer were specifically targeted. Alternatively, it may be found that as more zooarchaeological studies become published, further sites containing high frequencies of game, in particular deer, will be recognised.

At present, even with limited evidence, there is an obvious status-based variation in the representation of wild animals (Figure 18). Whilst the dearth of game on lower-status sites may reflect the lack of time the farming and urban population could devote to hunting, there is historical evidence to suggest that other restrictions may also have been in place. According to William of Jumièges (*Gesta Normannorum Ducum*), the peasants of Normandy revolted in 996 because their common rights in woods and fisheries were being appropriated by the elite (Hilton, 1992:16). This move towards the control of hunting rights represents the revival of the Carolingian forest system, which was later introduced to post-conquest England (Chapter 4). Wickham (1994:161) has argued that

Europe's history of hunting closely mirrors that of its socio-political change. It is, thus, interesting to note that the imposition of the forest system occurred at approximately the same point that Normandy's social hierarchy was re-organised, with Frankish families, such as the Tosnys and the Bellêmes (who were later to play a significant role in Anglo-Norman affairs) being incorporated into the aristocracy (Bates, 1982:34).

The restrictions placed on hunting may explain why town assemblages demonstrate a relatively high frequency of rabbits and hares. These taxa, being small, would have been easier to poach and smuggle than larger mammals, and it might be imagined that rural folk occasionally sold these animals within urban markets. Figure 21 also exhibits the presence of red deer and wild boar, suggesting that some meat from the larger game mammals did percolate into towns, most probably supplied by organised hunters, either legitimate or illicit.

2.4i: Butchery and Preparation of Game

Examination of Vatteville's deer butchery and body part patterns (synthesised for all periods) revealed some interesting patterns. In terms of butchery, it was clear that deer carcasses were not processed in a similar way to cattle and sheep. Rather than a meat-cleaver, they were butchered using a knife: cuts accounted for 63% of the disarticulation marks. From this it might be suggested that, as with pigs, butchery was not undertaken by specialists. Instead, they were most probably processed either by the hunters themselves or by a kitchen worker. Again the 'dalle' ('A' on figure 3c) would have been an ideal location for such butchery to have taken place.

At a more detailed level, the butchery patterns reveal some marks that were almost specific to deer. One mark in particular (number '9', detailed in Figure 22) occurred consistently on deer tibia, being found on 50% of those butchered. By contrast only 17% of cattle and 13% of sheep tibia demonstrated this pattern. Lauwerier (1988) has suggested that mark '9' might be produced during the boning-out of meat. If Vatteville did function as a hunting lodge, venison could have been processed, perhaps salted down, for onward transport. Certainly, the skeletal representation data (red, roe and fallow deer combined) suggests that portions of venison were exported. Figure 23 shows that, although all parts of the carcass are present, bones of the forelimb are under-represented compared to those of the hindlimb.

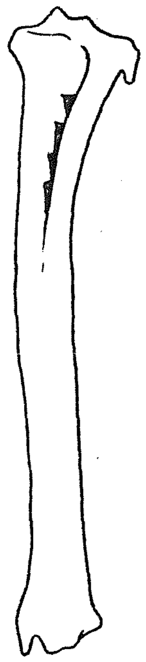
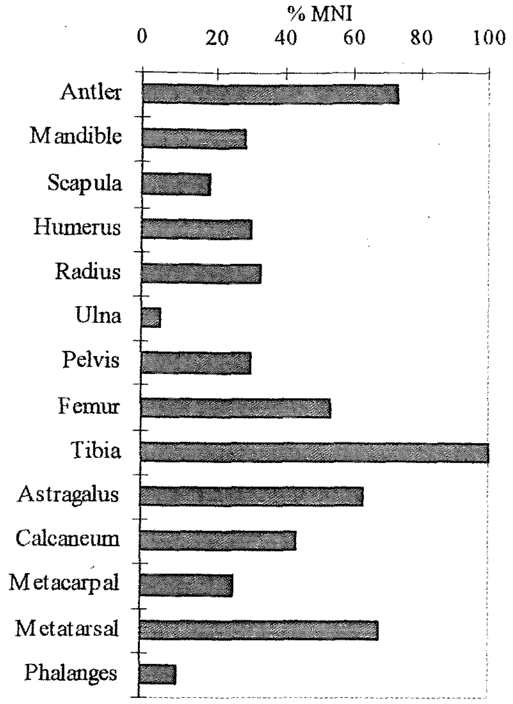


Figure 22: Characteristic butchery pattern for deer tibiae from Vatteville

Figure 23: Body Part Data for deer from 12th-15th century Vatteville



Since the metacarpals and metatarsals (elements with the same bone density) are not represented in equal numbers, the possibility that this pattern is caused by variation in bone preservation can be ruled out. Cultural taphonomy may, therefore, be responsible and it seems feasible that shoulders of venison were exported whilst the haunches were retained on site. Interestingly, similar body part patterns have been recognised for medieval England, and this phenomenon will be considered further in Chapter 5

Unusual body part patterns were also noted for the Vatteville hares. Their skeletal representation data is shown in Figure 24. It is immediately apparent that the hind limb foot bones greatly outnumber all other skeletal elements. Spatial analysis of the hare bone distribution revealed that 15 of the 20 hare foot bones (MNI 5, all from the left foot) came from the kitchen area ('B' on Figure 3c). No other hare specimens were recovered from this location. Yvinec (personal communication) has suggested that this body part pattern reflects the custom of hanging game, in order to improve its flavour. Traditionally, hare are suspended by the ankle, often by insertion of a hook into the gambrel space (see Figure 24). At Vatteville it seems possible that accumulation of foot bones represents feet that were severed when the animal was cut down. If the same person had been responsible for hanging all of the individuals represented, this might account for the fact that the accumulated paws were of the left side.

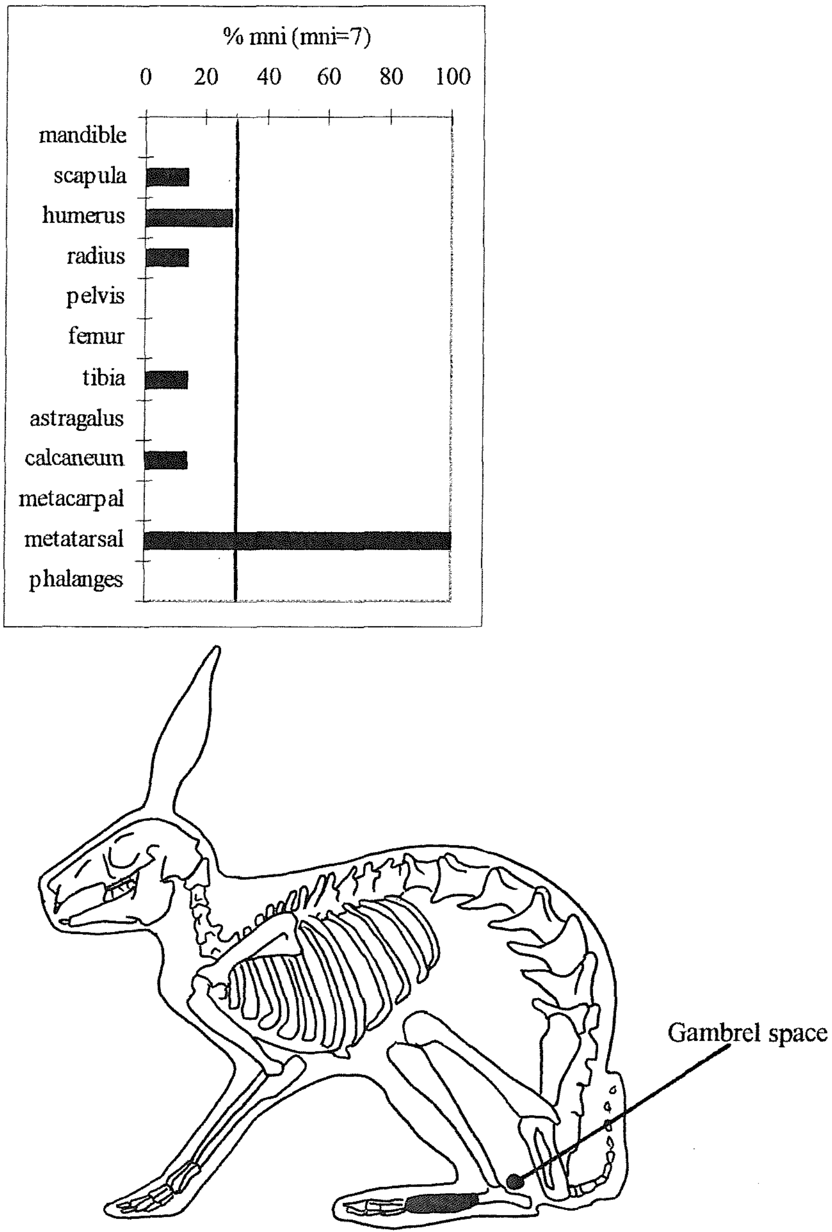


Figure 24: Body part patterns for Vatteville's hares.

2.5 Wild Birds

Wild birds comprised 1.5% of Vatteville's twelfth-century assemblage. Although this frequency is, seemingly, representative of other French high-status assemblages, it is lower than the average for town and monastic sites (Figure 25).

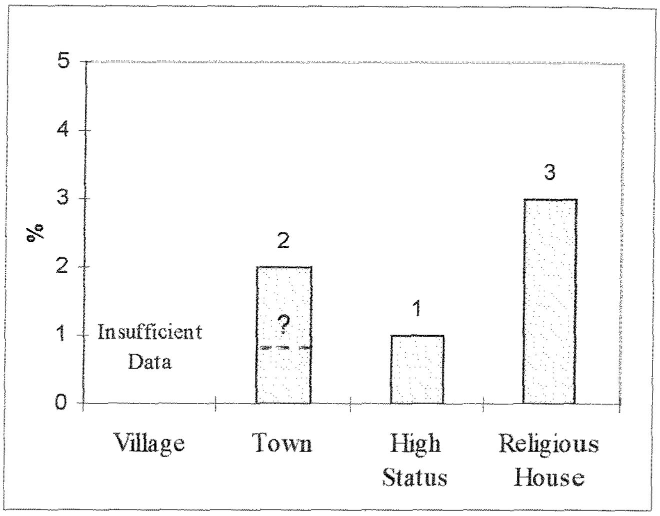


Figure 25: Frequency (as a percentage of the total assemblage) of wild birds on French sites

This data patterning may suggest that the consumption of wild birds did not carry connotations of high status in the way as those seen for wild mammals. Alternatively, status-based variation may have been masked by low sample size or data inaccuracies. Credence is added to the latter explanations when Figure 25 is compared to Yvinec's (1993:496) findings. His synthesis of French zooarchaeological data produced an average figure of over 2% for high status sites but less than 0.5% for towns, suggesting significant status-based inequality.

Re-examination of the data in Appendix Ia demonstrates that the assemblage from the urban site of Saint-Denis (Morel, 1985) contained a surprisingly large number of wild bird bones and Appendix Ie shows that most were identified as pheasant (*Phasianus colchius*). This species is notoriously difficult to separate from other galliforms and it seems possible that the 'pheasants' could actually be chickens; especially as neither

Audoin-Rouzeau's (1993) or Clavel's (2001) syntheses of zooarchaeological data showed pheasants to be well represented in Medieval France. Since the percentage of wild birds within urban assemblages could, potentially, have been inflated artificially by the Saint-Denis assemblage, the relative frequency was re-calculated without including Morel's (1985) data. This produced a figure (0.7%, shown on Figure 25 as a dotted line) which is more consistent with Yvinec's results.

That wild birds were incorporated into expressions of status is certainly indicated by the taxa representations for each site type (Figure 26). No information for villages was obtained but Lepetz *et al.*, (1995:179) mention that rural assemblages generally contain corvids and field birds, indicating that opportunistic trapping, rather than deliberate bird-catching forays, may have been the main method of acquisition.

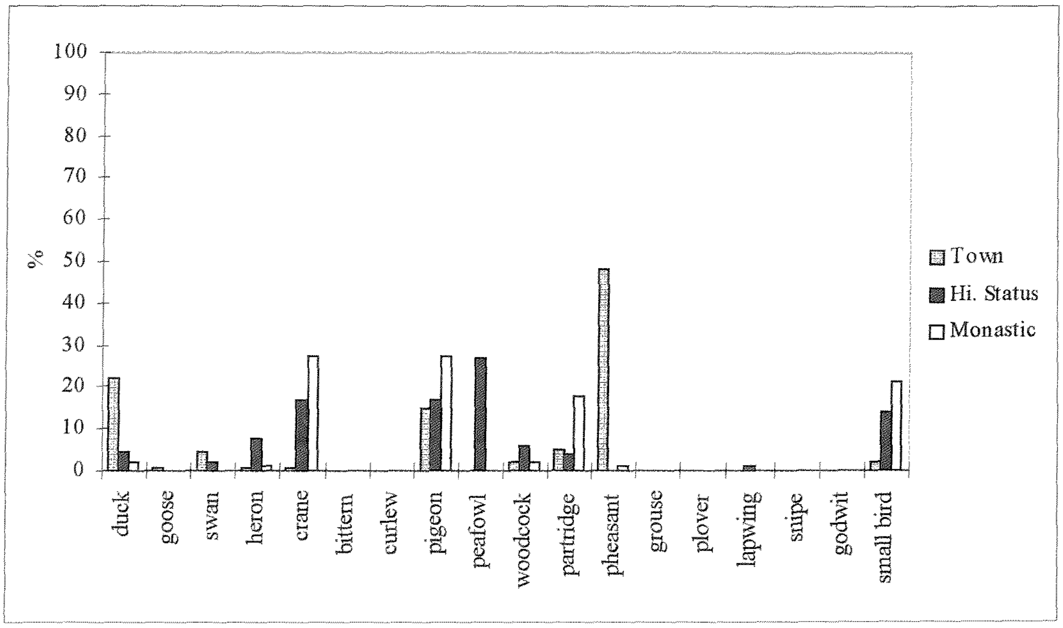


Figure 26: Relative frequencies of wild bird taxa on French sites

Small birds are not a feature of town sites but duck, pigeon and, in particular, pheasant are abundant. All of the pheasant specimens came from the site of Saint-Denis (Morel, 1985) and doubts have already been raised concerning their identification. If, however, their classification is correct, the fact that this taxon was absent on all other sites (with the exception of Charité sur Loire) may suggest that the inhabitants of Saint Denis had access to rare foodstuffs. Perhaps, their demand for these birds could have encouraged localised importation of pheasant from regions of southern Europe. In general, however, most of the wild birds brought to urban centres would have come from the surrounding countryside, as is testified by the presence of pigeon (*Columba* sp), woodcock (*Scolopax rusticola*), partridge (*Perdix perdix*) and crane (*Grus* sp). Aquatic birds, in particular duck (*Anas* sp) and swan (*Cygnus* sp), may, however, have been caught locally, most probably on the rivers, by which most medieval towns were situated.

Monastic assemblages are characterised by an abundance of crane, partridge and pigeon/dove bones. The presence of the latter taxon can most probably be accounted for by religious dietary laws (which will be discussed further in Chapter 8). According to Benedictine rule, pigeons/doves were not considered to be 'meat', and since they could be maintained in dovecotes they represented a reliable source of fast-day food.

Pigeons/doves are also a feature of high-status sites and other birds represented include heron and crane. The presence of these birds on high-status sites has also been observed by Lepetz *et al.* (1995:179). Another species apparently indicative of high status is the peacock (*Pavo cristatus*) whose remains have, to date, been recovered only from seigniorial sites, such as Andone in south-west France (Giles, 1991). The high-status associations attached to peacock are supported by historical evidence. For example, on the Bayeux Tapestry they are depicted on the roof of William I's palace (Thorpe, 1973) and even in the time of Charlemagne, these birds are said to have been kept on royal estates (Harvey, 1981). It should be noted, however, that all of the specimens represented in Figure 26, were derived from a single site, that of Place des Hallettes in Compiègne. According to Yvinec (1997:181), they were found in a context associated with feasting. A peacock coracoid was also found in the Vatteville assemblage but as it came from a poorly-dated context, it has not been included in the twelfth-century data.

The majority of wild birds represented in Vatteville's eleventh/twelfth-century assemblage reflect the environmental setting of the castle. Woodland birds, such as the partridge; those from aquatic habitats, for example swan and teal (*Anas crecca*); as well as birds that occupy marginal areas, including woodcock and heron (*Ardea* sp), all appear to have been obtained. There are many techniques by which birds can be caught but evidence to suggest that the occupants of Vatteville may have employed hawking, is provided by the remains of the hunting birds themselves: three falcon bones, one positively identified as peregrine falcon (*Falco peregimus*), were recovered. Unfortunately these also derived from the twelfth to fifteenth-century material and, as such, provide little zooarchaeological information concerning Norman hawking practices.

2.6 Aquatic Resources

In addition to the taxa listed in Table 8, excavations at Vatteville also recovered a large quantity of freshwater and saltwater mollusc remains. Unfortunately, after original analysis their remains were discarded and it has not, therefore, been possible to consider them in this thesis. A small quantity of fish bones were also recovered but again I was unable to examine them in detail. Indeed, a general absence of fish data for French sites means that taxa representations cannot be considered. Figure 27 does, however, provide a tentative indication of inter-site variation in fish frequencies: the problems associated with this kind of analysis have been outlined in Chapter 1, section 1.5i.

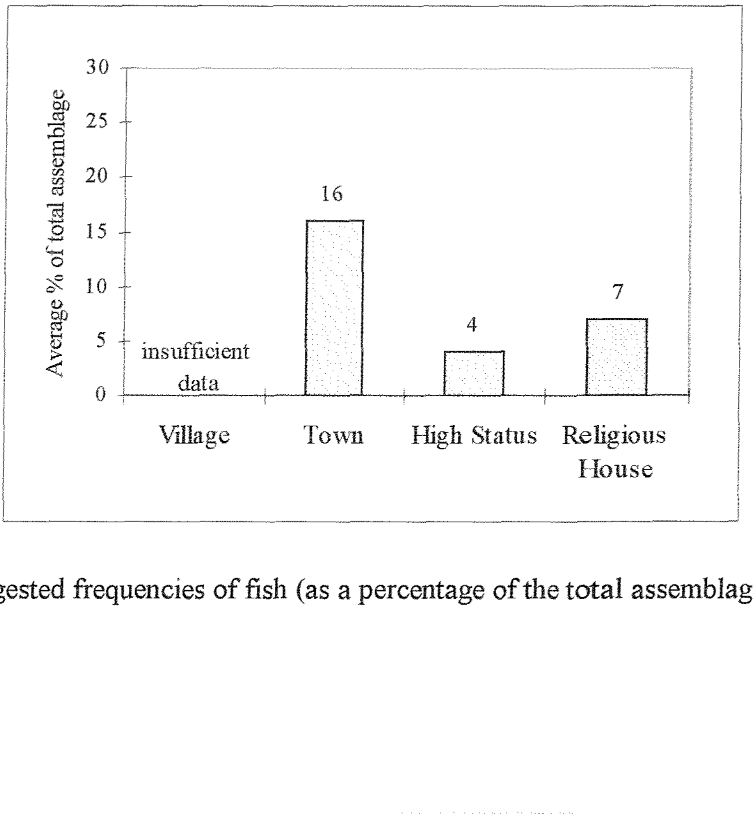


Figure 27: Suggested frequencies of fish (as a percentage of the total assemblage) on French sites

It is obvious that fish are best represented on town sites, where they represent 16% of the total fragment counts. Their presence must, to some extent, reflect the nature of urban deposition and the ease with which town pits can be sampled (see Chapter 4.1). At the same time, it seems likely that fish were more readily available within the urban environment. In part, this must be related to the fact that towns were generally located on large rivers or estuaries, thus, townsfolk would have had direct access to aquatic resources. Certainly the assemblage from Saint-Denis, was composed exclusively of freshwater and migratory taxa, such as barbel (*Barbus barbus*), carp family (Cyprinidae) chub/dace (*Leuciscus* sp), eel (*Anguilla anguilla*), salmon (*Salmo* sp) and perch (*Perca fluviatilis*), which may have been caught using simple fish traps. More significantly, the function of towns as trading centres would have meant that catches of fish, both freshwater and marine, were brought into the urban environment for processing and redistribution. For example, Compiègne, although being some distance inland, produced a fish assemblage which contained significant numbers of bones from flatfish (Pleuronectidae) and the cod family (Gadidae) (Yvinec, 1997).

The high frequency of fish in urban assemblages can, therefore, be attributed to proximity to supply. If this is the case it might be expected that the abundance of fish would drop-off with distance from the source. This does appear to be the case as, by contrast to towns, village assemblages show an absence of fish remains. A complete lack of fish is surprising because, although rural peasants may have been unable to afford fish from markets, they would have had access to rivers and streams. However, it has already been mentioned that the peasants fishing rights were restricted in the early eleventh century. Therefore, whilst the apparent dearth of fish may reflect factors of preservation and recovery (Chapter 4.1) it seems possible that Figure 27 represents the restrictions placed upon the rural population.

Since the elite seemingly requisitioned fishing rights and were also sufficiently wealthy to purchase sea fish, the poor representation of fish in high-status assemblages is striking. This is especially the case for Vatteville as the castle is not only close to the sea but is also situated on the banks of the river Seine. Lack of sieving during excavation is one explanation for the low recovery of fish. Clason and Prummel's (1977) study of recovery rates demonstrated that, for a single assemblage, fish bones accounted for only 0.05% of the hand recovered material but 3.5% of that retrieved by sieve. Even without sieving, however, the recovery rates at Vatteville appear to have been good as quantities of bird bones, as well as foetal remains, were recovered. If fish were abundant within the assemblage it might be expected that they would have been recovered in slightly higher numbers. A similar lack of fish has been noted at Chateau de Mayenne where, despite sieving, their bones were also poorly represented (Powell, 1998). As such, it may be concluded tentatively that fish played only a minor role in the diet of the French elite.

It is uncertain why the French aristocracy selected against fish consumption but one explanation would be that fish were considered a low-status food. Historical evidence suggests that fishing was an important part of the northern French economy, with herring salting was taking place in Dieppe by 1030 (Cutting, 1955) and men from Rouen exporting fish to London from at least the tenth century (Robertson, 1925). It may have been this economic importance that led the elite to avoid fish, since high status is often demonstrated by distance from the production process and ability to shun common foods (Hagen, 1998b:268).

Whilst this may account for the low frequency of fish on high status sites it does not explain the evidence for ecclesiastical assemblages: Figure 27 shows that fish constitute just 7% of their total fragment counts. It is generally assumed that, because their consumption was permitted by the Benedictine Rule, fish made a significant contribution to the monastic diet. As my results are based on just two assemblages, and that from Charité-sur-Loire has already been cited as unusual, it seems possible that the patterns they display are an artifice of small sample size. A different picture may emerge as more data become available.

2.7 Conclusion

From the limited zooarchaeological evidence, it has been possible to gain an insight into the way animals, both domestic and wild, were managed and utilised in medieval France. Although the data-set is far from comprehensive, considerable variation was noted between site-types, suggesting both consumer-producer and status-based divides in animal exploitation.

It is clear that the provisioning system was affected little by the demands of agricultural production. Although towns show a slight pre- to post-Conquest rise in sheep frequencies, which fits the wider trend towards increased wool production, the data indicate that town and high-status settlements were provisioned with large quantities of meat animals, in particular pigs. These animals were seemingly raised specifically to supply the consumer populations with meat.

Pigs are particularly well represented in high-status assemblages, and the presence of foetal and neonatal remains implies that some animals were raised on-site. In general, however, pigs were probably supplied to castles, either on the hoof or as partially butchered carcasses. These animals may have been paid, by the rural population, in return for pannage rights.

Data for cattle and sheep suggest that the elite acquired beef and mutton through a slightly different system to pigs. The occupants of Vatteville and Douai, for example, seem to have obtained pre-butchered portions of meat, from the youngest available animals. I have proposed that beef and mutton may have been purchased from commercial meat-markets, although it is possible pre-butchered meats were paid as a tax from the urban population. The idea that the meat from cattle and sheep arrived via a different route to pork is supported by the butchery evidence: whilst cattle and sheep bones exhibit marks consistent with professional butchery, pigs were processed in a more random fashion, using knives and meat-cleavers in equal frequencies.

In terms of assemblage composition, villages are almost diametrically opposed to town and high-status sites. They contain few remains from prime meat animals, indicating that the rural population obtained most of their flesh-foods from individuals that had served for several years as suppliers of agricultural products. Cattle were seemingly used predominantly for traction, whilst sheep were important providers of wool. It is likely, however, that both animals would have contributed to dairying, and sheep may also have been prized for their manure.

In general, the rural economy does not seem to have focused on any particular products, hence the lack of impact on the provisioning system. Whilst this could suggest that the French economy was not well developed, the size of the country may have meant that agricultural production was geared towards satisfying local, instead of international, demands. Rather than wool and grain, well-known exports of medieval England, France may have been exporting commodities such as wine and fish. Certainly town assemblages suggest the importance of the fishing trade, a situation supported by historical evidence.

If fish were economically important, this may explain their poor representation in high-status assemblages. Rather than consuming commonly available foods, the diet of the elite seems to have contained a higher proportion of rare flesh-foods; as is testified by the abundance of game animals in the Vatteville and Douai assemblages. The range and frequency of wild taxa on these sites suggest that hunting and, perhaps, hawking were popular activities of the French elite. Although wild boar are often the best represented wild animal on seigneurial sites, red deer were the favoured quarry at Vatteville. This dominance of deer, combined with their unusual skeletal frequencies, may suggest that Vatteville acted as a hunting lodge, from where shoulders of venison were exported. At the same time, the high percentage of hind limb bones suggests that the haunches were retained on site, and venison must have made a significant contribution to the diet of the castle's occupants.

Wild birds, such as crane, heron and peacock, seem to be typical of high-status sites and probably represent animals eaten during feasts or banquets. Domestic fowl were also eaten in abundance by the elite, and the presence of medullary bone in the Vatteville assemblage suggests that eggs were also produced and consumed. Composition of high-status assemblages suggests that the elite had a very privileged diet. This contrasts with the situation for the lower classes where the dietary contribution made by game was very small. Placement of restrictions on woodland and water resources probably increased this status-based division so that, whilst towns may have been able to purchase imported fish and birds, such as pheasant, the diet of the rural population was limited, perhaps because they 'sold on' most of the game they caught.

Having gained an over-view of the situation in twelfth-century France, it is now possible to examine the English data-set. In particular it will be used to ascertain whether the Norman Conquest of England was accompanied by the imposition of Continental traditions of animal management, resource exploitation and distribution, or the introduction of French dietary preferences.

Chapter 3. The Saxon and Norman Animal Economy: Continuity or Change?

The medieval economy, rural and urban, has received considerable attention from both historians and archaeologists (for example, Astill and Grant, 1988a; Astill and Langdon, 1997; Britnell, 1993; Hinton, 1990; Miller and Hatcher, 1995). In recent years zooarchaeological analysis has made a substantial contribution to the understanding of middle Saxon Wics (Bourdillon and Coy, 1980; O'Connor, 1991), early town development (O'Connor, 1992, 1994) and agricultural systems (Biddick, 1984a). Indeed, Vince (1994), in his study of urban economies, placed much emphasis on evidence from animal remains, and Astill (1991:111) concluded that 'faunal remains may provide a key to [understanding] urban development'.

That animal remains have yielded significant amounts of economic information is perhaps predictable. For many sections of society, not only were animal products their main source of income but they were also accepted units of currency. Although the Anglo-Saxon economy was money-using from the late seventh century, Britnell (1993:29) has estimated that even by the eleventh and twelfth centuries the total currency circulating in England did not exceed £120,000 (less than 1s per person). As a result, money would have been too valuable for day-to-day transactions and Britnell (1993:30) suggests that over half the population obtained their provisions independently of the market system, in particular through the receipt and redistribution of food rents.

Considering the fundamental importance of livestock in the medieval economy, and the potential information that can be obtained from the study of their remains, it is surprising that little attempt has been made to examine the Saxo-Norman situation from a zooarchaeological perspective. It is, perhaps, for this reason that most scholars believe the Norman Conquest to have caused little change to the Saxon economy (Hooke, 1998, and Reynolds, 1999; Rowley, 1999). Furthermore, where change has been identified, it has often been classified as part of a longer trend rather than being Conquest-related. This opinion may be accurate, certainly late Saxon England witnessed dramatic socio-economic shifts. For example, the creation of *burhs* in the late ninth century fundamentally changed urban development (Astill, 1991; Vince, 1994). At the same time, rural settlements were re-organised, with multiple estates being broken up in favour of smaller manors. This move towards nucleated villages was invariably accompanied by the adoption of the open field system, which took more land into cultivation (Rowley, 1981; Lewis, *et al.* 1997). The impetus for these changes and the extent to which they were linked to population pressure is uncertain but it seems likely that they were implemented by controlling landlords (Hinton, 1990: 107), in particular the *thegnly* class, whose existence is recorded from the late ninth century onwards (Reynolds, 1999:59). Whatever the case, it is clear that these changes began prior to the Conquest and were not complete until at least the twelfth century (Hooke, 1998:115).

Against this background it would, understandably, be difficult to detect changes related specifically to the Normans but this does not mean that no Conquest-related impact occurred. Miller and Hatcher (1995:38) have proposed that the consequences of 1066 were somewhat contradictory. They suggest, for example, that whilst the initial devastation caused by William's army upset the local economy and arrested international trade, the net effect of the Conquest was to strengthen continental links, thereby boosting the English economy. Norman foundations of markets and towns must also have had some economic significance. Platt (1976:21) argued that this should not be over-emphasised, although he admits that most of the modern terminology of commerce is derived from French vocabulary. Certainly it would seem that any effects were again contradictory. Whilst there is evidence that numerous towns and markets were founded during the Norman period (Beresford, 1967; Britnell, 1993; Darby, 1977), they often caused the decline and abandonment of older trading settlements: the Norman foundation of Arundel in Sussex, led to the demise of the nearby Anglo-Saxon *burh* of Burpham (Sutermeister, 1976).

Perhaps the greatest effect on the economy was caused by Norman systems of taxation. National taxes, such as the Danegeld, were known before the Conquest but appear to have been suspended between 1051 and 1066 (Britnell, 1993). In 1067 William I reinstated the geld and the Anglo-Saxon Chronicle recorded it as having been 'very severe' (Garmonsway, 1967:200). By 1068 John of Worcester described the tax as 'insupportable' and there is some evidence that non-payment even resulted in the confiscation of land (Williams, 1997:13, 19). Need for money would have acted as a strong impetus for market exchange and the development of a coin-based economy. This would have been encouraged further by the abolition of food-rents: whereas throughout most of the pre-Conquest period landlords were generally paid in kind, from the time of Edward the Confessor and particularly under Norman rule these payments were gradually converted to cash (Britnell, 1993:41; Lennard, 1959:136; Stafford, 1980).

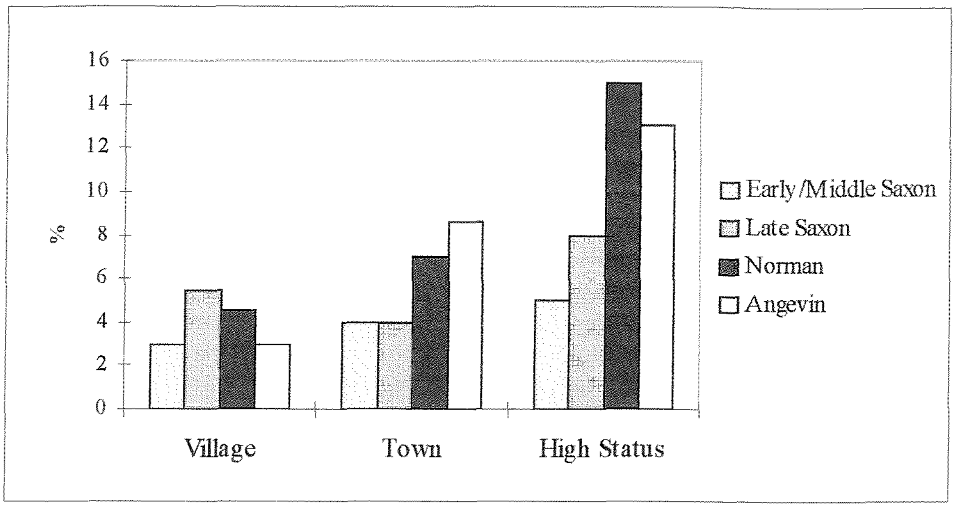
In order to determine whether the events surrounding the Conquest made any perceptible impact on the Saxon economy, I shall examine the pre- and post-Conquest zooarchaeological data at a number of levels. First attention is given to systems of animal management and whether they display any inter-period variation. Evidence for change in husbandry and breeding methods, in particular for animal improvement or degeneration, is then sought through a study of animal size and conformation. The possibility that provisioning systems were re-arranged as a result of Norman influence is explored at a site level, with particular attention being given to body part data. Finally, evidence for butchery, tanning and bone working will be examined to inform on the development of these specialist industries. In this chapter, attention focuses on cattle, sheep and pigs but domestic fowl are considered. It is recognised that other domestic animals, such as horses, dogs and goats, had an economic function but the irregularity by which these animals are recovered and detailed in zooarchaeological reports prompted the decision to omit them from the study. The economic importance of wild resources is examined in Chapter 4.

3.1: Animal Management

3.1i: Domestic Birds

Before considering the main domesticates, I shall examine briefly the evidence for the exploitation of domestic birds. Generalised inter-period changes in their relative frequency are shown in Figure 28.

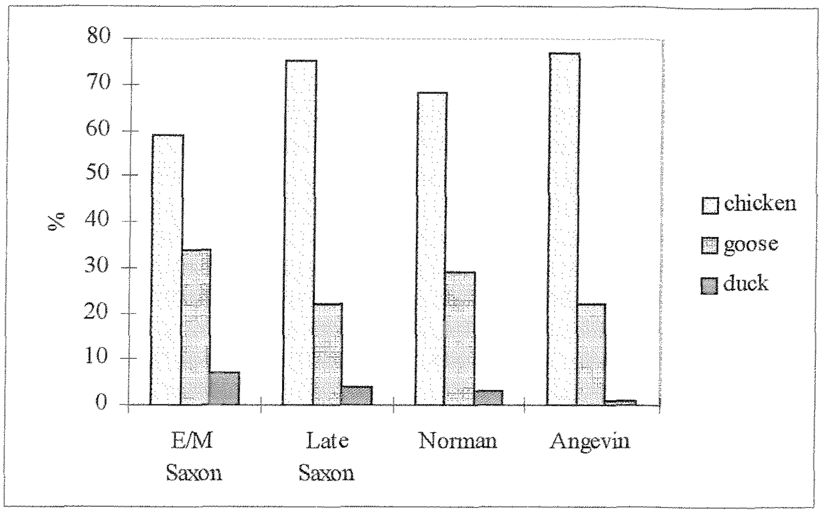
Figure 28: Inter-period variation in the frequency of domestic birds. Shown as percentage of the total assemblage (excluding fish fragments)



The graph for village sites shows no clear patterning, with domestic birds never being present in large quantities. Data for town and high-status assemblages, however, show more obvious changes and the graphs for both site-types display a common trend towards increased bird abundance. In both cases the Norman period seems to mark the point of significant change, with domestic bird levels increasing twofold from the Saxon situation. Such a dramatic change is interesting in itself but when it is remembered that levels of bird exploitation were also high in France (Figure 18, page 41), it is tempting to attribute the shift to Norman influence. Certainly McCormick (1991:49) noted that domestic bird frequencies increased significantly in post-Conquest Ireland. He suggested that the sudden rise reflects the presence of the Anglo-Norman army which, according to documentary evidence, was provisioned with quantities of fowl. This explanation may equally account for the situation in post-Conquest England, although the fact that a rise in fowl frequencies is noted for towns and high-status sites may suggest an emphasis on domestic birds extending beyond military circles.

Inter-period changes in the relative frequencies of the different taxa are also apparent. Figure 29 demonstrates that whilst all taxa are well represented in the early/middle Saxon assemblages, chickens dominate the late Saxon material. These frequencies remain unchanged in the post-Conquest period, although a gradual decline in domestic duck frequencies is evident.

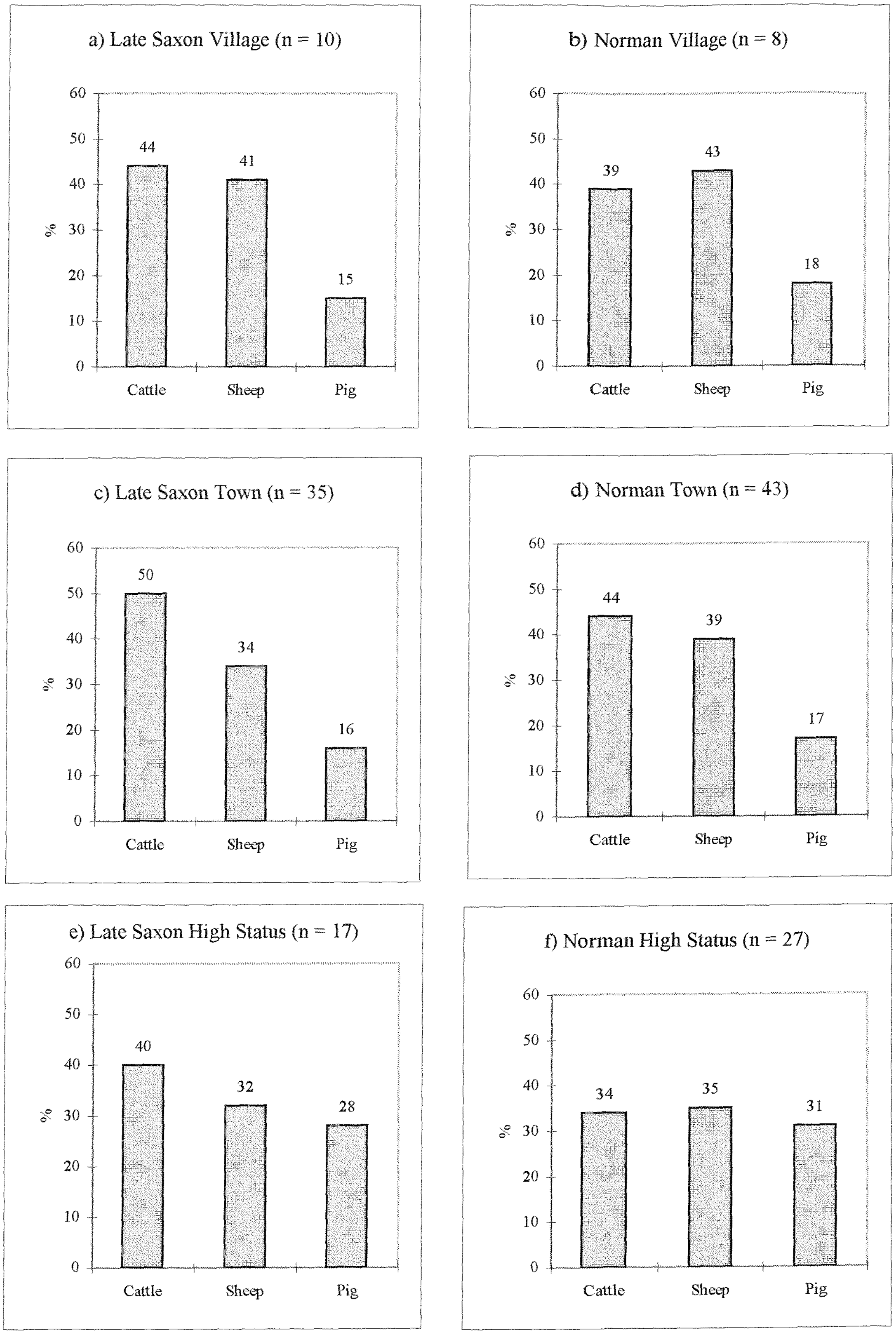
Figure 29: Inter-period variation in the relative frequencies of chicken, goose and duck.



Egg production seems the most likely reason for the move towards chicken exploitation, a theory perhaps supported by finds of eggshell from late Saxon sites such as Coppergate (Bond and O'Connor, 1999:355) and St Martin-at Palace Plain (Murphy, 1987:113). Hagen (1998:133) argued that eggs would have been in great demand as a source of protein, citing the eighth-century monastic *Rule of Chrodegang*, which mentions the folly of those who abstain from eggs when not fasting (Napier, 1999:114).

Studies of fowl remains support the idea that egg production was an important factor of chicken management. For example, studies of sex ratios, based on the presence/absence of spurs on the tarsometatarsus (see page 42 for problems associated with this indicator), suggest that most archaeological fowl were female (Serjeantson *et al*, forthcoming). Furthermore, in assemblages pre-dating the fourteenth century the majority of chicken bones are also mature, indicating that these hens were maintained for their eggs rather than being slaughtered young for their flesh (Grant, 1988a:183). Confirmation that chickens were exploited for their eggs is provided by some late Saxon assemblages, such as that from Eynsham Abbey (Serjeantson *et al.* Forthcoming), where a high frequency of chicken bones were shown to contain medullary bone, indicating that hens were killed whilst 'in lay'. Nevertheless, since this shift concentration on chicken exploitation occurred between the middle and late Saxon period, Norman influence cannot be held responsible.

Figure 30 : Taxa ratios, by site-type, for late Saxon and Norman England



a) Late Saxon Village (n = 10)

b) Norman Village (n = 8)

c) Late Saxon Town (n = 35)

d) Norman Town (n = 43)

e) Late Saxon High Status (n = 17)

f) Norman High Status (n = 27)

3.1ii:Domestic Mammals

Taxa Ratios

Taxa frequency graphs for the late Saxon and Norman period are shown, by site type, in Figure 30 and generalised inter-period variation, based on national averages, is presented in Table 10. The data suggest that throughout the Saxon and Norman periods cattle were, in general, the dominant taxon, followed closely by sheep, with pigs being the least well represented animals; with the exception of high-status sites where they are often found in abundance (see section 3.3iii).

Period	**% Cattle**	**% Sheep**	**% Pig**
Early/Middle Saxon (n=49)	48	31	21
Late Saxon (n=62)	46	35	19
Norman (n=78)	40	38	22
Angevin (n=67)	39	43	18

Table 10: Generalised inter-period variation in cattle, sheep and pig frequencies (NISP based)

Previous studies of synthesised data (for example Noddle, 1975a; Clutton-Brock, 1976, and Grant, 1988a) have demonstrated that most British medieval assemblages are characterised by these ratios. Despite being well recognised, these proportions are surprising when viewed in conjunction with the documentary evidence. For example, by comparison to other animals cattle are seldom mentioned in medieval documents, whereas pigs are frequently referred to in Saxon texts (a fact observed by Clutton-Brock, 1976:378) and sheep are recorded as the most numerous animal in post-Conquest documents (Lennard, 1957 and Darby, 1973). In the Domesday Book, for instance, sheep outnumber all other animals and, according to the figures presented in Table 11, cattle were less numerous than horses and, in some cases, even donkeys.

Table 11 Domesday records of Livestock in 1086 (from Darby, 1977:164)

	Norfolk	Suffolk	Essex	Cambridge	Dorset	Somerset	Devon	Cornwall
Sheep	46,176	37,817	47,013	20,512	22,025	46,868	50,024	13,059
Wethers					297	948	155	240
Swine	8,082	9,789	13,323	4,591	1,501	6,980	3,694	513
Goats	3,015	4,348	3,642	225	800	4,482	7,246	926
Cows	23	9	160	2	59	123	23	55
Calves			77					
Oxen					9			
Bull								1
Horses	50	127	3					
Rounceys	767	527	793	170	123	448	159	21
Mares	56		21	11	13	35	1	12
Mules	1		1	1				
Donkeys	2	2	26	24	1	3	2	
Foals				2				

Disparity between archaeologically and historically based taxa ratios could be related to zooarchaeological quantification methods. Inter-specific variation in bone fragmentation and preservation often causes NISP counts to overemphasise the relative importance of cattle compared to pigs and sheep: the latter often emerge as the dominant taxon when the MNI is calculated. Since this study has utilised NISP data it could feasibly account for the disagreement between the two sources of evidence but it seems more likely that historical inaccuracies underlie the discrepancy. For example, the number of cattle recorded in the Domesday Book is unbelievably low and Rackham (1997:75) has argued that, rather than reflecting actual animal frequencies, the Domesday figures represent 'imaginary' animal units, used to indicate land area. If this theory is correct, the value of the Domesday Book as an indicator of livestock frequencies is limited. Consequentially, the bold assertions that the marshlands of Essex and East Anglia were 'dedicated' to sheep farming (Round, 1903; Lennard, 1959; Darby, 1973, 1977; Hooke, 1994 and Rowley, 1997) are questionable, and more attention should perhaps be placed on the taxa ratios suggested by the animal remains themselves.

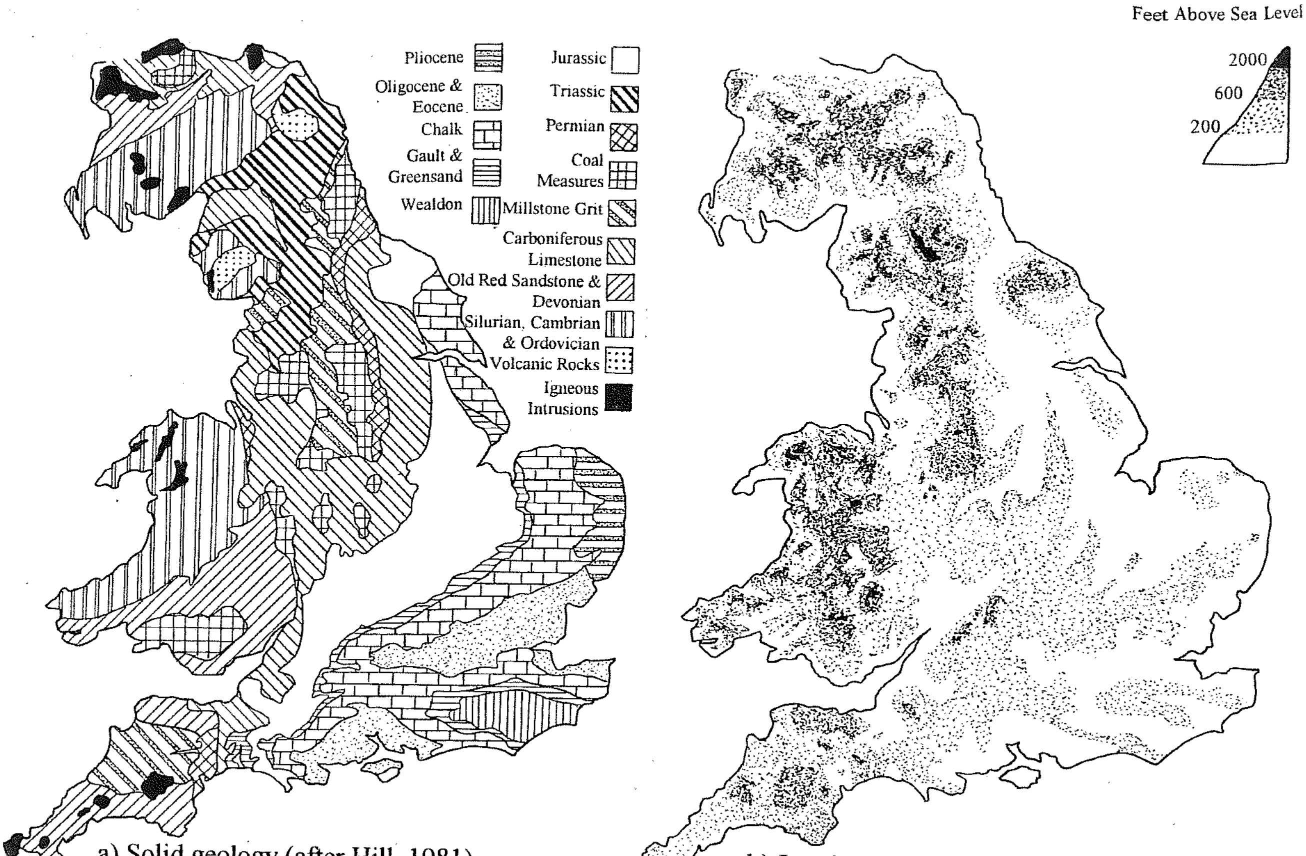
Unfortunately, the zooarchaeological data-set is still inadequate to test claims for area-specific economies but distribution maps for cattle-dominated and sheep-dominated assemblages are provided in Figure 31. Several sheep-based assemblages have been identified for Norman East Anglia, perhaps supporting the Domesday evidence, but only one (that from North Elmham, Noddle, 1980) has been recognised for the late Saxon period. Indeed, the data presented in Appendix Ibii suggest that in the late Saxon period there was a regional divide, with (in terms of fragment counts) cattle dominating bone assemblages from the east and north of the country whilst sheep were more abundant in the south and west.

Figure 31: Maps showing the distribution of ▲ sheep- and ● cattle-dominated assemblages in a) late Saxon and b) Norman England. ---------- Danelaw boundary.


a)

b)

Topographic variation is the most obvious reason for this regional difference. Much attention has been given to the reconstruction of the medieval landscape (Darby,1973, 1977; Hill, 1981) and Figures 32a-d provide some of the historically-derived information against the elevation and solid geology of the country. In terms of animal economy, the lower relief, and associated marshland, of eastern England would have been more suitable for cattle whereas the uplands of the south and west would have been better sheep country. That landscape influenced husbandry regimes is undeniable and it is clear



a) Solid geology (after Hill, 1981) b) Landscape relief (after Hill, 1981)

c) Fenland and marshland (after Darby, 1977) d) Woodland (after Hill, 1981)

Figure 32: Maps showing topographical features of medieval England

that similar geology-associated patterning dates back to at least the Iron Age (Hambleton, 1999). It is, however, deterministic to suggest that the medieval economy was dictated by the environment, and since the Norman data do not follow the late Saxon patterns it can be argued that medieval animal husbandry was governed as much by cultural choices as the environment. With this in mind it is interesting to note that the regional divide equates approximately to the areas of Danelaw and English settlement.

The idea that cattle were culturally important to the Vikings is not new. Richards (1991:71) noted that even when faced with the unsuitable environmental conditions of Iceland, the Vikings stubbornly continued to keep cattle. An association between Vikings and cattle has also been suggested by O'Connor (1989a) who recognised that Scandinavian-influenced assemblages from sites such as York, Lincoln and Dublin demonstrated very high frequencies (generally between 60-80%) of cattle. Because these assemblages were from urban centres, site-types which generally contain large numbers of cattle, O'Connor was unable to conclude absolutely that the taxa ratios resulted from Viking influence. Appendix Ibii, however, shows that, on average, north/east village sites display 5% more cattle than their south/west counter-parts. This demonstrates that the dominance of cattle is found beyond town sites and may indicate that the association between Danelaw areas and cattle was real rather than a product of site-type.

When considered in further detail, however, the data do not uphold the theory that Vikings introduced a cattle-based economy to the areas they settled. Instead, Appendix Ibi indicates that cattle farming was the country-wide norm during the early/middle Saxon period, with few sites showing sheep-dominated assemblages. Thus, the regional variation observed for late Saxon England can be viewed as resulting from increased sheep farming in the south/west, a situation which then spread east and north during the Norman period. The reason why this shift in taxa ratio occurred is uncertain but it would appear to be part of a wider process of change which began at least a century before the Conquest.

In the last few decades it has been recognised that the late ninth and tenth centuries witnessed fundamental changes in social structure, settlement patterns and, in particular, rural and urban economies (Astill and Langdon, 1997; Hinton, 1990; Hooke, 1998: Lewis *et al.*, 1997; Reynolds, 1999). One symptom of this transformation was the adoption of the open field system, which allowed greater areas of land to be taken into arable production. Although open field agriculture was not widely practised in East Anglia, pollen analysis for Hockham Mere in Norfolk indicates a rise in cereal cultivation between AD 650-850 (Bennett, 1983). This seems to have been accompanied by a shift from spelt to rivet wheat (Astill, 1997:199). It might be expected that a move towards arable farming would have required more, not less, cattle for purposes of traction. Open field agriculture, however, was based on co-operation and, rather than each farmer having their own set of plough animals, communities shared plough teams, thus reducing the overall number of cattle required. Several researchers have noted that expansions in arable farming are often accompanied by an increase in sheep rearing (McCormick, 1991: 46; Cunliffe, 1978:184). This is seemingly related to the fertilising properties of sheep manure, which, according to White (1970:127), contains higher frequencies of nitrates and phosphates than the dung of other animals. Adoption of the open field system may, therefore, account for the observed shifts in taxa ratios, whereby fewer cattle were needed for traction but greater numbers of sheep were kept to manure fields.

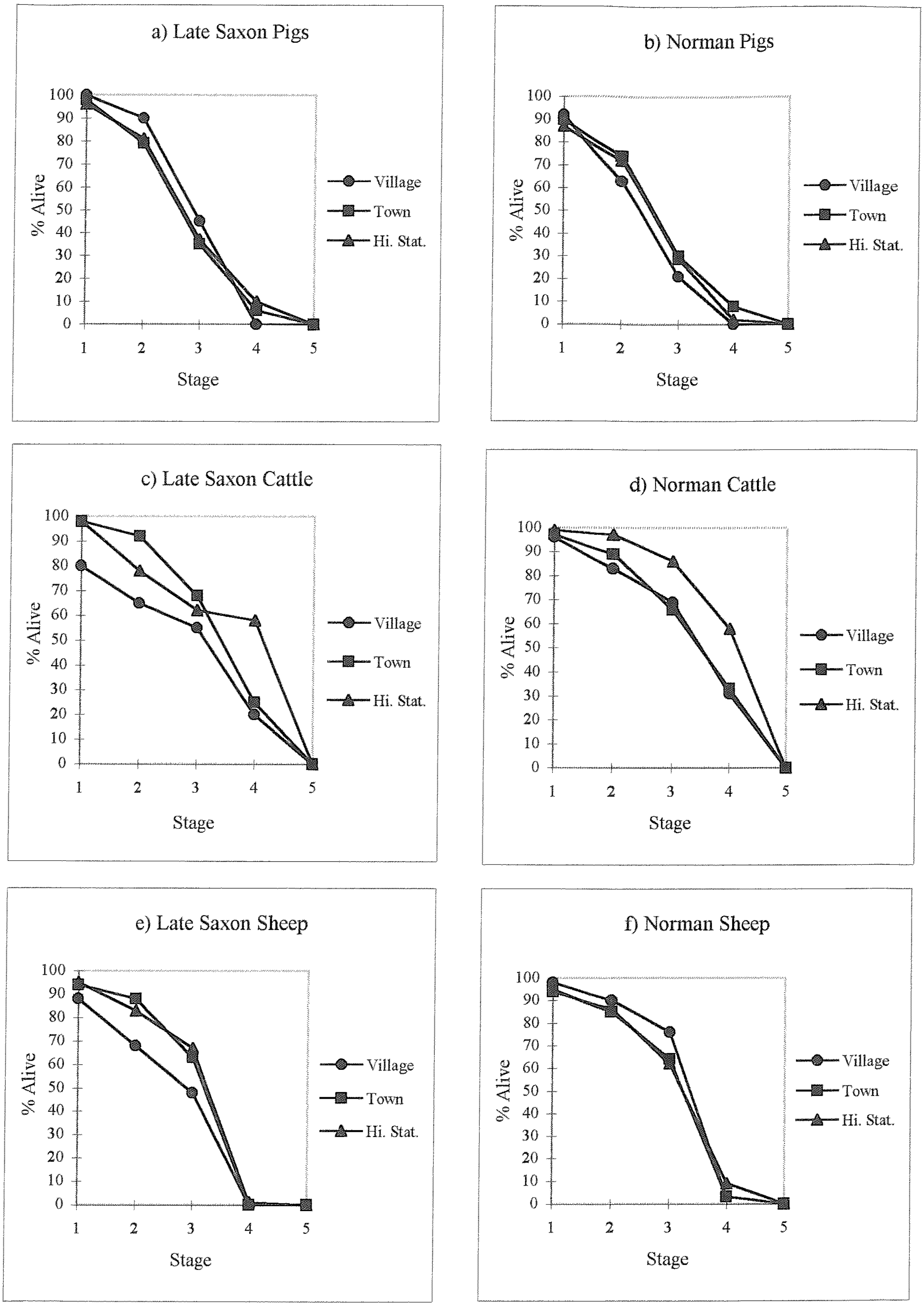
This situation, although interesting, is beyond the scope of this thesis. Here it is necessary to know only that these changes in taxa ratio were in progress before 1066 and that the Normans should not be held responsible for any residual effects. That the Normans did not introduce the open field system has been demonstrated by numerous finds of ridge and furrow marks beneath Norman earthworks; such as those at Hen Domen in Montgomeryshire (Barker and Lawson, 1971) and Sandal Castle in Yorkshire (Mayes and Butler, 1983). Certainly there is no evidence to suggest that the Norman agricultural system was imposed on post-conquest England: in the previous chapter it was seen that sheep are present only in low frequencies on most French medieval sites.

One aspect of change which could feasibly be related to Norman influence is the post-Conquest increase in the relative frequency of pig. Figure 30 demonstrates a late Saxon-Norman rise in their abundance for all site types, and Table 10 indicates that, relative to other taxa, pig attained their highest frequencies during the Norman period. Although their representation increases only by a few percent, the large sample sizes involved in the synthesis make the shift significant. This is interesting because, as was seen in Chapter 2 (Figure 14), pigs were the dominant animal in medieval France, comprising more than 70% of some assemblages (see Appendix Ibiii). It seems possible that, because pork was the staple of the Norman diet, the new lords of post-Conquest England encouraged pig production in order to satisfy their appetite for pork. The idea of such a situation is supported by evidence for post-Conquest Ireland. McCormick (1991:48) noted that whilst pig were poorly represented in Early Christian Ireland, they became abundant in the post-Conquest period. Twelfth-century documents, in particular Pipe Rolls, record numerous instances where large quantities of pigs were sent from England to supply the Anglo-Norman armies in Ireland. Whilst cultural dietary preferences may have led to increased pork production, the amount of woodland in the Irish and English landscape would not have permitted pig husbandry on the continental scale. This may explain why pig frequencies, although rising by a few percent in post-Conquest England, never attained the French level.

Ageing Data

In addition to showing a rise in pig frequencies, cull patterns for this taxon also suggest that the Norman period witnessed a short-term shift in slaughter strategy. Figures 33a and b show that late eleventh/twelfth-century pigs were being killed at a younger age than in the preceding or succeeding periods (see also Appendix IIc). A logical explanation would be that as pigs became more plentiful, the need to retain breeding stock, and thus the average age of slaughter, was reduced. Certainly this seems to have been the case in France (Section 2:1iii), where large numbers of very young pigs were culled with seemingly little impact on the breeding stock. Alternatively, the patterning may suggest that the conquering Normans were attempting to obtain pork from young animals, like those they consumed in France. If Norman dietary preferences were responsible, however, it might be expected that the age change would be specific to high-status sites, which saw the most Conquest-related cultural change. Since villages and towns also demonstrate a decline in average slaughter age the shift would seem to be part of a wider phenomenon.

Figure 33a-f: Kill-off Patterns, by Site-Type for Late Saxon and Norman animals



Another possible explanation is that the widespread change in slaughter strategy reflects a shift in animal management, perhaps from open-land to sty maintenance. If pigs were kept in a semi-wild state during the Saxon period, animals may have farrowed away from settlements and, thus, any infant mortalities would be archaeologically invisible. Furthermore, Noddle (1980:400) argued that the young of semi-wild animals may have been difficult to catch: certainly the camouflaged coats of juveniles would have made them difficult to spot. If sty husbandry became more common in the post-Conquest period this would account for the rise in juvenile animals: since infant fatalities would be present on sites and young animals would have been accessible for slaughter. In France the move from pannage to backyard maintenance did not occur, generally, until the fourteenth century (Section 2.1ii, see page 34) and it seems, therefore, unlikely that England acquired the technique of sty husbandry from the Normans. Sty management would, however, have brought pigs under human control and it is conceivable that the Norman period marks the point at which selective breeding of pigs occurred. This possibility will be examined in section 3:2i

Cattle and sheep cull-patterns (Figures 33c-f) also indicate a pre-to post-Conquest change in slaughter strategy. Although they are based on small sample sizes, the graphs for village sites show that in the late Saxon period approximately 20% of cattle and 10% of sheep were slaughtered before the age of six months (stage 1). To some extent this pattern is predictable because 'producer' sites usually contain the remains of neonatal mortalities (Wapnish and Hesse, 1988:84). An infant mortality of 20%, however, seems high, especially when compared to the early/middle Saxon cull-patterns (see Appendix IIai), and may indicate that the late Saxon peasants were experiencing husbandry difficulties. Pestilence among 'cattle' (meaning both cattle and sheep) is recorded in the Anglo-Saxon Chronicle for the years 986, 1041, 1049 and 1054. Such periods of disease would have affected juvenile animals most heavily, perhaps accounting for the increased presence of infant animals. Alternatively, these animals may represent the by-products of dairying, which perhaps became more intensive after the ninth century.

According to the *Rectitudines Singularum Personarum* (Liebermann, 1898) cattle, sheep and goats were all managed as dairy animals. Aelfric's Shepherd states that 'I lead them [the flock] back to their fold and milk them twice a day, I make cheese and butter' (Garmonsway, 1978). The production of milk, butter and cheese is also referred to in the Leechdoms (Cockayne, 1851) and the Exeter Riddle Book (Crossley-Holland, 1993). French and Frisian documents even suggest that, during the Saxon period, cheese was one of England's main exports, along with cloth and grain (Loyn, 1970:100). The suggestion that the latter commodities were also important in the late Saxon economy is supported by the sheep and cattle cull-patterns.

Although Figures 33c and 33e indicate that dairying was important, when the graphs for towns and high-status sites are considered, it is apparent that the economy was not specialised. Instead, the high proportion of animals maintained to old age, and beyond, suggests that, in addition to acting as breeding stock, these individuals were managed for their secondary products. In a situation of intensive arable production, cattle were most probably kept as plough animals: one of the responsibilities of Aelfric's Oxherd was to take his cattle to the ploughman (Garmonsway, 1978). Increased arable farming would also have made sheep an important provider of manure but it seems likely that wool was the main commodity being targeted.

Medieval England was well known for its wool industry but the point at which the production intensified has been more difficult to define. The twelfth century is commonly cited as the date when the wool industry became particularly productive (Lloyd, 1977) but documentary evidence suggests that wool was economically important from at least the eighth century. For example, the famous letter from Charlemagne to Offa, King of Mercia mentions Charlemagne's irritation at the small size of the cloaks being sent from England (Whitelock, 1955). By the late Saxon period, export of woollen goods had increased to the point that even the Moslem world was aware of English wool (Loyn, 1970). It is probably no coincidence that late Saxon England witnessed the introduction of a new loom type, the treddle loom. The earliest archaeological evidence for this loom form comes from late tenth-century Gloucester (Heighway *et al.*, 1979). By the end of the eleventh century, the treddle loom appears to have replaced the earlier technology as loom weights and thread pickers disappear from the archaeological record (Hinton, 1990:123).

This evidence, in combination with the taxa ratio data, indicates the late Saxon period as the point at which the textile industry intensified. It may be significant that the observed change in sheep husbandry occurred at approximately the same time commerce with the Low Countries and Rhineland was resumed (Astill, 1991:112). According to Astill, this revival of trade coincided with the mining of silver in the Harz mountains, and Sawyer (1965:161) argues that in return for supplies of silver, England's major export was wool.

Whilst agricultural production became important during the late Saxon period, by the Norman period sheep and cattle were seemingly managed for little other than wool (and manure) and traction, respectively. Cull-patterns for village sites show a dramatic change in slaughter strategy with only 4% of cattle and 2% of sheep being culled before six months. By raising the majority of juveniles to adulthood, milk yields would have been reduced, perhaps allowing little dairy production beyond the domestic scale: few *vaccaria* (such as that at Sparsholt in Berskhire) are mentioned in the Domesday Book (Lennard, 1959:265). By contrast to the late Saxon period, when cheese was being exported, Hagen (1998a:30) has proposed that Norman England may actually have received imports of cheese: she notes that blue varieties are mentioned only after the Conquest.

This change in slaughter strategy would seem to represent a second wave of agricultural intensification, which occurred as the open field system became more widely adopted. The degree to which the Normans can be held responsible for these changes is uncertain. Hooke (1998:131) suggests that the effect of the Conquest itself may have facilitated agricultural change. She argues that in the areas of England devastated by William's army, settlements may have been rebuilt in a nucleated layout. It seems possible that increased cross-channel contact may also have brought about technological innovation. Rowley suggests that a heavier plough was introduced to England, from France, in the late eleventh century, although Langdon (1986; 1988:88) does not consider that the introduction can be dated with certainty. Archaeobotanical studies have also identified a new type of free-threshing tetraploid wheat (*Triticum turgidum/durum*) that appears in England shortly after the Conquest and could potentially have been imported by the

Normans (Moffett, 1989). Other than this there is little obvious evidence to suggest direct Norman involvement in the changes.

Although the post-Conquest changes in cattle and sheep farming clearly developed out of the Saxon set-up, rather than from imposition of the Norman system, this does not mean that they are unrelated to the Normans. It is commonly cited that the Norman's success came from their ability to maximised the profitable aspects of societies they conquered (Rowley, 1984:21). If the price and demand for wool and grain was high, it seems possible that the new Norman lords encouraged tenants to concentrate on these commodities. Certainly, this was the tactic used in post-Conquest Ireland where the native economy was re-organised so that wool and grain became the dominant products (McCormick, 1991:46).

Productivity would also have been facilitated by market and town development, for which the Normans were partly responsible (Britnell, 1993:23). By the end of the Norman period there were numerous urban centres of wool production; the Pipe Roll of 1130 records Weavers Guilds in London, Oxford and Lincoln. Figure 31 demonstrates that, although assemblages from Oxford were always dominated by sheep, those in Lincoln became so only in the post-Conquest period. This is also supported by Appendix Ib which shows that the relative frequency of sheep in Lincoln city (Dobney *et al.*, 1995) increased by 20% from the late Saxon to Norman period. Significant post-Conquest increases in sheep abundance are also apparent for sites in Beverley (Scott, 1991, 1992) a town for which weavers and fullers are recorded by 1189.

In addition to urban development, there is some evidence to suggest that impetus for increased wool production came from the many ecclesiastics who arrived in England shortly after 1066 (Rowley, 1984:256). Amongst other factors, their need to manufacture woollen cowls and habits meant that religious houses often maintained large flocks of sheep (Postles, 1984).

The attention placed on wool production may have encouraged attempts to introduce or breed sheep with superior fleece quality. Certainly by the thirteenth century fine-fleeced merino sheep were being imported from Spain (Trow-Smith, 1957:113). If cattle were being used increasingly for traction, they may also have been selectively bred for size and strength, and I have already suggested that the Normans may have introduced or selectively bred new fast-maturing pig types. These possibilities will now be examined through morphometric analysis.

3.2: Animal Types: Size and Conformation

Most scholars believe that the Norman Conquest had little impact on the husbandry regimes of Saxon England. Indeed, Trow-Smith (1957:46) concluded that there was no general importation of livestock following 1066. It should be remembered, however, that it is also generally believed that the rural economy endured unchanged from the pre- to post-Conquest period but it was demonstrated in the previous section that this was not the case. In this section I examine the size and conformation of pre- and post-Conquest animals, with the intention of finding additional evidence to either support or disprove the view that the Normans did not influence husbandry practices for either better or worse.

Metrical analysis has become the most commonly used method for recognising general inter-site or inter-period variation in animal types. Consistent patterns of size increase or decrease are often interpreted as either a change in husbandry practices or the introduction of new bloodlines (for example, Dobney *et al*, 1995, Albarella, 1997a, Albarella and Davis, 1996 and Davis, 1997a). Whilst such explanations may be correct, size is affected by many factors other than breed, such as nutritional or environmental change. O'Connor (1982b) has demonstrated that the equation 'big equals better' may be equally unfounded, especially if animals are being improved for qualities other than size (for example, wool). Furthermore, absolute size, although often an important criteria of breed, is only one skeletal characteristic: two breeds could be identical in overall size but exhibit differences in head or horn shape, as O'Connor (Bond and O'Connor, 1999) noted in his study of cattle from medieval York. It is, therefore, important to give consideration to non-metrical traits.

During the last two decades, several researchers have carried out morphometric studies on osteological material from modern rare breeds and applied their results to archaeological specimens (Grigson, 1974, 1975, 1976 and 1978; Noddle 1978, 1983a, and O'Connor, 1982b). Comparisons between the modern and archaeological material have allowed ancient specimens to be classified to 'type' and placed against a scale of 'primitiveness'. This type of study can be exceptionally useful when used in conjunction with general inter-period size change. Whilst I have undertaken only metrical analysis for cattle and pigs, as part of this thesis I developed a morphometrical method for examining sheep horn-cores which I have utilised, along with basic metrical data, in the study of archaeological sheep.

3.2i: Pig Size

This study is based entirely on dental measurements. Work by Sylvia Warman (personal communication) has demonstrated that modern pig breeds can, to some extent, be differentiated on the basis of their tooth form. Payne and Bull (1988) have demonstrated that whilst some dental measurements are affected by age, sex or residual variability, tooth widths are neither highly sexually dimorphic nor affected by environmental changes. They do, however, appear to be influenced by selective breeding, as Warman (personal communication) has demonstrated that decreased molar width is a characteristic of skeletal improvement

If the Norman period did witness the introduction of new improved types, it might be expected that this would be detectable in the metrical data, particularly in molar widths. However, the T-tests for the pig tooth measurements (Appendix VI) provide no indication of any significant inter-period size change. This may be taken as evidence to support the view that pigs remained largely unimproved until the later medieval period (Trow-Smith, 1957; Wiseman, 1986).

3.2ii: Cattle Size

Box-plots for metapodia greatest lengths (GL) show an apparently steady decline in size from the middle Saxon to Angevin period (Figures 34a and b). The T-tests (Appendix VI), however, indicate that size variation was not equal between all periods. The metatarsal data show that significant changes in length occurred only between the middle to late Saxon period. A similar situation is found for the cattle metacarpal measurements, except that a significant reduction in length is also noted between the Norman and Angevin period. In no case is there any evidence for Late Saxon to Norman size change. This pattern is reflected by the box-plots and T-tests for the smallest diameter (SD) measurements (Figures 35a and b).

Figure 34: Box-plots for the GL (Greatest Length) of cattle a) metacarpals and b) metatarsals.

a) b)

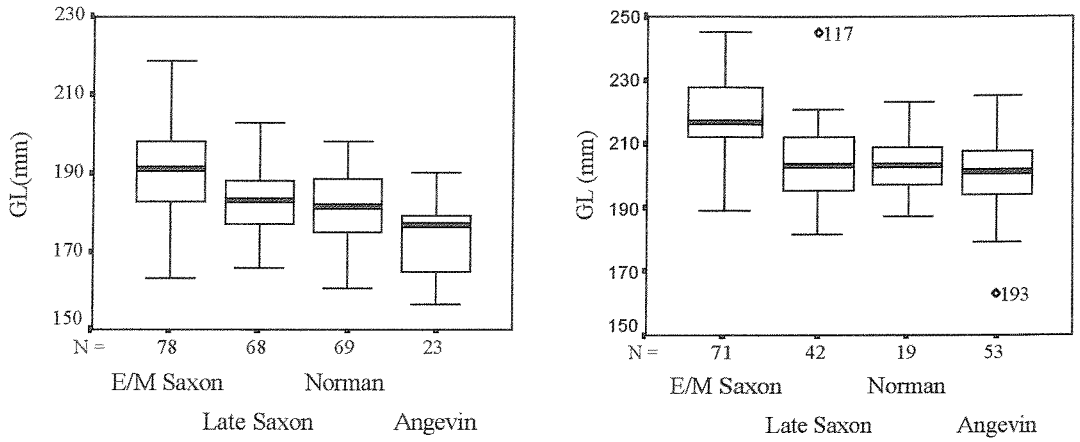
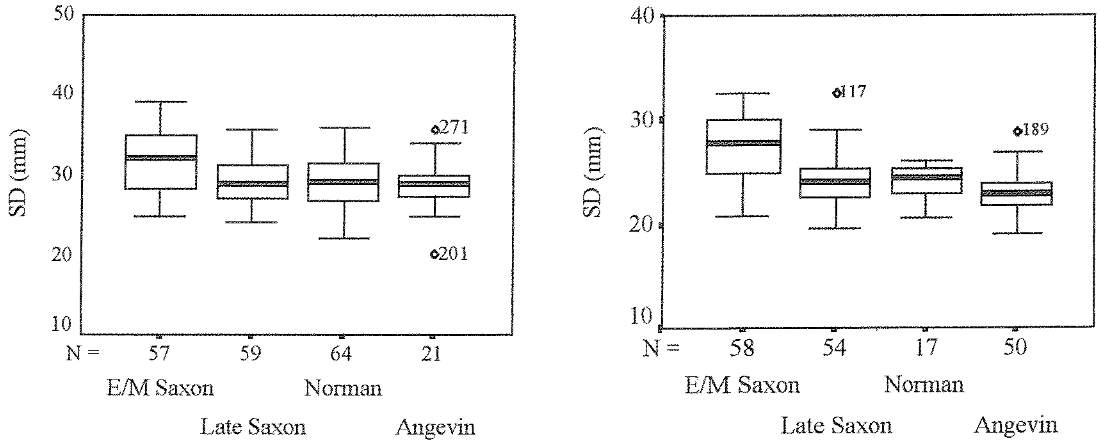


Figure 35: Box-plots for the SD (Smallest Diameter) of cattle a) metacarpals and b) metatarsals.

a) b)



Although it would appear that Saxon and Norman cattle show no size difference, it should be remembered that the cull-patterns did demonstrate a shift indicative of a move from dairy production to the use of cattle as plough animals. Such a change in cattle management could feasibly have been accompanied by a change in herd structure, with females being replaced by castrates, which are better suited to traction. If this were the case, any overall size decline may have been masked by sexual variation. To some extent this can be checked. Cattle metapodia, in particular metacarpals, are sexually dimorphic: those of females are short and slender, with male being short and wide, whereas the metapodials of castrates are long and slender (Albarella, 1997b:38). By plotting the greatest length (GL) measurements against the smallest diameter (SD) it should, in theory, be possible to determine the sexual composition of the herd (Higham, 1969; Thomas, 1988), although Albarella (1997) has demonstrated that sexual variation itself may be masked by breed.

Figures 36a and b show scatter-plots for late Saxon and Norman cattle but unfortunately, neither graph is clearly bimodal. If however, the dotted lines are viewed as a tentative division between the male and female distributions, they would suggest no change in sexual composition. Consequentially, the graphs support the T-test results, indicating that, although a small size-decline did occur, there was no significant variation between late Saxon and Norman cattle. Instead, the major period of size diminution apparently occurred between the early/middle and late Saxon period.

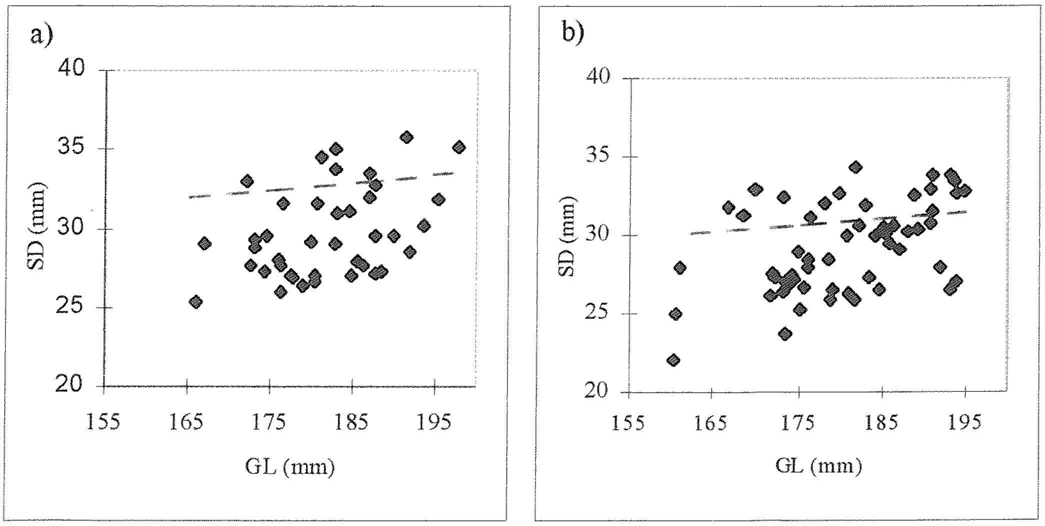


Figure 36: Scatter-plots (GL by SD) for a) late Saxon and b) Norman cattle metacarpals

Interestingly, this shift coincides with the economic intensification described in section 3.1ii and it seems possible that the size change also reflects the introduction of the open field system. Astill (1997:205) argued that the agricultural changes of the late ninth century brought about a reduction in pasture quality, resulting in a diminution of cattle size consequent upon nutritient deficiency. Similar conclusions have been drawn by Audoin-Rouzeau (1991) for France, and Berke (1997) for Germany, suggesting that the size variation was not spatially restricted but affected the whole of northern Europe.

The fact that a size decrease is also apparent between the Norman and Angevin period suggests that the size decline may have been part of an ongoing process. Again this supports the idea that the transition to the open field system took place gradually over several centuries (Lewis *et al.* 1997). Whilst size diminution can most probably be linked to the agricultural change of the medieval period, several multi-period sites, such as Lincoln (Dobney *et al.*, 1995) and Exeter (Maltby, 1979a), have demonstrated that the decline in sheep and cattle size began as early as the fourth century and continued until the post-medieval period, when the agricultural revolution brought about the appearance of large animal types. Audoin-Rouzeau (1991) and Lepetz and Yvinec (1998) have observed a similar pattern of change for northern Europe, with animal size dropping off steadily from the fourth century. They suggested that this corresponds to the withdrawal of the Roman Empire and the halt in importations of larger Roman cattle. Other researchers have also ascribed the size change to Roman importation (Maltby, 1981; Luff, 1982; Teichert, 1984, Thomas 1989).

Climatic change may also have played a role in the size variation. Lamb (1981) explained that dramatic climatic changes that occurred between 1000B.C. and A.D.1000. Of particular relevance to this study is the suggestion that the third and fourth centuries AD experienced exceptionally mild conditions but that these deteriorated through the Saxon period. If the favourable conditions of the Roman period led to an increased availability of quality pasture, this may well have facilitated a size increase in the third/fourth-century animals. Correspondingly, the deterioration of conditions between the fifth and seventh centuries may account for the synchronous diminution in animal size. If climatic deterioration was responsible for the observed size decline, one would expect that the climatic improvements, which occurred during the later Saxon and Norman periods, would have been accompanied by the re-appearance of larger animals. According to the data presented here, this did not occur.

Although the European climate became more favourable, it seems possible that Viking raids, followed by the Norman Conquest, could have been sufficient to maintain the decline in animal size. Symptomatic of such upheaval may have been the rise in famine-years whose incidence, as recorded in the Anglo-Saxon Chronicle, grows steadily from the middle-Saxon to Norman period. If the Chronicle reflects the true situation, the increased occurrence of famine could well have impacted upon husbandry since people would have been less concerned with maintaining quality breeding stock and may have sacrificed prized animals to feed themselves. Figure 37 shows the correlation between the increase in famine reports and the decline in cattle wither heights. There does appear to be an inverse relationship.

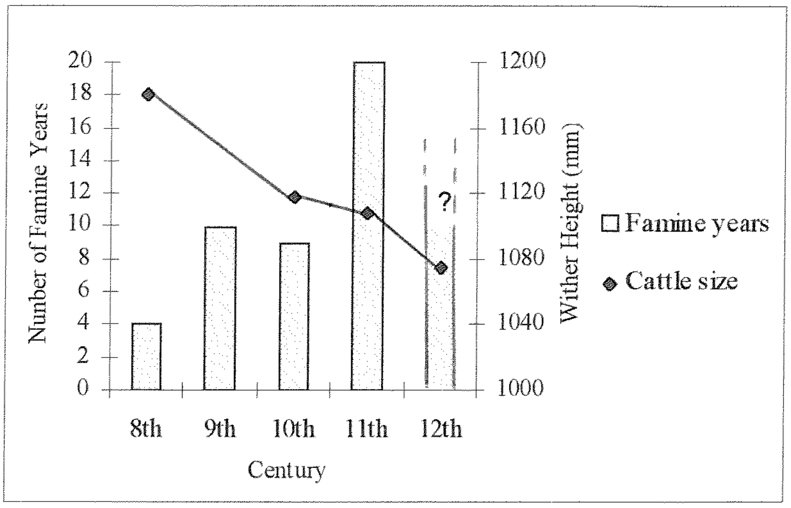


Figure 37: Correlation between cattle size and incidence of famine years as recorded in the Anglo-Saxon Chronicle.

It seems likely, therefore, that the observed size decline cannot be attributed to any single cause and probably occurred in response to a combination of factors. In this way, whilst the Normans cannot be seen as an instigator of the changes, the effects of the Conquest may have contributed to the ongoing decline in cattle size.

3.2iii: Sheep Size

The sheep graphs show similar trends to those for cattle, with a steady size decline from the middle Saxon through to the Angevin period. Again the T-tests (Appendix VI), indicate a significant size drop from the middle to late Saxon period but, unlike cattle, there is also a decline from the late Saxon to the Norman period. Figures 38b and 39a show that the largest Norman metapodials fall in the range of the small-middle sized specimens from the preceding periods. Furthermore, the smallest Saxo-Norman metapodials fall below the lower quartile of the late Saxon assemblage.

Figure 38: Box-plots for the GL (Greatest Length) of sheep a) metacarpals and b) metatarsals.

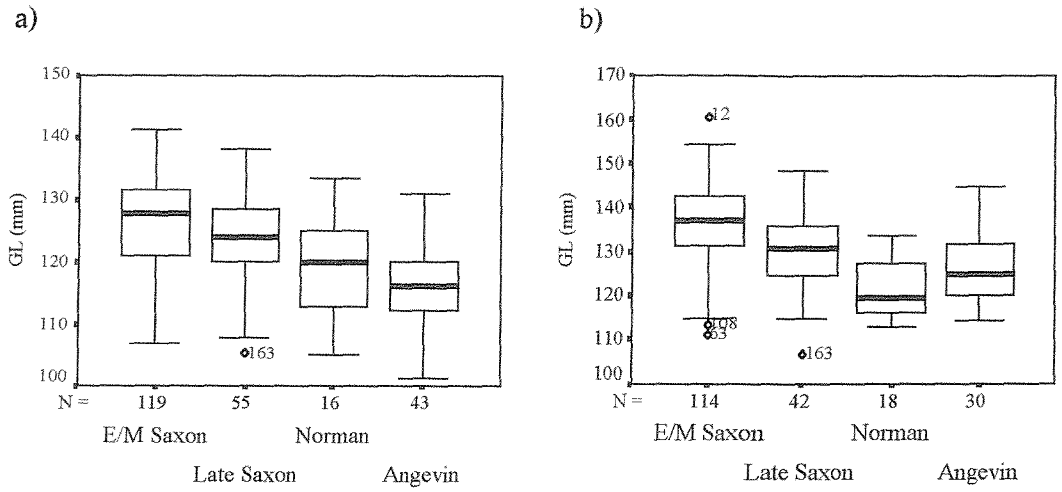
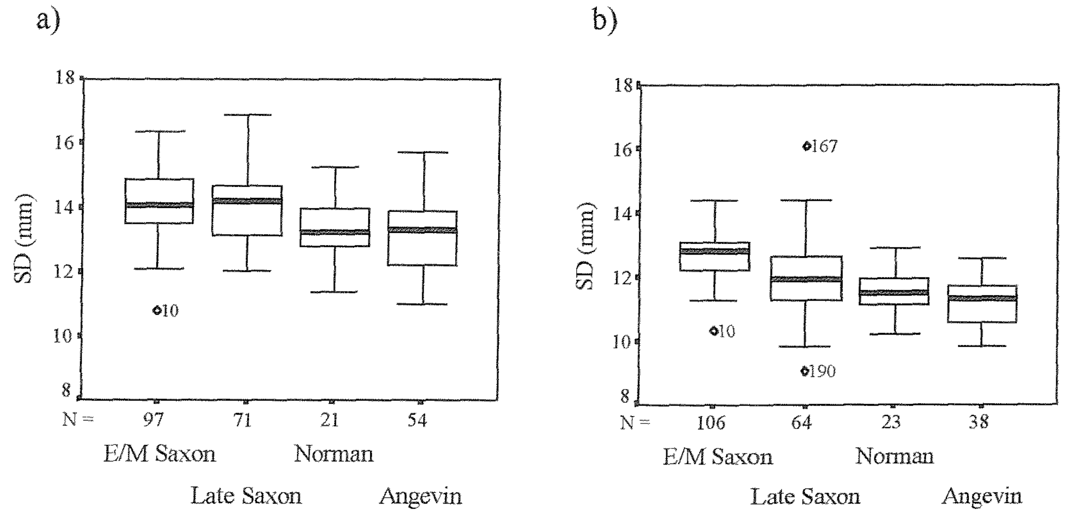


Figure 39: Box-plots for the SD (Smallest Diameter) of sheep a) metacarpals and b) metatarsals



This indicates that the variation between the two periods represents a 'real' size change. Since size fluctuation for this period is species specific, it may indicate a causal factor other than widespread climatic change or famine. Again it seems possible that the size shift reflects a change in the assemblage's sexual composition but, as with cattle, scatter-plots (Figures 38a and b) show no obvious shift suggestive of a change in sex-structure structure, indicating that the observed size variation may represent a change in sheep types, perhaps brought about by breed improvement, degeneration or the introduction of new stock.

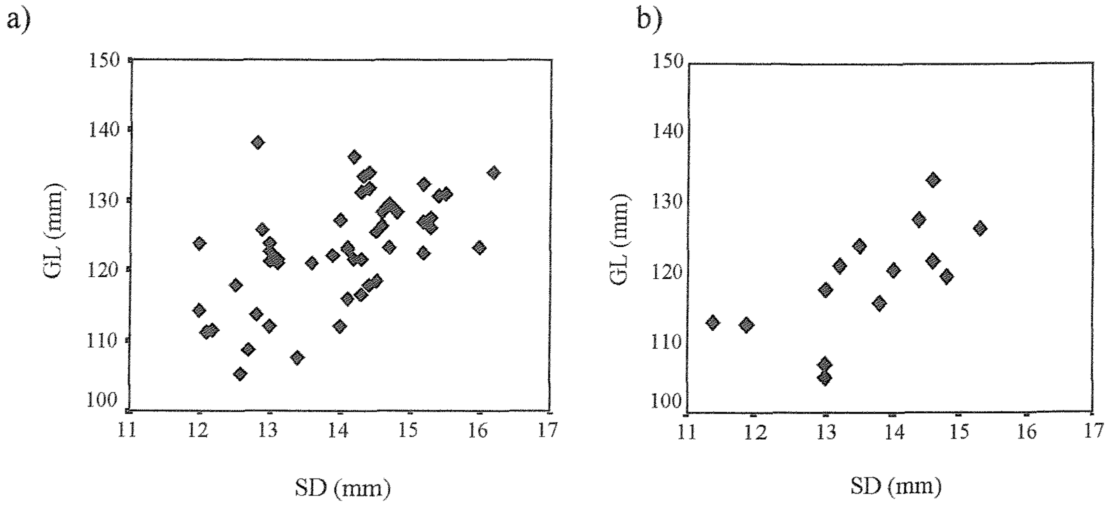


Figure 40: Scatter-plots (GL by SD) for a) late Saxon and b) Norman sheep metacarpals

3.2iv: Sheep Horn Cores

It has been noted above that size is just one of many skeletal characteristics that may inform on improvement level. In order to check whether the size change could be linked to variations in other skeletal traits, it was decided to examine horn-core morphology. The methods developed for this study are described in Section 1.5iv. After being tested on twelve modern sheep breeds, they were applied to two samples of archaeological horn cores (one from Saxon layers at Portchester Castle and the other from the Norman period site of North Street in Lewes, Sussex) to see if any genotypic change had occurred between these periods. A preliminary examination of horn core texture, form and, where possible, maxillary dentition, revealed that all of the specimens were mature. Problems of age-related variation were, therefore deemed to be minimal. Of more concern was the fact that the two samples were derived from different geographical locations. It would have been advantageous to have samples from the same site. Unfortunately, a lack of multi-period assemblages of horn cores ruled this out. It is, therefore, perhaps wise to view this examination as a pilot study from which a wider-scale project can later be undertaken as suitable assemblages become available.

Comparisons between modern and ancient material often run the risk of using breed labels in an archaeological context, a problem that several researchers have warned against (O'Connor, 1982b, and Armitage and Clutton-Brock, 1976). In an attempt to avoid such problems, the data for eleven of the breeds were placed in 'super-groups' based on their horn/skull morphology: Jacob sheep were not included due to their high variability.

- Primitive - Mouflon, Soay, Orkney and Castlemilk Moorit
- Intermediate - Shetland and Norfolk Horn
- Improved - Scottish Blackface, Swaledale and Portland
- Highly Improved - Exmoor Horn and Dorset Horn

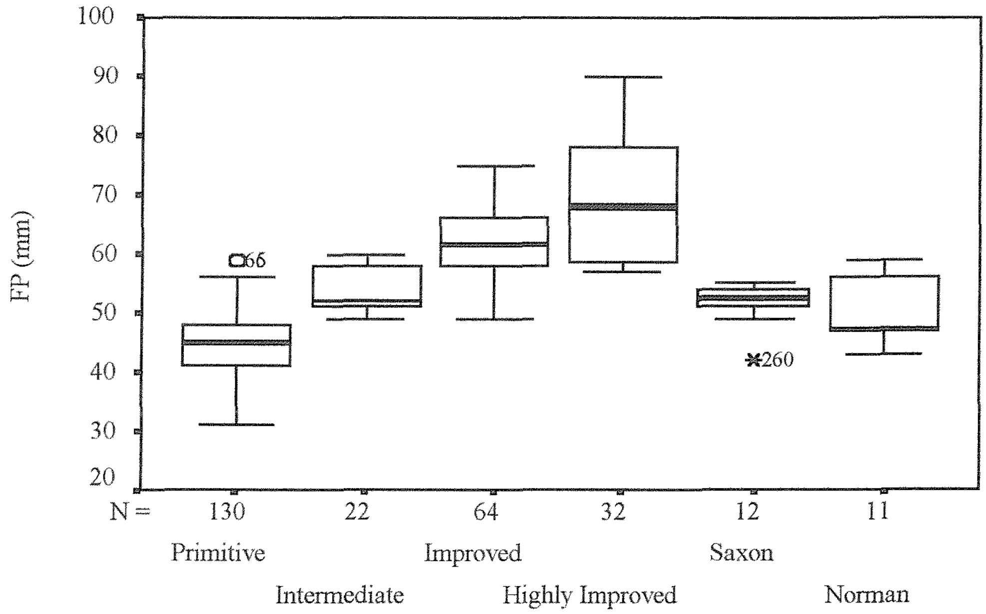


Figure 41: Box-plot for sheep FP (Frontal Profile), comparison between modern and archaeological specimens

The study of modern sheep breeds had demonstrated that the Frontal Profile (FP) was closely linked to level of skeletal improvement. Comparison of the archaeological data against that for the modern 'super-groups' clearly demonstrates that both the Saxon and Norman samples fall in the middle-range of the modern groups. They correlate most closely with the 'intermediate' group, although their lower extremities indicate that they are slightly less improved. This is particularly the case for the Norman sheep whose distribution is skewed towards the lower end of the scale. T-tests (Appendix VI) demonstrated, however, that there was no significant difference between the two groups. Instead, the slight variation appears to have been sex related.

Two bi-variate plots, BB against TP, and for BB against BA, were constructed where the archaeological data were shown against that derived from modern sheep of known sex. Both graphs (Figure 42 and 43) show the Saxon assemblage to have contained a lower frequency of males than the Norman material. The sex distribution suggested by the Norman horn-core assemblage is not however, a reliable indicator of flock structure. As will be seen in section 3.6, horn was a valued commodity in the medieval period and it is possible that the North Street assemblage was composed of selectively imported male horns.

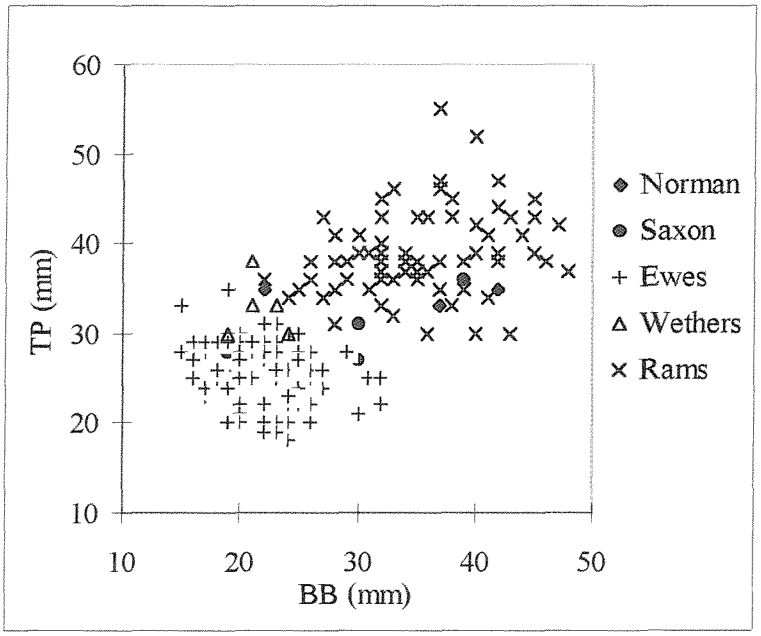
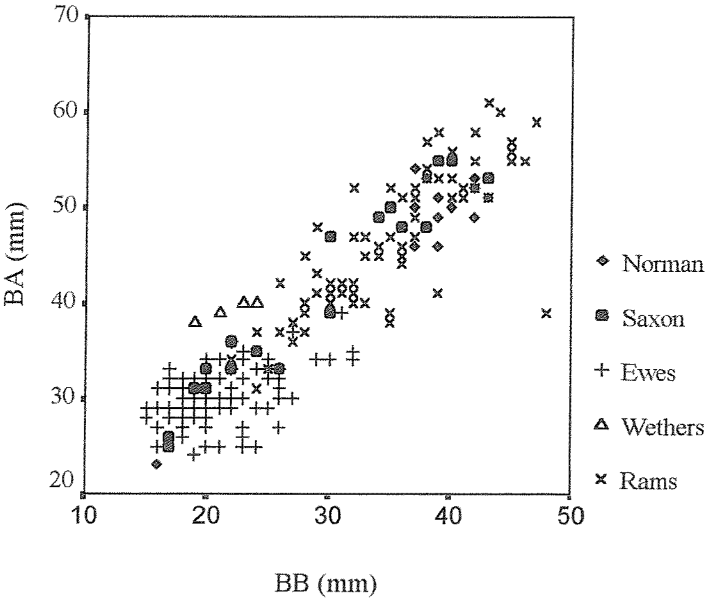


Figure 42: Scatter-plot (BB by TP), comparison of modern and archaeological sheep

Figure 43: Scatter-plot (BA by BB), comparison of modern and archaeological sheep



Analysis of the two archaeological assemblages has demonstrated no difference between the Saxon and Norman sheep horn-cores. As such, the theory that the size decline observed in the metapodia study was brought about by a Norman strategy of selective breeding has not been reinforced, but neither has it been destroyed. Instead a wider study may be necessary before conclusions can be drawn with certainty.

Summary

At present there is little evidence to support the idea that the Normans either introduced or selectively bred new animal types. Metrical data for both pigs and cattle show no change between the late Saxon and Norman period and while sheep data do indicate a size shift, the horn-core study does not support the idea that the diminution can be linked to genotypic change. Instead, it would appear that the size shifts, for both cattle and sheep, are ascribable to a combination of environmental and cultural factors. Whilst the effects of the Norman Conquest may have been contributory, the Roman importation of stock and the late Saxon change in agricultural regimes were probably the most influential.

3.3: Provisioning Systems

Examination of synthesised national data has provided a general impression of animal husbandry and economic change. However, if subtle variations in producer-consumer relationships are to be determined, it is necessary to consider the data at a site-type level.

That provisioning systems did change from the pre- to post-Conquest period can be inferred from historical and archaeological evidence. For example, although towns were well developed by the late Saxon period, market exchange was just one aspect of commerce. The rural population was largely self supplied, with goods being obtained through service, renders and barter (Miller and Hatcher, 1995:17). In particular, landlords received food-rents from their tenant farmers, and all estates were required to contribute food and drink for the upkeep of the royal court (Stafford, 1980; Hagen, 1998b). From just before 1066, however, food-rent systems were gradually abolished in favour of cash payments (Britnell, 1993:41, Lennard, 1959:136; Stafford, 1980). This, combined with William I's taxation demands would certainly have encouraged the move towards a coin-based economy.

It may be hypothesised that since the availability of currency was greatest in towns, markets would have become the intermediary for animal distribution. The addition of an extra stage in the provisioning process may have altered fundamentally the way in which domestic animals, and their products, were distributed. Should such changes have occurred, it seems possible that they could be detectable in the zooarchaeological record. In this section, taxa ratios, cull patterns and anatomical representation data are, therefore, examined, by site-type, to determine if Conquest-related shifts in the provisioning systems are discernible.

3.3i: Villages

Typically, village assemblages are composed of the remains of animals that were either central to the agricultural process or available on the farm. Zooarchaeological data suggest that late Saxon and Norman village assemblages were no exception to this.

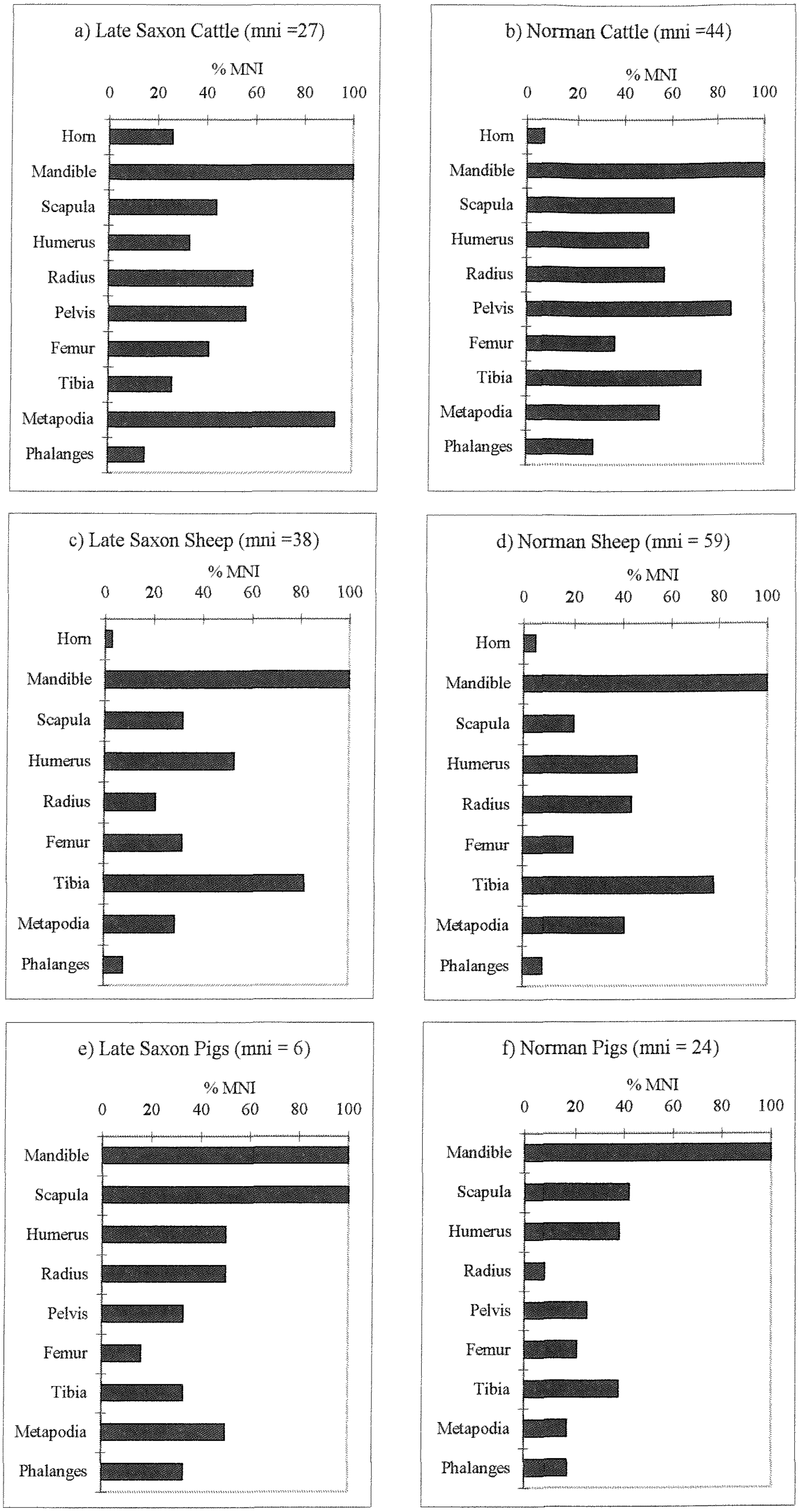
Figure 30a and b (page 64) shows that, in both periods, sheep and cattle were the dominant animals, reflecting the wool and grain economy that characterised medieval England. Cull-patterns for these animals (Figure 33, page 72), at least those for late Saxon England, also conform to Wapnish and Hesse's (1988:84) producer-site model, whereby infant fatalities and breeding stock form the bulk of the 'population'.

Mortality patterns for Norman villages exhibit, however, slightly different patterns to those for the Saxon period. Although the raw data indicate that juvenile animals continued to be present, the graphs for both cattle and, in particular, sheep point to an increased average slaughter age. In Section 3.1ii I proposed that this move reflects the wider economic trend towards the targeting of secondary products (wool and traction) but it seems possible that it might equally represent a change in the provisioning system, with the younger animals being sent to market, rather than retained on site. A similar explanation may account for the apparent decline in the relative frequency of domestic birds (Figure 28, page 62).

The possibility that the farmers of Norman England were supplying the urban population with domestic fowl is difficult to ascertain. Because of their small size, birds were generally traded as complete, probably living, animals. Coy (1989b:31) has pointed out that this reduces the likelihood that anatomical representation patterns will reveal evidence concerning their distribution or exchange. By contrast, the systems by which ungulates were supplied to consumer populations can often be determined through body part analysis. This type of study is most commonly applied to urban assemblages, such as those from Exeter (Maltby, 1979a), to determine whether animals were supplied on-the-hoof or in a pre-butchered form. In theory, producer sites should also reflect supply mechanisms but factors of preservation have often proved problematic for the interpretation of rural assemblages.

Figures 44a-f show skeletal frequency data for late Saxon and Norman domesticates from village sites. Anatomical representation is not equal in either period, with the body part patterns, especially those for late Saxon cattle, showing an over-representation of foot and, in particular, head elements. Potentially, this may be reflecting a supply

Figure 44: Body part patterns for a-b) cattle, c-d) sheep and e-f) pigs from late Saxon and Norman villages

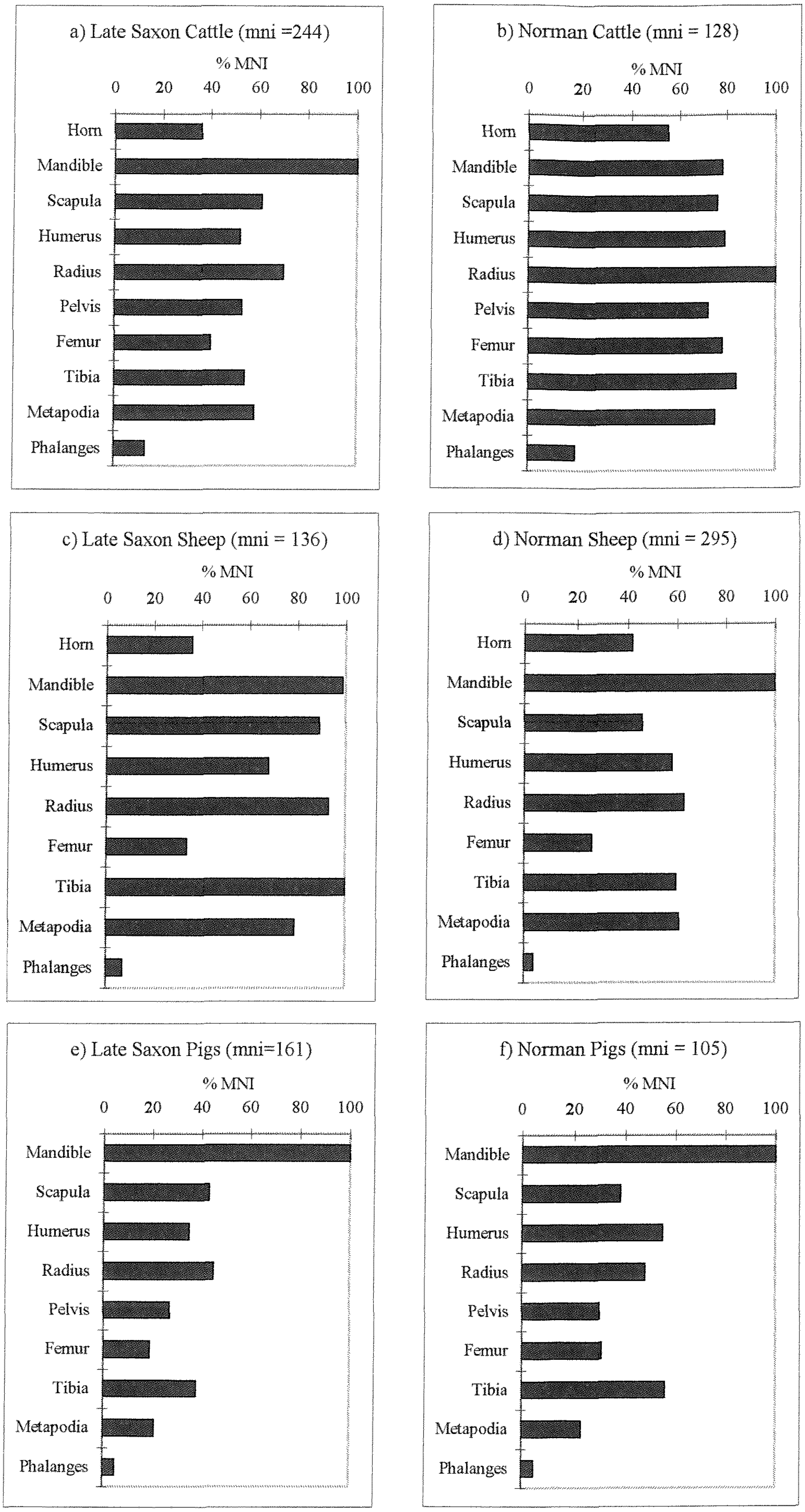


mechanism where villagers butchered their own animals but sent the meatier portions to the consumer population. Certainly this was the conclusion drawn by Chaplin (1971:127) in his study of the late Saxon Whitehall Farm site. Alternatively, the abundance of head and foot elements could feasibly be explained by factors of rubbish disposal. In the medieval period, refuse from rural sites was often accumulated in middens, so that it might later be spread on the fields as fertiliser (Astill and Grant, 1988:2). Because refuse was left exposed, scavengers would have had access to the material. Brain (1967) has shown that dogs will preferentially consume the lower density, meat-bearing bones, leaving behind the less palatable elements such as mandibles and metapodia. Carnivore activity could, therefore, account for the patterning displayed by the village assemblages.

3.3ii: Towns

By contrast to village refuse, medieval urban waste was usually placed in pits, which would have provided good preservation conditions and perhaps also protected the material from scavengers (Astill and Grant, 1988: 4). Lack of carnivore activity may explain why cattle and sheep body-part graphs show equal representation of skeletal elements (Figure 45a-f). The graphs show no over-representation of meat-bearing elements to suggest that urban sites were supplied with pre-butchered joints. Instead it would seem that animals were either raised within the town (as is perhaps suggested by the ninth-century animal byres found in Gloucester - Heighway *et al.*, 1979) or brought from the agricultural hinterland on-the-hoof. Whichever way animals arrived, they were apparently slaughtered and butchered within the town: an idea supported by the butchery data (Section 3.4i). The fact that cattle are easier to drive than sheep and pigs, and also carry a greater meat weight, may explain why they are relatively more abundant on towns than other sites (Figure 30). It is possible that cattle were supplied due to consumer demand but there is little other evidence to suggest that the urban population had any control over their supplies. This is clearly demonstrated by comparison with the French data, which I argued, reflected a consumer-led provisioning system (Section 2.1iii).

Figure 45: Body part patterns for a-b) cattle c-d) sheep and e-f) pigs from late Saxon and Norman towns



In France, producer and consumer assemblages were markedly different, suggesting that agricultural production had little impact on urban supply. By contrast, English villages and towns show a great similarity in taxa range, and the fact that English towns show a significant pre- to post-Conquest increase in sheep frequencies indicates that food provisions were more strongly influenced by economic factors (wool production) than the demands of the urban population.

Since pre- to post-Conquest shifts in taxa frequencies conform to the wider patterns of economic change, it is perhaps surprising that the ageing data demonstrate contradictory trends. Although cattle and sheep cull-patterns are typical for consumer sites, showing neither a large number of very young or very old animals, they do not follow the widespread move towards delayed slaughter. Instead, the patterns for late Saxon and Norman cattle exhibit little variation whilst the graphs for sheep actually suggest that Norman towns were receiving younger animals than in the preceding period. This pattern has also been recognised for Norman Flaxengate, Lincoln, and O'Connor (1982a:49) suggested that this short-lived shift could represent the dietary preferences of the Norman soldiers who were stationed in the area. Certainly the arrival of the Norman army must have had some effect on the Saxon provisioning system but, if the Lincoln pattern reflect Norman preferences, it might be expected that high-status sites, which saw the heaviest Norman influence, would also show a shift towards young animals. As will be seen below, this was not the case. Another explanation must, therefore, be sought.

It seems possible that the decline in urban animal age somehow corresponds to the dramatic increase in age noted for village sites, perhaps reinforcing the idea that post-Conquest farmers sent a higher frequency of prime meat animals to market. Britnell (1993:51) has argued that the peasant's main impetus for the sale of produce was to obtain cash to pay taxes. It has already been noted that the post-Conquest period saw tax burdens increase and the need to obtain money could certainly have encouraged the rural population to market the few prime animals that they had. This may also explain the post-Conquest rise in urban domestic fowl, which occurred at the same point as bird frequencies on village sites declined (Figure 28).

According to Carlin (1998:28), the late eleventh and twelfth centuries saw the proliferation of professional cooks who produced ready-made food for the urban population. Certainly by the 1170s William Fitz Stephen was able to record that London had a vendor of cooked poultry (Douglas and Greenaway, 1961:958). Although, as has already been stated, it is difficult to detect trade in domestic birds, Figure 46 demonstrates that ducks are noticeably less well represented in towns than in villages. This may be evidence for selective supply. Alternatively, the low representation of duck on town sites may be a reflection of their unsuitability for urban management: chickens and geese are better disposed to being kept in confined spaces.

Pigs are also suited to domestic production and are commonly cited as urban animals (O'Connor, 1989b:17). The degree to which household husbandry occurred during the medieval period is, however, uncertain. On several sites, such as Fishergate, Yorkshire, body part analysis has revealed a dearth of metapodia indicating that, rather than being raised on site, a high proportion of animals were imported as partially-butchered carcasses (O'Connor 1991:246).

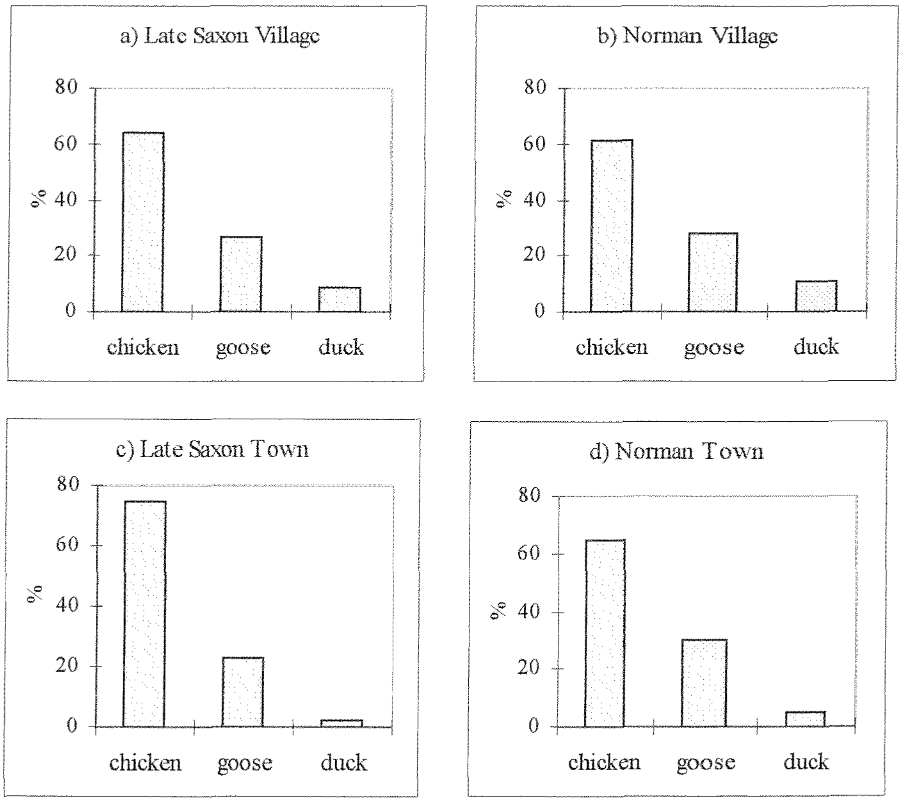


Figure 46: Relative frequencies of domestic birds on late Saxon and Norman villages and towns

If preliminary butchery was taking place away from towns, it might be expected that rural sites would show a corresponding over-representation of metapodia. Whilst sample sizes are small Figure 44e shows that, to some extent, this is apparent for late Saxon villages, perhaps indicating that the rural population was, indeed, supplying partially butchered carcasses to urban sites. Such a situation would correlate with the idea that in the Saxon period pigs were generally maintained in a semi-wild state (see page 72). The temperament of these animals may have required that they were slaughtered before transport and, in such circumstances, some preliminary butchery may also have been undertaken.

In Section 3.1ii I argued that by the Norman period sty husbandry had become common practice, meaning that all sectors of society could raise their own animals. This may account for the similarity in skeletal patterning for Norman villages, towns and high-status assemblages: Figures 44, 45 and 46(f) show that all sites contained metapodia in equally low frequencies. Whilst this suggests that pre-butchered carcasses were no longer being distributed between sites, it also indicates that factors other than carcass processing are responsible for the lack of metapodia.

O'Connor (1991 and 1994) has suggested that bone working may, in part, account for their dearth. Certainly these elements were commonly punctured and used as 'toggles': examples were found during excavations at Thetford (Dallas, 1993), Redcastle Furze (Andrews, 1995), and St Martin-at-Palace plain (Ayers, 1987). However, as O'Connor argues, it seems unlikely that the lack of metapodia is entirely ascribable to artefact manufacture.

Widespread similarity in skeletal patterning is suggestive of non-cultural taphonomy and the consistent over-representation of mandible indicates inter-element variation in bone density as a potential factor. Because pigs were generally slaughtered at a young age, their unfused long-bones would have been more susceptible to destruction than the denser mandibles. Albarella and Davis (1996) have also suggested that the porous and greasy nature of pig bones would have made them attractive to scavenging carnivores, if that is they could gain access to them.

Since pig assemblages are seemingly strongly affected by bone survival, their anatomical representation is perhaps, by comparison to the other domesticates, less informative concerning modes of distribution and exchange. As a result, reliable evidence for urban pig breeding may be obtainable only from ageing data. Again, availability of this information is hindered by preservation, which may account for the general absence of foetal and perinatal remains within town assemblages. A small number of neonatal bones have, however, been recovered from both late Saxon and Norman Coppergate, Yorkshire (O'Connor, 1989a:183). Foetal and neonatal remains were also identified in late eleventh/twelfth-century deposits from Thetford (Hutton MacDonald, 1999:82), perhaps suggesting that domestic pork production became more common in the post-Conquest period. Again this would fit with the theory that sty husbandry was more commonly practised in Norman England. In general, however, it must be assumed that, throughout the Saxon-Norman period, most pigs were brought into towns on-the-hoof, or at least as complete carcasses.

3.3iii: High-status sites

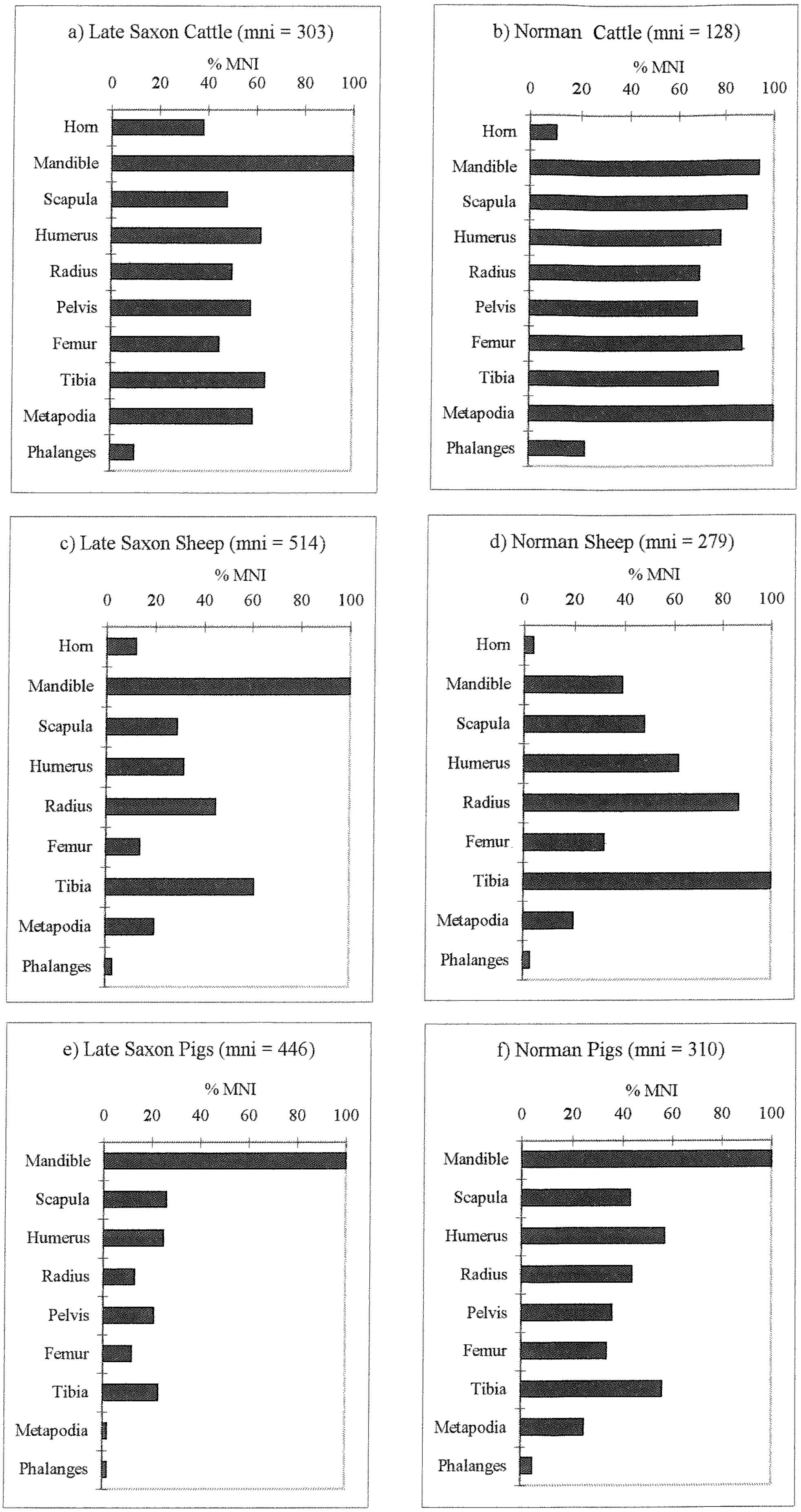
Whereas pigs generally constitute less than twenty percent of rural and urban assemblages, they are usually well represented on high-status sites, a fact first recognised by Grant (1988b). The association between pigs and high-status sites is particularly well demonstrated by the assemblage from Goltho, Lincolnshire (Beresford, 1987; Jones, and Ruben, 1987). In the middle Saxon period the site consisted of a modest farmstead, and the bone material for this phase of occupation is dominated by cattle and sheep, with pigs contributing just 8%. By the late ninth century, Goltho had become a fortified *thegnly* residence, and this change in function is reflected by a dramatic increase (to 31%) in pig frequency (See Appendix Ib).

That pigs were obviously important to the elite may explain why this animal is over-emphasised in the documentary evidence: the authors of the texts may have preferentially mentioned those animals which they consumed. Nevertheless, it is less clear why this pig-status relationship originally developed. It is commonly cited that because pigs are a meat-animal, providing little income in terms of secondary products, only the rich could afford their upkeep (Biddick, 1984b; Grant, 1988a). This view is valid if it can be demonstrated that resources were expended for their maintenance; for example, the accounts for later medieval Peterborough Abbey indicate that considerable quantities of grain were purchased for pig fodder (Biddick, 1984b). However, pigs might equally be viewed as the peasant's animal, since they could have been fed kitchen refuse or put out to 'pannage', were they might forage for beech nuts and acorns. Bennett (1971:92) states 'no animal was so easily fed, and no animal so easily put on flesh and was so soon prepared for slaughter'. That pigs hold such a dichotomous position suggests that the association between pigs and high-status sites may relate to something other than wealth.

In Chapter 2 it was suggested that, in France, pigs were used as a food-rent animal, and it seems possible that the same was true in England. Certainly, pigs were often paid as a fee for land use: in 866 for example, land at Seckley, in the west Midlands, was leased in return for, amongst other things, fifty swine (Hagen,1998b:261). The Domesday Book also records numerous swine-rents, paid for pannage rights (Lennard, 1959:259). As was mentioned in Chapter 2, pigs would have been the most suitable rent animal because they were not only cheap to raise but they would also have provided the biggest range of meat products (ham, pork, bacon). Furthermore, since pigs provide no secondary products, the peasants would have lost no valuable commodities by relinquishing them as rent.

If, as historical evidence suggests, the Norman period saw food rents commuted for cash payments, it might be expected that provisioning patterns would have changed in response. Whilst taxa representation data provide little evidence for this, the age and body part patterns do indicate that some changes took place. Anatomical representation data for the main domesticates are provided in Figures 47a-f. Those for the late Saxon period, in particular those for sheep and pig, demonstrate a low frequency of foot elements, indicating that animals were not sent to high-status settlements on-the-hoof but must have arrived as pre-butchered cuts of meat. To this extent the theory that animals were slaughtered at village sites from where they were supplied as pre-butchered animals, is supported. However, it was suggested above (Section 3.3i) that

Figure 47: Body part patterns for a-b) cattle, c-d) sheep and e-f) pigs from late Saxon and Norman high status sites



a) Late Saxon Cattle (mni = 303)

b) Norman Cattle (mni = 128)

c) Late Saxon Sheep (mni = 514)

d) Norman Sheep (mni = 279)

e) Late Saxon Pigs (mni = 446)

f) Norman Pigs (mni = 310)

the under-representation of meat-bearing elements in rural assemblages could be due to export of the best meat-cuts to high-status sites; this is clearly not the case. Although some individual sites, such as the Abbeys of Eynsham and St Albans, may have received quantities of meat-joints (see Appendix IIIa-c) the synthesised data suggest that, in general, the elite were not provisioned with large quantities of meat bearing bones. Instead, high-status assemblages are seemingly characterised by an abundance of cranial elements. This is particularly the case for pigs (Figure 47e) which are represented by little other than mandibles.

Although it has already been argued that all pig assemblages are characterised by an over-representation of mandibles, in comparison to village and town sites the ratio of mandibles to post-cranial bones is much greater on high-status sites. The same seems to be true of the Saxon sheep, but the patterns for cattle are little different to those for urban sites (see Figure 45a). Since high-status sites operated the same disposal strategy (midden accumulation) as villages, it might be expected that they would show similar body part patterns. Whilst this is, perhaps, the case for sheep, in general the high-status assemblages show a greater cranial to post-cranial ratio. The reason for this is uncertain but it seems possible that either heads were selectively imported to sites or that the other meat from these animals was redistributed. What is clear is that the body part patterns for Norman animals, in particular sheep (Figure 47d), are almost diametrically opposed to those of the late Saxon period, showing a higher frequency of meat-bearing bones, notably the scapula and humerus.

It seems possible that this shift in anatomical representation reflects the post- Conquest changes made to the provisioning systems. The inter-period variation is even more interesting when it is recognised that the post-conquest patterns are very similar to those from high-status French sites (Figures 16 and 17, page 38). It was seen in Chapter 2 that the assemblage from Vatteville-la-Rue and Douai consisted primarily of meat-bearing joints and I argued that the occupants of the castle were being provisioned with specific cuts of meat: shoulders of mutton and the shoulders and haunches of beef. Hams may also have been imported but there is evidence that pigs were supplied to the elite via a different mechanism to sheep and cattle.

The fact that anatomical representations change from the Saxon to Norman period but also come to resemble those for French sites, may suggest that the continental provisioning system was installed in post-conquest England, whereby pre-butchered beef and mutton was obtained from specialist butchers, rather than direct from the rural population. Certainly this theory is supported by the butchery evidence for high-status sites, which demonstrates a post-conquest shift towards more professional techniques (see below, Section 3.4i). According to MacCormick (1991:48), similar changes to the native provisioning system were made after the Anglo-Norman Conquest of Ireland. As in England, food rents were replaced and traditional methods of animal butchery and distribution were legislated against.

There is also evidence to suggest that the tradition of on-site pig husbandry, observed for high-status French sites, was adopted in post-conquest England. Although pig skeletal representations are still dominated by mandibles, with a low frequency of foot bones, the patterns are close to those for village and town sites, where pigs were presumably both raised and slaughtered on site. Mortality curves (Figure 33b) also indicate a twenty percent death-rate by the age of six months. The site of Faccombe Netherton provided clear evidence of on-site husbandry, as 6 neonatal skeletons were recovered from a Norman period cess-pit (Sadler, 1990b:481).While this shift towards domestic production probably represents a widespread move towards sty husbandry, it could be argued that it was instigated by the Norman lords, perhaps in an attempt to boost the availability of pork to the level found in France

If the post-Conquest elite were demanding the types of animals that they were accustomed to in France, it might be expected that the cull-patterns for Norman period cattle and sheep would indicate a move towards the representation of juvenile animals: it was seen in Chapter 2 that 20-30% of animals consumed by the French elite were under six months of age. Figures 33c-f demonstrate that this was not the case and no decline in average slaughter age is apparent. Indeed, although the sheep cull-patterns remain unchanged from the Saxon period, those for Norman cattle indicate a significant rise in age. This conforms to the wider economic trend towards delayed slaughter, indicating that the supplies obtained by the elite were subject to the agricultural economy even more than those obtained by the urban population.

The evidence presented here provides a rather dichotomous image of the provisioning system. It is clear that the elite received meat from the oldest, and presumably toughest, animals available; even townsfolk had access to younger individuals. From a modern perspective this would suggest that the elite had little control over their supplies. At the same time it is clear that some rights of selection were exercised, since the high-status sites were receiving the best cuts of meat. This situation will be discussed further in Chapter 8 but at present it is necessary only to recognise that evidence for a post-Conquest change in provisioning is apparent and that the Normans were possibly responsible for its introduction.

Summary

In this section it has been seen that whilst some aspects of provisioning system were unaffected by the Conquest, others altered considerably. For example, while taxa ratios show little variation, beyond that associated with the wider economy, ageing and body part data indicate a shift in the mechanisms of animals distribution.

Although the picture is far from clear, there is evidence to suggest that, in the post-Conquest period, peasants marketed greater quantities of their livestock, including juvenile cattle and sheep as well as domestic birds. This decision may have been prompted by Norman demands for money payments, in the form of taxation, but also as a result of the abolition of food-rents.

That the Norman elite were not provisioned in the same way as their Saxon counterparts can be inferred from body part data, in particular the rise in the frequency of meat-bearing bones. It seems possible that rather than obtaining supplies directly from the rural population, the Norman lords utilised their new source of money to buy specific meat cuts from towns.

From the evidence available, I propose the hypothesis that the Normans can, perhaps, be attributed with the commercialisation of the provisioning system. Furthermore, I would argue that the model for the new system came from the pre-existing set-up in Normandy. Evidence for Norman influence is also indicated with respect to pig husbandry. Again rather than being supplied with pre-butchered carcasses, ageing and body part data for high status assemblages suggest that some pigs were being raised on-site.

The effects of these changes would, no doubt, have been wide-ranging and the possibility that they impacted upon the development of animal-based crafts, in particular the butchery trade, will now be examined.

3.4: Craft Specialisation

It has already been seen that the textile industry was well developed by 1066, and scholars such as Hall (1988), Hodges (1989), Wade (1988) and Wilson (1976) have demonstrated that Saxon England supported numerous bone workers, butchers and tanners. It is clear that these specialists proliferated and became more centralised during the post-Conquest period but whether the Normans motivated this process is less apparent. Norman foundations of new markets and towns must have encouraged the process, especially since many were laid out with accommodation for potential craftsmen: in Nottingham, for example, thirteen houses were built in the new borough, with a further forty-eight merchants' houses being erected in the space between the new and old towns (Miller and Hatcher, 1995:41). Nevertheless, other factors such as international trade and population increase must also have been influential. Smith (1988) has argued that the eleventh to thirteenth centuries witnessed a European wide expansion in population: he estimated that whilst there were 1.5-2.5 million people in England at 1086, this figure had risen to 3.8-7.2 million by the end of the thirteenth century. As more families had little or no land they were forced to seek income as service providers. Eleventh- and twelfth-century documents record folk movement away from rural areas to the newly-created urban settlements (Rowley, 1984:124). In larger towns, specialists of the same craft began to live in communities. Archaeological evidence suggests that this may have occurred in the Late Saxon period; excavations at Chester, for example, have revealed areas seemingly devoted to tanning and bone-working (Mason, 1985:23; McPeake *et al.*, 1980:31). Certainly, by 1130 trade guilds, such as that for butchers, were well established (Sabine, 1933; Pooley, 1945; Britnell, 1993).

3.4i: Butchery

Historical evidence demonstrates that specialist slaughterers, flayers (*hyldere*) and butchers (*flaesc tawere*), were known to the late Saxon population (Hagen, 1998). Tenth-century legal codes state that cattle had to be sold and slaughtered in the presence of two witnesses (Whitelock, 1955) but no specifications regarding the location of these activities were laid down (Britnell, 1993). Before the Conquest, specialist butchers may have been itinerant, undertaking slaughter and butchery on the consumer's premises. Certainly this is the indication provided by most Saxon assemblages, such as those from Coppergate (O'Connor, 1989a) and Bedford (Grant, 1984).

Synthesised body part data for late Saxon towns are provided in Section 3.3ii (Figure 45, page 92). The patterns are not indicative of commercial butchery as they show neither a dearth nor over-abundance of head or foot elements. Instead, most parts of the skeleton are represented equally. The Wigford site in Lincoln did, however, provide a more selective assemblage; the patterns for both cattle and sheep contained a high percentage of metapodia and mandibles relative to other body parts (see Appendix IIIa and b). Dobney *et al* (1995) suggested that this may be evidence for professional butchery.

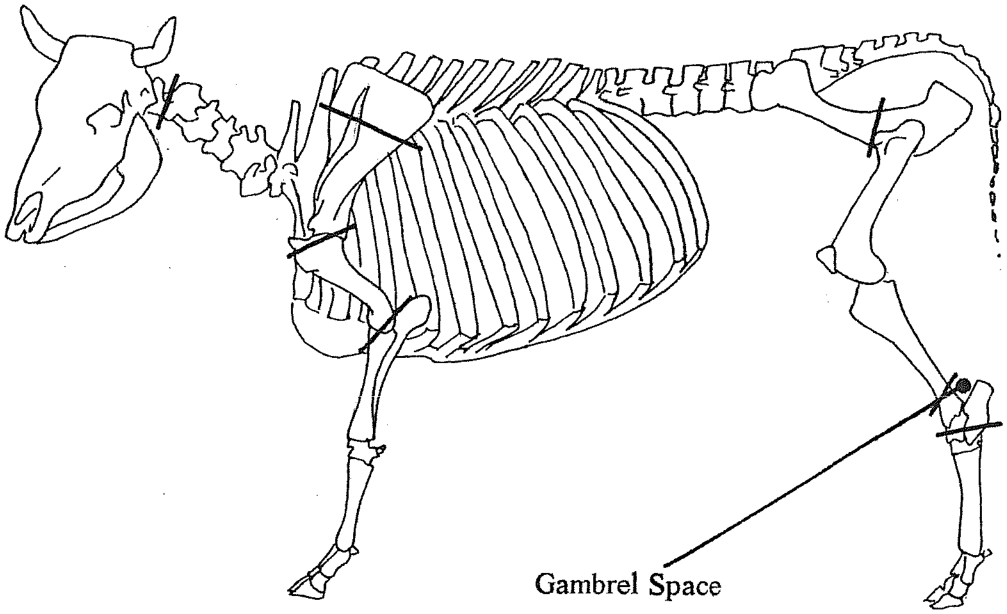
If butchery was becoming more specialised or centralised by the late Saxon period, it might be expected that Norman assemblages would exhibit even more evidence for this development. Skeletal representation data, however, show the patterns to be less, rather than more, indicative of a systematic butchery trade. One explanation to account for the absence of distinct deposits could be that, in the early medieval period, there was no such thing as butchery 'waste'. Most parts of an animal's carcass would have had a value, be it nutritional or functional, and it seems unlikely that heads and feet would have been discarded un-utilised. There is ample evidence to suggest that brains were eaten (cleaved skulls are often found amongst food debris) and that metapodia were processed for their marrow (see Section 8.1). Such activities are perhaps more likely to have been undertaken in the kitchen rather than at the place of butchery. For these reasons the status of the butchery profession may be better deciphered from butchery marks than the body part patterns.

The butchery data I obtained for Saxon and Norman sites are provided in both a raw and summarised format in Appendix Va-c. At the most basic level, inter-period variation in the ratio of chop to cut marks suggests a post-Conquest shift in butchery tools, with meat cleavers being used more frequently in the Norman than in the Saxon period. On its own this information has little interpretative value but when viewed in conjunction with the butchery patterns the evidence becomes more informative. Butchery diagrams for the pre- and post-Conquest periods are shown in Figures 48-52. While variation in the location of butchery marks is minimal, with most being concentrated around the articular surfaces (Figure 48a-b), methods of carcass reduction were significantly different in the Saxon and Norman periods.

Figure 49 shows differences between the pre- and post-Conquest butchery patterns for the hind limbs. It can be seen that those for the Saxon period demonstrated a higher frequency of marks (codes 1, 30, 31 for the pelvis) that suggest the femur was removed from the pelvis by inserting a blade into the acetabulum, although the pubis was also commonly severed (code 26). By contrast, post-conquest butchers more regularly separated the hind limb by chopping through the ischial sections of the acetabulum (codes, 2 and 5), often causing corresponding areas of the femoral head (code 3) to be removed. Heavy chop marks were also observed on distal femur (28, 31,32,33) and proximal tibia (2, 40, 41), presumably caused when the shank was removed from the upper leg. Again Saxon assemblages show a greater percentage of marks (22 and 24) indicating knife-based butchery, an idea supported by the lack of disarticulation marks on the proximal tibia.

Figure 48: Location of the major butchery marks for a) Saxon and b) Norman Domesticates (cattle, sheep and pig combined).

a)



b)

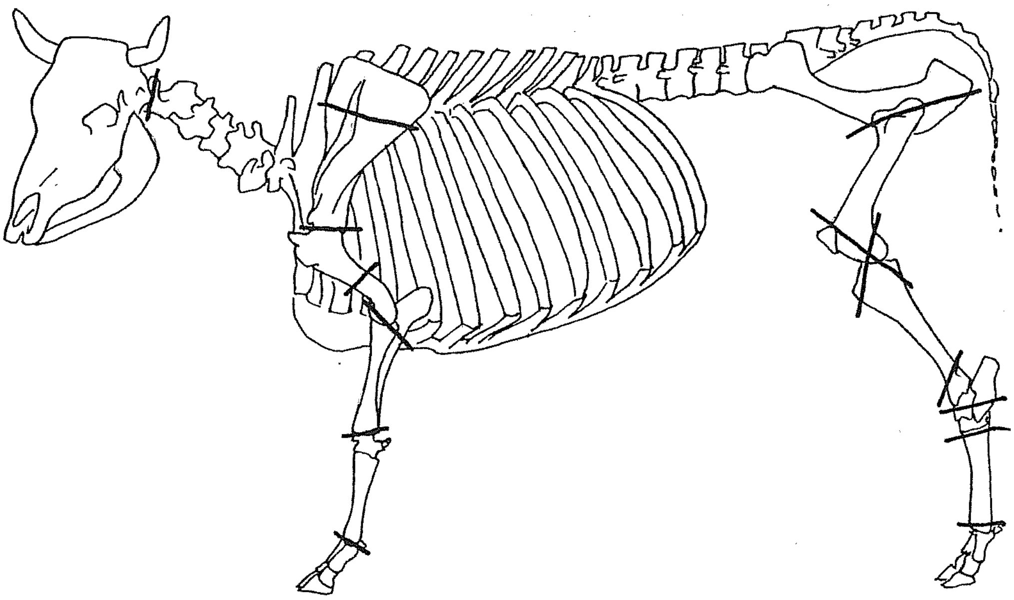
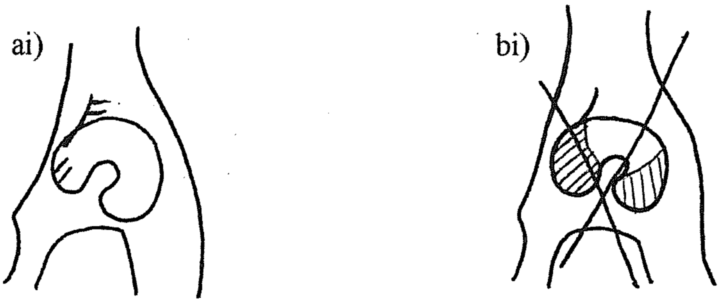
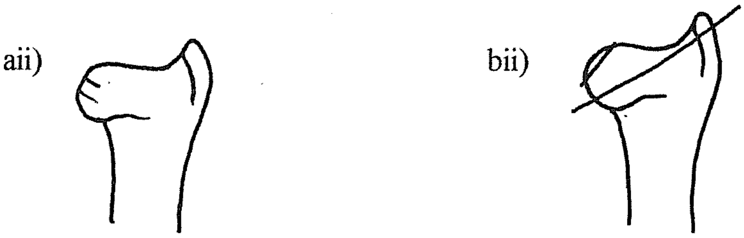


Figure 49: Differences between a) Saxon and b) Norman methods of hind-limb disarticulation (data for cattle, sheep and pig combined).

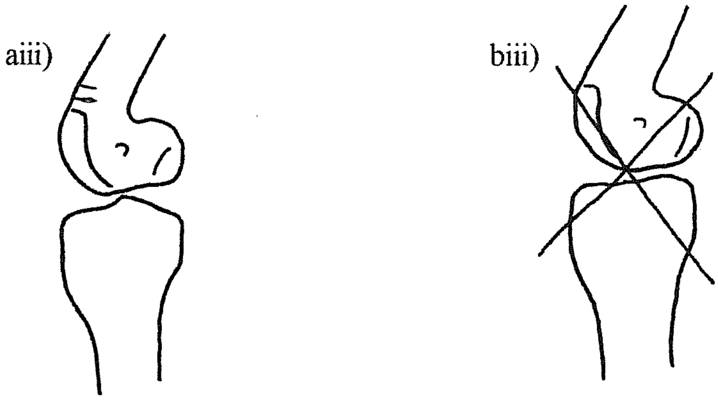
The pelvis



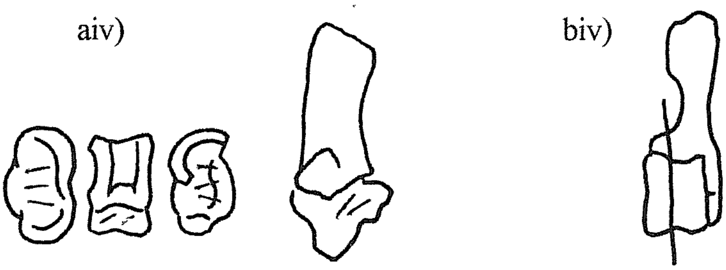
Proximal femur



Distal Femur and Proximal Tibia



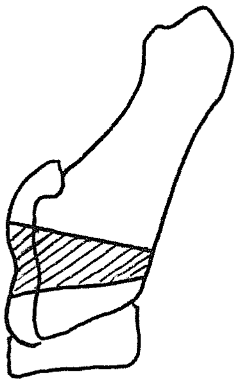
Astragalus and Calcaneum



Perhaps the most obvious change, and one that has been noted by many authors (for example, Grant, 1987, Hagen, 1998, Jones, 1993 O'Connor 1982a, 1984), is the way in which carcasses were split into sides. In the earlier periods the vertebral column tended to be split along one or both sides of the centrum but by the later medieval period carcasses appear to have been divided into equal sides along the medial-sagittal line. Table F (Appendix Vc) demonstrates that the post-Conquest period saw a higher percentage of butchery marks indicative of sagittal splitting: 31% of Norman cattle vertebra butchery was attributable to this method, compared to just 8% in the Saxon period.

In order to facilitate central splitting, the carcass would have been suspended. This was probably achieved by inserting a hook into the gambrel space, the area between the tibia and calcaneum (see Figure 48). Figure 50 shows a butchery tradition which, O'Connor (1982:16) proposed, may be associated with this practice. O'Connor argued that if a carcass was to be suspended by the Achilles tendon, the feet would need to be removed distally to the calcaneum. By chopping through the astragalus and calcaneum (butchery code '17'), this would leave the hock region intact thus allowing the carcass to be suspended. Although O'Connor noted this type of butchery at Saxon Flaxengate, I found it predominantly in post-Conquest assemblages (Appendix Vb): in the Saxon period, these tarsal bones appear to have been separated with the use of a knife (see Figure 25aiv).

Figure 50: astragalus and calcaneum butchery (after O'Connor, 1982a)



Another butchery pattern that I found to be restricted to the post-Conquest period was the longitudinal splitting of the astragalus (butchery codes '15' and '16'), with the calcaneum showing associated chop marks (code '4'). This butchery pattern (shown in Figure 49) is suggestive of a blow between the tibia and the calcaneum but the reason why this area should be divided is uncertain. One possible explanation is that once a carcass had been split into sides, it was cut down, rather than lifted, from the hooks by which it was suspended. It has already been noted that hooks were, most probably, inserted into the gambrel space; by chopping between the calcaneum and the tibia. This would have released the carcass from the hook. That longitudinal splitting of the astragalus was only evident for cattle may suggest that sides of sheep and pig were light enough to lift from the hooks.

Figure 51: Differences between the a) Saxon and b) Norman methods of fore-limb disarticulation.

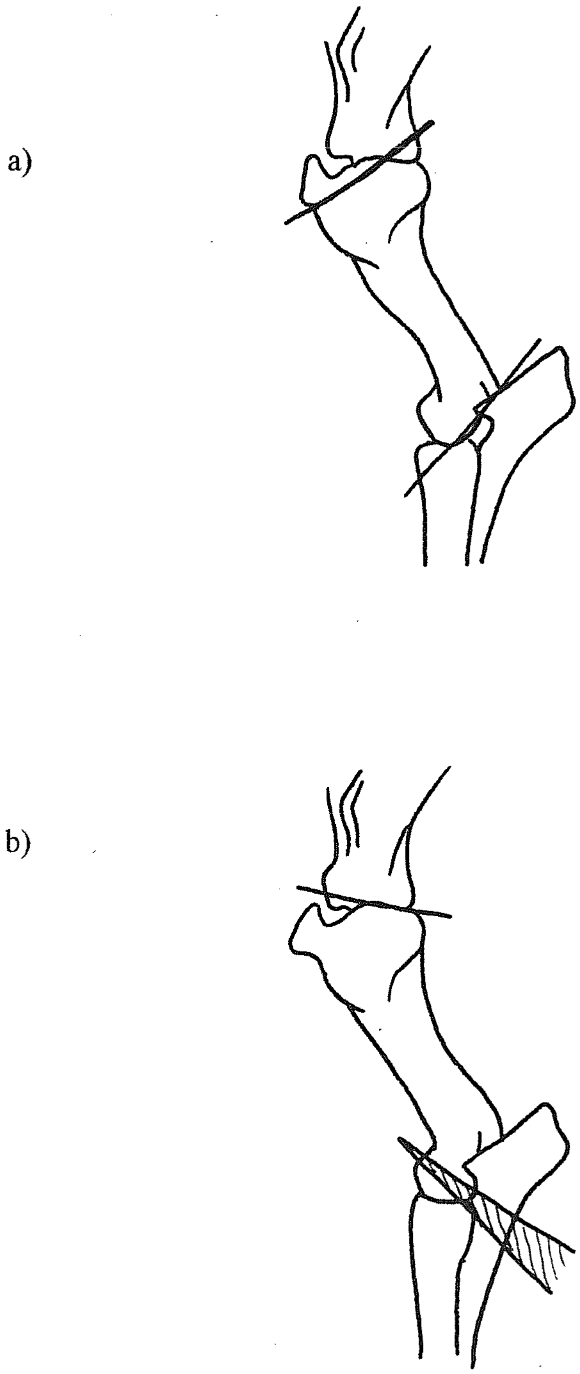


Figure 51 shows that methods of separating the foreshank (the meat surrounding the radius) from the upper arm were also characteristically different in the pre- and post-Conquest periods. In the Saxon period the distal humerus was chopped through in a way which removed its angle of epicondylus, the dorso-medial part of the proximal radius and part of the ulna's olecranon. By contrast, Norman butchers adopted a mirror opposite technique: chopping through the trochlear of the humerus, causing the volar-medial part of the proximal radius and proximal ulna to be removed. Since these differences would not have produced significantly different cuts of meat, they seem to reflect style rather function. According to Sackett (1986) stylistic variation in butchery may be an indicator of cultural difference. However, the possibility that differences between the pre- and post-Conquest butchery patterns reflect the introduction of Norman techniques cannot be substantiated. Figure 52 demonstrates that humerus-radius butchery at Vatteville-la-Rue was actually more akin to the techniques observed for pre- than post-Conquest England.

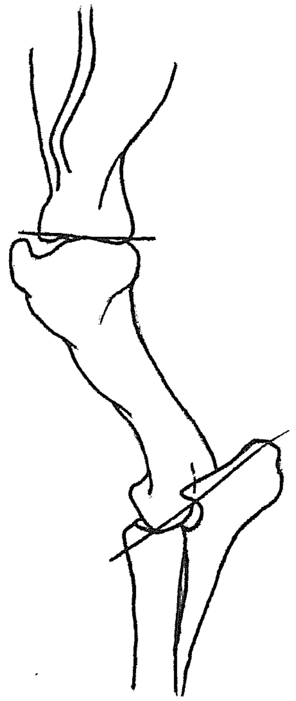


Figure 52: Patterns of fore-limb butchery displayed by the Vatteville assemblage (cattle, sheep and pig data combined)

Neither can the Normans be attributed with the introduction of vertebra splitting or the technique of chopping through the astragalus and calcaneum (Figure 50). Indeed, there is little suggestion that these techniques were commonly practised in France before the twelfth century. Although the Vatteville assemblage contained split astragali and demonstrated a high frequency of split vertebrae, poor dating of the material questions the applicability of the data to the eleventh/twelfth century. Charité-sur-Loire, however, produced no evidence of cleaved cattle or pig vertebrae until the fourteenth century, although a small number of eleventh-century sheep vertebrae had been cleaved (Audoin-Rouzeau, 1987). The animals from the tenth-twelfth century assemblage from Douai (Vadet and Villette, 1986) were also split by cutting either side of the centrum, rather than through the middle.

Without further evidence from France the situation cannot be clarified but at present the Saxon to Norman changes in butchery style cannot be related to Norman influence. Instead, it is more probable that the shift from careful but random Saxon butchery, towards the use of standardised methods, which were clumsy but probably relatively rapid, reflects the emergence of specialist butchers. There is clear evidence from Steyning and Flaxengate (O'Connor, 1982a) that these techniques were practised in pre-Conquest towns but they do not appear to have been used on other site types.

High-status assemblages provide little evidence that the elite were receiving professionally butchered meat. This reinforces the idea that the Saxon aristocracy were supplied from their own estates and via the rural rather than urban population. The fact that butchery patterns for post-conquest high-status sites conform more closely to the town assemblages supports the idea (proposed in Section 3.3iii) that, following the Normans' reorganisation of the provisioning system, the elite obtained higher frequencies of meat from urban markets. Such a move would have increased the need for professional butchers and may have led to the establishment of meat stalls, such as those owned by William I's half-brother, the Count of Mortain (Clapham, 1966:60).

3.4ii: Tanning and Tawing

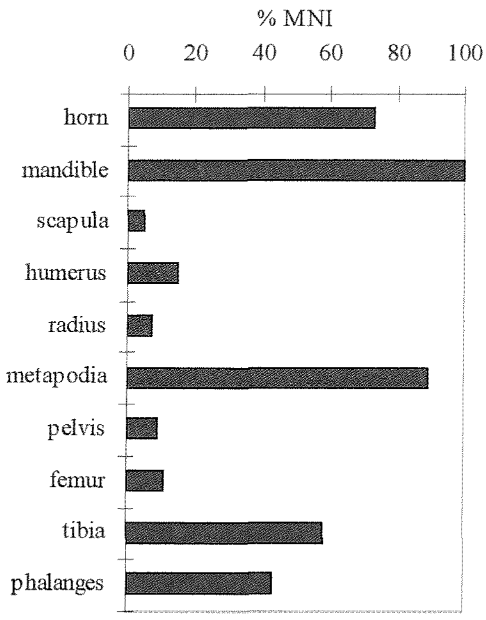
Shaw (1993) has summarised the structural evidence for tanning in medieval England, and here the evolution of the tanning industry will be considered from a zooarchaeological perspective. In the absence of tanning pits and hide off-cuts, evidence for the leather industry can be difficult to recognise. Skins can be removed without influencing the underlying carcass and thus, the tanning process need leave no osteological trace. The tables in Appendix Vc show that skinning marks were recorded on both pre- and post-Conquest bones but this provides little evidence for the development of the tanning industry, since all animals, perhaps with the exception of pigs, would have been skinned before butchery.

In many instances tanning and tawing are better indicated by skeletal representation data. In the medieval period skins were sent to the tanners with certain elements (usually a combination of phalanges, metapodia, skulls and/or horns) still attached. The reason for this is uncertain but Schmid (1973) has suggested that heads and feet may have been retained either because their weight stopped the hide from shrinking or so that the tanner could ascertain the age of the animal. The tanner's first job was to strip these elements from the skin, resulting in deposits with distinct body part patterns. Unfortunately, the similarity of these deposits to those created by the horning and butchery industries has often complicated their interpretation. For example, the assemblage from St Peters Street in Northampton has been interpreted as both butchery (Harman, 1979b) and tanning waste (Serjeantson, 1989).

Waterlogged sites such as Coppergate, York, have demonstrated the widespread use of leather for making artefacts such as shoes, boots and knife-sheaths but osteological evidence for a pre-Conquest leather industry has remained scarce. It was seen in the previous section that there is little evidence for assemblages dominated by metapodia or phalanges. One explanation would be that Saxon tanners, like those of the modern day, worked skins that had no body-parts attached. Alternatively, the dearth of selective deposits may suggest that during the Saxon period craft activities were largely integrated with domestic life. Such an explanation has been proposed for ninth- to eleventh- century Winchester, which, according to Serjeantson (2000) produced no bone groups indicative of specialised activity. Material dating to the mid-eleventh century, however, provided the first indication of professional tanning. The Henly's garage cattle assemblage was dominated by crudely butchered metapodia. Serjeantson (2000:185) interpreted these as representing foot bones removed from hides that had been collected and stored for processing. The tannery at Lower Bridge Street, Chester, is also dated to the mid-eleventh century (Mason, 1985:23) a date after which tanning deposits appear more regularly.

The Saxo-Norman site at North Street in Lewes, Sussex, revealed several twelfth-century pits whose assemblages were characterised by large numbers of sheep skulls and extremities (Sykes, 1997. See Figure 53). Most of the skulls were cleaved, presumably for extraction of the brain. Although brains often seem to have been eaten, Hodges (1964:135) mentions that their high fat content also made them desirable for use in hide dressing. The site's location, at the north-east end of the town and near the River Ouse, also supports the tanning hypothesis. Tanneries were often situated, near water sources, on the outskirts of town, where the prevailing winds would blow any noxious smells away from areas of settlement. A final piece of evidence to suggest a tanning association is provided by the place-name. North Street is close to an areas called 'the pells', which indicates an area where skins (or pelts) were prepared (Page, 1907:256).

Figure 53: Sheep body part pattern for pit 8 North Street (mni=35).



From this evidence it might be conjectured that the tanning industry became significantly more intensive from the middle-eleventh century, but the difficulties of dating archaeological deposits makes it uncertain whether these changes occurred shortly before or just after 1066. Certainly the incidence of tanning deposits seems to increase in post-Conquest England but as there is little comparative French data, it is difficult to determine whether the increased evidence for commercial tanning in post-Conquest England relates to the Norman Conquest, or is part of a wider transition towards craft specialism which affected all of northern Europe in the eleventh century.

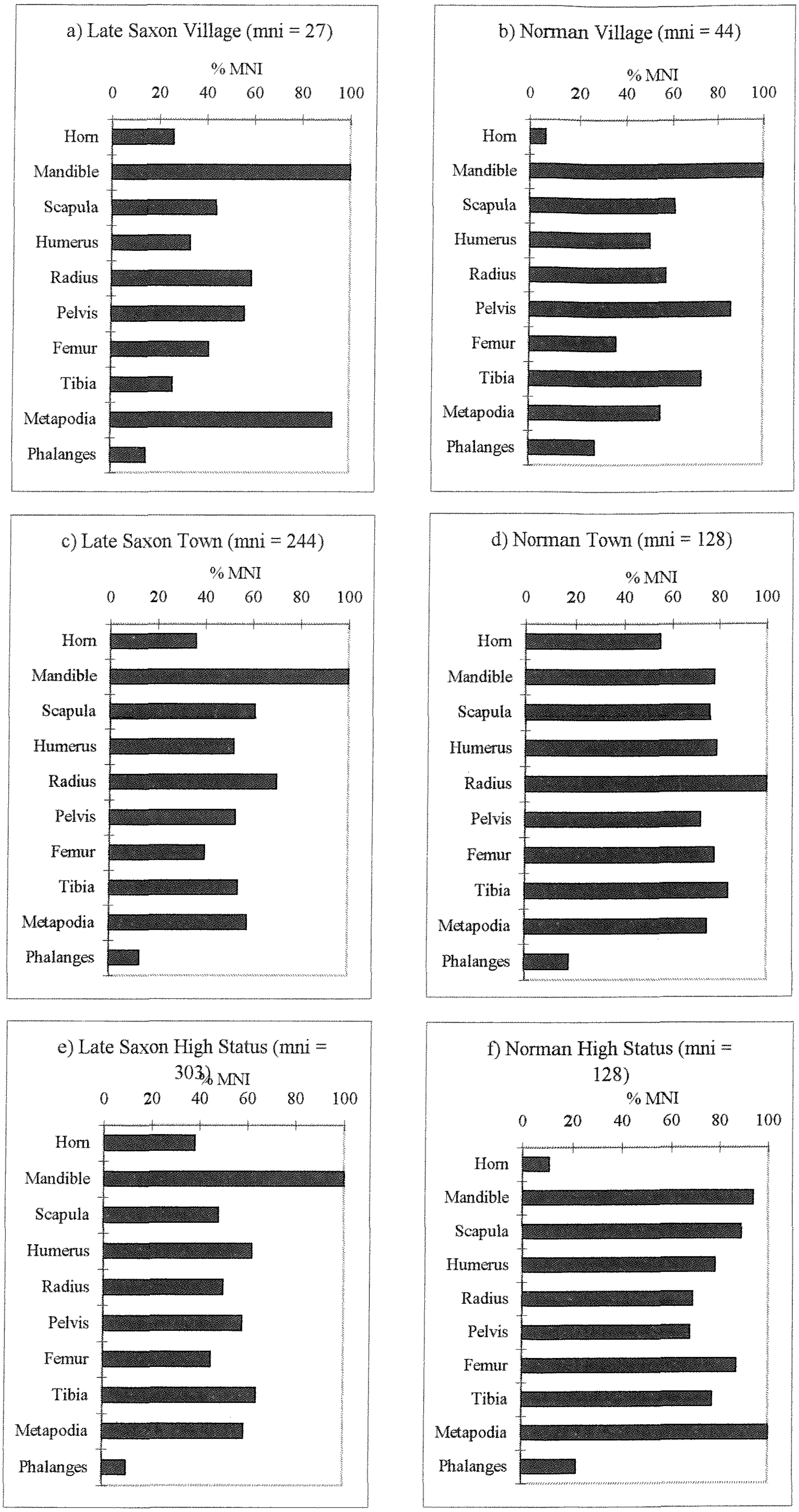
3.4iii: Antler, Bone and Horn Working

There is ample evidence for bone and, in particular, antler working in the pre-Conquest period. Pits at Hamwic produced quantities of antler shavings and sawn bone (Bourdillon and Coy, 1980; Driver, 1984), and many late Saxon towns, such as Lincoln (O'Connor, 1982a) and Fishergate, York (O'Connor, 1991) have yielded collections of partially worked shed antlers. Despite this, it is generally believed that production was on a domestic scale as antler, horn and bone working waste has seldom been found in quantities sufficient to suggest full-time workshops (MacGregor *et al.* 1999:2005). On the basis of regional similarities in artefact style, MacGregor (1991:356) suggested that antler workers may have been itinerant, serving several communities. Again Chester provides an exception to this as the remains of an antler and bone working industry are reported to have been discovered at Abbey Green (McPeake *et al.*, 1980:31)

Whilst antler was the predominant raw material in the Saxon period, MacGregor (1991) and MacGregor *et al.* (1999) have demonstrated that by the Norman period it had been superseded by bone and horn. At the same time, the scale of artefact manufacture seems to have increased from domestic to commercial production. Vince (1989:175) noted that whereas antler working waste is found in low density on many Saxon sites, in the post-Conquest period specialist bone working deposits begin to appear. For example, a late eleventh/early twelfth-century pit at St Alband house in Wood Street was found to contain numerous worked cattle metatarsals thought to have been associated with the manufacture of finger rings.

To some extent the change in raw materials and intensification of the industry can be accounted for by urban development. The growing urban population would not only have increased demand for artefacts but the remains of the animals they consumed would also have produced reliable supplies of bone and horn for working. In a situation

Figure 54: Cattle body part patterns for late Saxon and Norman a-b) villages, c-d) towns and e-f) high status sites



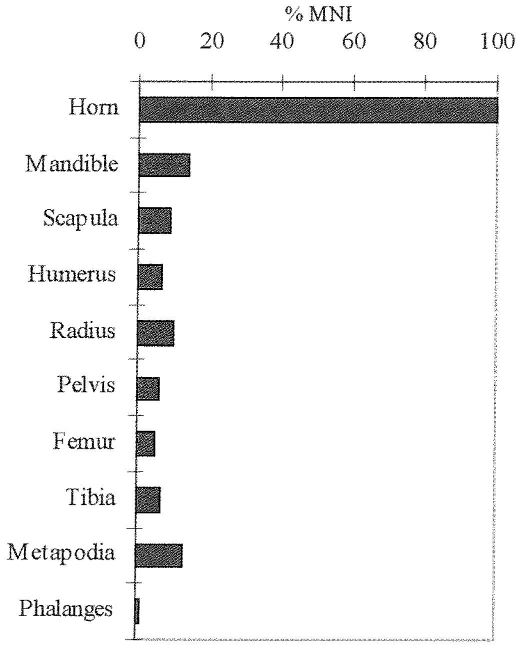
where production rates were increasing, seasonal supplies of antler may have been insufficient, causing artisans to adopt the more reliable sources of bone. It may equally have been this abundance of raw materials in towns that encouraged itinerant craftsmen to become sedentary.

Post-Conquest town foundation could again be cited as a contributory factor in these changes but it is possible that the shift away from antler working was even more directly linked to Norman influence. MacGregor (1991) cites the twelfth-century Miracle of St Cuthbert, which tells of an artisan who, having discovered a stag's carcass, fantasised about the profits he could make from crafting the animal's antler. This story suggests that antler was still a valued and sought after commodity in the post-Conquest period. If this were the case, avoidance of its use may suggest that it was subject to restrictions. After the introduction of forest law (see Chapter 4) the penalties for poaching could feasibly have dissuaded artisans from even collecting shed antler. If this hypothesis is correct it would suggest that the Normans were partly responsible for the uptake of bone and horn working.

Horn itself is known to have been a valuable commodity throughout the medieval period: the laws of Ine mention that 'the horn of an ox is valued at tenpence' and the 'horn of a cow twopence' (Whitelock, 1955). Cattle body part patterns (Figure 54a-f) provide a valuable insight into the development of the horn-working trade. The graphs for the late Saxon period, particularly those of cattle, demonstrate that horn cores are represented on all site types in similar frequencies. Patterns for the post-Conquest period, however, indicate a very different situation, with horn-cores becoming poorly represented on village and high-status sites whilst their frequency in town assemblages increases considerably. This suggests that the inhabitants of rural settlements were collecting horn-cores and sending them to urban specialists. Such a situation has implications for the study of urban horn-core assemblages. In particular, it should not be assumed that deposits such as those examined in Section 3.2iv came from animals of the same flock or even the same geographical region.

At a site level, it is only from the mid-eleventh century that distinct deposits of horn cores appear regularly. At York, for example, concentrations of goat horn-cores have been recovered only from sites post-dating the eleventh century (O'Connor, 1989a). A late Saxon site (site 1092) in Thetford (Jones, 1984) did, however, produce an assemblage dominated by cattle horn cores (Figure 55). This deposit overlay a concentration of worked antler and bone, which seem to have been waste from comb manufacture. The difference between these two layers may reflect the transition from antler to horn working. Potentially, this could suggest that the shift away from antler working occurred just before, rather than as a result of, the Norman Conquest. Nevertheless, there are many more horn-dominated assemblages dating to the Norman period, such as those from Skeldergate (O'Connor, 1984). The post-Conquest rise in specific craft deposits would, therefore, indicate that even if the Normans did not instigate centralised craft specialisation, they certainly accelerated it.

Figure 55: Body Part Pattern for 11th century cattle from Thetford site 1092



3.5: Conclusion

In this chapter the Saxo-Norman economy has been examined at a national, regional and, site-type level. The animals, their management, as well as the production and distribution of their primary and secondary products, have all been examined for evidence of Conquest-related change. In many respects Saxo-Norman continuity is apparent, with towns receiving the highest frequencies of cattle and high-status sites an abundance of pigs. This surface continuity may be the reason why scholars have found little evidence for Norman impact upon the Saxon animal economy. When the situation is studied in more detail, however, a different picture emerges.

All of the categories of zooarchaeological data considered in this chapter have provided some evidence of Saxo-Norman change. Perhaps most obvious is the intensification of the agricultural economy. Cull-patterns demonstrate a significant pre- to post-Conquest shift suggesting that cattle and sheep were targeted increasingly for traction and wool, respectively. When this shift was examined in a wider temporal setting it became clear that it was part of an ongoing process which began at least a century earlier. It was seen in Section 3.1 that the middle to late Saxon transition was accompanied by significant economic change. Domestic bird assemblages demonstrate that chickens began to be raised preferentially to geese, no doubt for their egg-laying abilities. At the same time sheep frequencies increased relative to cattle and this was seemingly accompanied by a general decline in animal size. I proposed that both of these factors were related to the adoption of the open field system.

It was after the Conquest that these new husbandry regimes became particularly defined, with cattle and sheep being kept to older ages, presumably to provide traction, wool and, in particular, manure. Other evidence for an intensification of arable production is provided by the appearance of a new wheat variety and possibly a new plough type. Nevertheless, evidence for direct Norman involvement in this process has remained elusive. There is no indication that French systems of cattle and sheep management were imposed on post-Conquest England and there is currently no indication that the Normans introduced or selectively bred new animal types. Since economic change is closely linked to social and political structures, the likelihood of extrapolating Norman influence from such a complex equation is low. However, it seems possible that intensification may have occurred as a result of forced re-organisation, similar to that which occurred in Anglo-Norman Ireland. Another possibility is that increased taxation under the Norman kings encouraged concentration on commodities (namely grain and wool) that could be sold for cash. The need for money may also explain the decrease in animal age in town assemblages: It seems possible that the farming population was selling, rather than consuming, any available meat-animals in order to raise the necessary funds.

Post-Conquest shifts in domestic bird frequencies can perhaps be more closely tied to Norman influence, with their relative percentages rising towards levels found in France. The idea that this reflects dietary preferences of the Normans is reinforced further by the fact that similar shifts have been recognised for post-Conquest Ireland.

Irish data also support other trends noted for post-Conquest England, such as those related to pig management. It is apparent that Norman England witnessed a short-lived increase in pig frequencies which was seemingly accompanied by a decline in their age of slaughter. This was particularly the case for high-status sites, several of which produced the remains of neonatal individuals. Signs of infant mortality, combined with the fact that high-status assemblages generally show all body parts to be well represented, has been interpreted as evidence that the Norman elite were attempting pig husbandry. Continental data highlight the importance of pork within the diet of the French elite and the evidence from Vatteville-la-Rue indicates that pig husbandry at the domestic level was a Norman tradition. If this is the case, the appearance of this custom in post-Conquest England would seem to suggest Norman influence.

Conquest-related change may also be indicated by the anatomical representation data for cattle and sheep from high-status sites. By contrast to the Saxon patterns, those for the Norman period show an over-representation of meat-bearing bones, suggesting the receipt of pre-butchered beef and mutton. On the basis that the latter resemble anatomical representations from France, I have proposed that the Normans installed continental provisioning systems in post-Conquest England. This theory is supported by the butchery data. Although butchery style in France and post-Conquest England was not identical, they were similar in the sense that methods were standardised, relying heavily on meat-cleavers. Saxon methods were seemingly more random and the knife was used more frequently. I propose that the post-Conquest shift in butchery practices is related to the change in provisioning systems and that this, in turn, may reflect the replacement of food rents, which occurred increasingly under Norman rule.

In order to abolish food rents, it would have been necessary to secure alternative sources of provisions. It may be for this reason that the Norman lords founded numerous towns and markets, although the desire to centralise economic and political power must also have been a driving force. The creation of these markets, laid out with accommodation for traders, must have encouraged the movement of artisans into the urban context. Zooarchaeological evidence for the presence of sedentary craft specialists is provided by the post-Conquest appearance of horning, bone working and tanning deposits, all of which are largely absent in the Saxon period.

In the case of bone workers, the promise of a reliable source of raw materials may have seen them gravitate towards towns. This availability of bone and horn in the urban context could equally have caused antler to become obsolete, although there is historical evidence to suggest that it remained a sought after commodity. The possibility that the Normans restricted access to antler is interesting and deserves further examination, perhaps in the form of site-type comparison in artefact distribution. Such research has, however, not been possible in this thesis.

In summary, the effect of the Conquest was not the introduction of the Norman agricultural and economic system; instead the Normans appear to have exploited and intensified the existing Saxon set-up. In this sense, the zooarchaeological data concur with historical opinion, that the seeds of change were already sown by the late Saxon period. However, the idea that the Norman Conquest made no impact on the Saxon economy cannot be upheld. There is simply too much evidence for late eleventh-century change: the fact that this was also the point of Norman arrival can surely not be a coincidence.

Interestingly, in most cases, change appears to have been in a common direction, namely towards commercialisation. It is, however, difficult to know how the agricultural intensification, craft specialisation, urbanism, and provisioning systems developed in relation to one another. Without further research, this question may not be answerable but from the animal bone data it would seem that the Normans were involved to some degree.

Chapter 4 : The Norman Impact on Wild Resources

He set apart a vast deer preserve and imposed laws concerning it
Whoever slew a hart or hind was to be blinded
He forbade the killing of boars
Even as the killing of harts.
For he loved the stags as dearly
As though he had been their father.
Hares, also, he decreed should go unmolested.
The rich complained and the poor lamented. (Garmonsway 1967: 221)

In the previous Chapter it was concluded that, contrary to popular belief, there is evidence to suggest the events of the Norman Conquest did effect England's economy. Since the zooarchaeological analysis has detected changes, unrecognised in the historical record, it seems highly probable that a wealth of information might be obtained if animal bones are used to study well documented issues.

Of all the Conquest-related changes, the Norman impact on wild resources is probably the most notorious. It is widely held, on the basis of considerable historical evidence, that after 1066 the Norman kings applied Forest Laws to vast areas of common land, most famously the New Forest in Hampshire. Under these laws peasants were denied the right to take animals or cut wood without permission from, or payment to, the forest creator. Unlicensed use of forest resources was potentially punishable by imprisonment or even maiming (Petit-Dutaillais 1914:173).

The conquered population appear to have viewed Forest Law with contempt; indeed, the authors of the Anglo-Saxon Chronicle devoted approximately one third of William the Conqueror's obituary to complaining about it (see quote above). Royal forests were particularly disliked, especially by the aristocracy, because, by encompassing non-crown property, landlords were forbidden to hunt freely on their own estates. The twelfth-century scholar John of Salisbury condemned Forest Law, stating:

> 'Human presumption dares to claim for itself things that are wild by nature .... you had heard that the birds of the air and fish of the sea are common to all, but those that are hunted, wherever they fly, belong to the royal estate.'
> (*Policraticus* 1.4. ed. Webb, 1932)

This situation appears to be fundamentally different from that of pre-1066 Britain where, according to Gilbert (1979), perceptions of game followed the Roman concept that, until caught, wild animals were nobody's property (*res nulius*). Historical evidence supports the idea that pre-Conquest hunting was considerably more liberal than it later became. For example, the Nine Huntings, written together with the Welsh laws of Hywel Dda (dated to about AD 945), record:

> 'The stag is said to be one of the three common hunts......because every person that comes up after he is killed and before the skin is stripped off is entitled to a share of him; hence if a person upon his journey come up at that time, he is entitled, by law, to a share as great as the person that killed him.......Salmon is called a common hunt, because when they are taken in a net, or with a fish spear, or in any other manner, if any person whatever come up before they are divided, he is entitled to an equal share of them' (Probert, 1823)

Article number 80 of Canute's laws also declares that 'It is my will that every man shall be entitled to hunt in the woods and fields of his own property'. The article continues, however, that 'everyone, under pain of incurring the full penalty, shall avoid hunting on my preserves' (Attenborough, 1922). Thirty-five 'parks of woodland beasts' are mentioned in Domesday Book and several of these are thought to be of pre-Conquest origin. Ongar park, for example, is recorded in the same location as a will, dated 1045, mentions a wood and deer haye (Whitelock, 1930). On the basis of the documentary evidence, the late Saxon elite can, therefore, be viewed as keen hunters who, although not imposing blanket restrictions on wild resources, did reserve hunting in their own parks.

If, as Wickham has (1994:161) argued, the development of medieval hunting-rights reflects that of socio-political change, a study of wild resource utilisation and restriction may reveal whether hunting, and thus society, became more elitist in the Norman period. Whilst documentary evidence provides an insight into the situation, evidence of hunting, especially that relating to low-status exploitation, may be better deciphered from the remains of the wild animals themselves. Several zooarchaeologists have commented upon the presence of wild animals in medieval assemblages and the general consensus is that hunting became an important activity only in the post-Conquest period (Noddle, 1975a; Grant, 1981, 1988a). Since the publication of these reports more data, from sites across England, have become available. By considering fifth to fourteenth-century developments in wild resource exploitation, I intend to ascertain whether the Normans were, indeed, responsible for changing the way in which wild animals were perceived and utilised. In particular I shall study site-specific variations in taxa frequency and representation, to see if fishing, fowling and hunting became more exclusive in the post-Conquest period.

4.1: Fish

In Section 1.5I (page 18), I mentioned the methodological problems associated with the analysis and interpretation of fish assemblages. To alleviate these difficulties, this study has focuses on assemblages from well-sieved sites. However, although this reduces problems of data comparability, it introduces an additional problem, that of small sample size. Most obviously, there was insufficient information to allow village sites to be considered. From the outset it should, therefore, be recognised that the results presented in this section are based on limited data-sets and provide only a generalised overview of what must have been a complex situation.

The lack of data for village sites was, itself, not without interest, since it was uncertain whether the absence of fish remains was a product of survival and recovery rates or a reflection of the actual situation. In Chapter 3 it was mentioned that villages sites tended to accumulate rubbish in middens rather than in refuse pits. Certainly this disposal strategy is less conducive to bone preservation and sampling but if the rural population had consumed fish regularly, it might be expected that specific contexts, such as cess-pits, would produce fish remains.

Serjeantson and Locker (1997) have suggested a method by which the presence or absence of fish bones can be tested. They argue that, since bird bones suffer similar preservation and recovery problems to fish, comparisons of the birds to fish ratio can provide a good indication of fish presence. By applying this criteria to my data-set, it is possible to conclude tentatively that the lack of fish on village sites is due to lack of consumption rather than taphonomic processes. For example, the early/middle Saxon site of West Stow (Crabtree, 1990) produced a substantial quantity (895 fragments) of bird remains but just 43 fish bones. A similar situation was also recognised for the early/middle Saxon high-status sites, such as Lake End Road (see Appendix Idi), suggesting that, due to lack of availability or lack of desire, the occupants of these sites did not consume much fish.

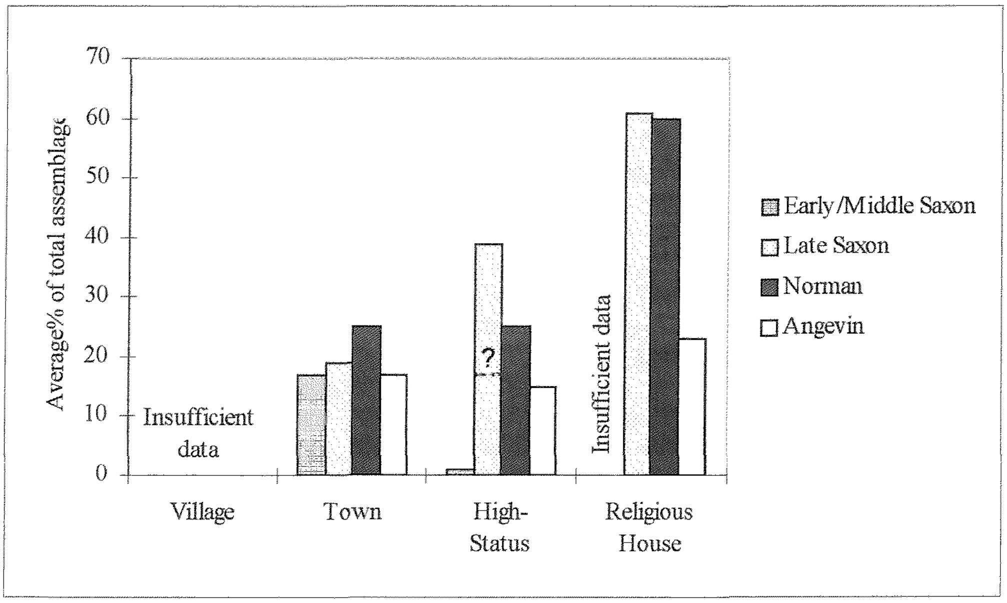


Figure 56: Suggested inter-period and inter-site variation in fish frequencies (expressed as a percentage of the total assemblage fragment count)

By contrast, Figure 56 shows that, in all periods, fish were well represented on urban sites. Again this situation may be related to methods of disposal and recovery. Urban pits would have provided favourable, often anaerobic, conditions for bone survival and, since pit fills are easy to sample, rates of recovery would also have been good. In order to determine whether the abundance of fish is simply related to factors of preservation and recovery, the bird to fish ratios can again be considered. Serjeantson and Locker (1997) recognised that where fish were commonly consumed, their fragment counts tend to exceed greatly those of birds. It can be seen in Appendix Idi that this is the case for the majority of town assemblages.

The recovery of large quantities of fish on urban sites is unsurprising. I argued in Chapter 2 that the location and function of towns as trading centres would have meant that the urban population had regular access to fresh catches of fish, from both marine and fresh-water sources. Figure 57 demonstrates that, in the early/middle Saxon period, urban assemblages were composed predominantly of eel (*Anguilla anguilla*), although large numbers of flounder/plaice (Pleuronectidae) were also recovered from Hamwic.

This taxa range is suggestive of localised exploitation, whereby simple traps were constructed in tidal areas to obtain these estuarine and migratory species. As such, the zooarchaeological evidence supports Bede's *Life of St. Wilfrid* which claimed that he arrived among the south Saxons to find them starving because, although they caught

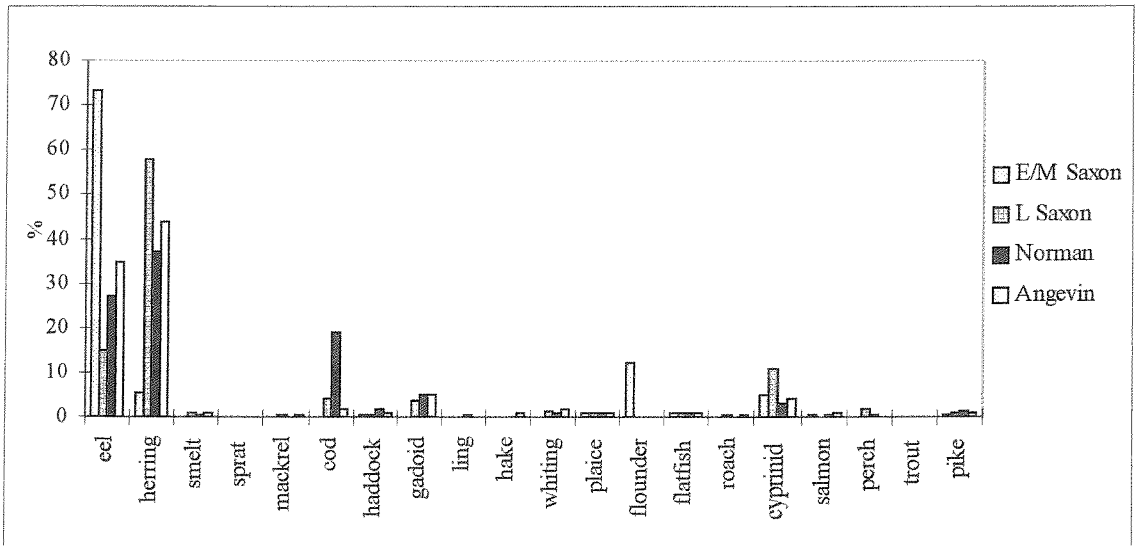


Figure 57: Suggested inter-period variation in fish taxa representation for English towns

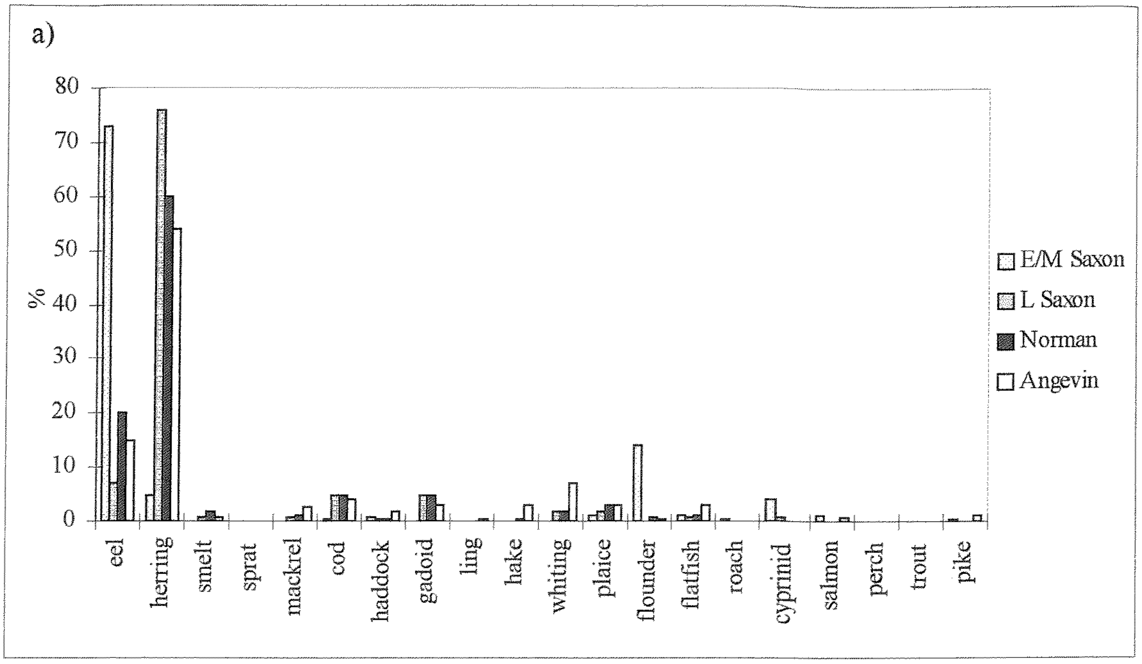
eels, they did not know how to fish off-shore. According to the story, St Wilfrid taught the people of Sussex how to use nets in the sea and 'they soon took three hundred fish of all kinds' (Miller, 1890:304).

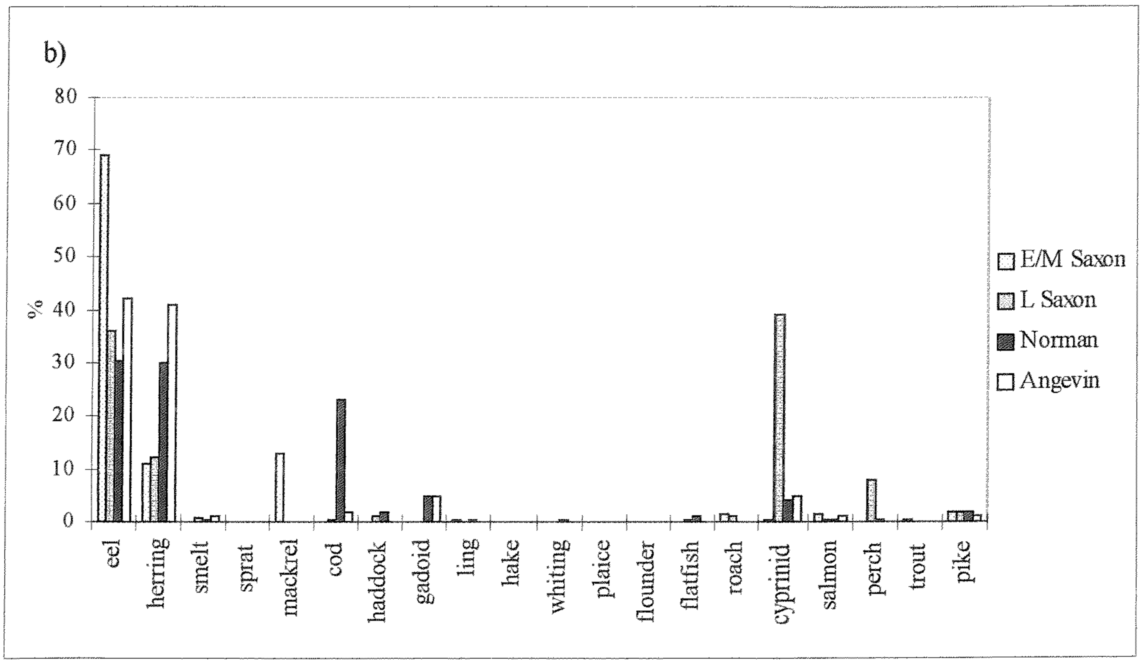
It was perhaps the introduction of this net technology that enabled the small number of herring (*Clupea harengus*), recovered from the middle Saxon sites of Maiden Lane in Middlesex (Locker, 1993a), and Redcastle Furze in Norfolk (Nicholson, 1995), to be caught. Their presence is interesting because it is generally believed that herring fishing emerged in the tenth century with the introduction of the deep-water drift nets (Hodges, 1982; Serjeantson and Locker, 1997). It seems possible, however, that these fish may have been imported from abroad as consumption of salted herring is recorded for East Anglia from the eighth century onwards (Cutting, 1955).

Development of the herring trade is demonstrated well by the town graphs (Figure 57) which show a dramatic late Saxon increase in herring frequency. When the raw data (Appendix Idii) are examined, however, it becomes apparent that the observed shift is largely the product of a single sample, that from St Martins-at-Palace plain, in Norfolk, (Locker, 1987). Furthermore, the St Martins-at-Palace assemblage masks considerable regional disparity. Patterns for the south-east of England and those for the north of the country are shown in Figures 58a and 58b. Both regional graphs indicate a late Saxon decrease in the relative frequency of eel but the taxa which compensate for their decline vary between the different geographical areas. Data for the south-east of England indicate a move towards the exploitation of marine fish, notably herring, whereas fresh water taxa, in particular cyprinids, characterise the northern assemblages. The taxa range for the north of the country is very similar to that caught by Aelfric's fisherman;

> 'I board my boat and cast my net into the river; and throw in a hook and bate and baskets; and whatever they catch I take....eels and pike, minnows and turbot, trout and lampreys and whatever swims in the water'
>
> (Garmonsway, 1978:27)

Figures 58a and b: Suggested inter-period variation in the representation of fish taxa from towns in the a) south and east, and b) north of England.





From the zooarchaeological and historical evidence it would appear that, by the late Saxon period, techniques of both marine and freshwater fishing had developed and become more intensive. There is certainly more evidence, in the form of place-names and Saxon charters, for large-scale freshwater fishing. A survey of Tidenham, Gloucestershire, refers to the *cytweras* (basket weirs) and *haecweras* (hackle weirs) of the Severn and Wye estuaries. Other Saxon charters and place-names also commonly mention *haec(c)*, meaning hatch/sluice or fish trap (Bond, 1988:86). It is also from the late Saxon period that the first evidence for medieval fish weirs appears in the archaeological record: weirs made of hazel, ash and willow wattling have been recovered during investigations of the Rivers Trent and Kennet (Salisbury, 1981; Losco-Bradley and Salisbury, 1988).

It must surely be these developments in the fishing industry that caused the middle to late Saxon increase in fish frequencies (Figure 56). Although their relative frequency on town sites rises by only 2%, it has already been noted that the diversity of taxa representation increases. Assemblages containing wide ranges of irregularly occurring species suggest the consumption of fresh rather than preserved fish. Thus, it might be imagined that the fish assemblages from late Saxon towns represent a situation where catches of fish were brought into port and sold, from the boat, to the urban population. According to Aelfric's Colloquy, urban demand for fish was so high that his fisherman was forced to declare 'I cannot catch as many as I could sell' (Garmonsway, 1978:27).

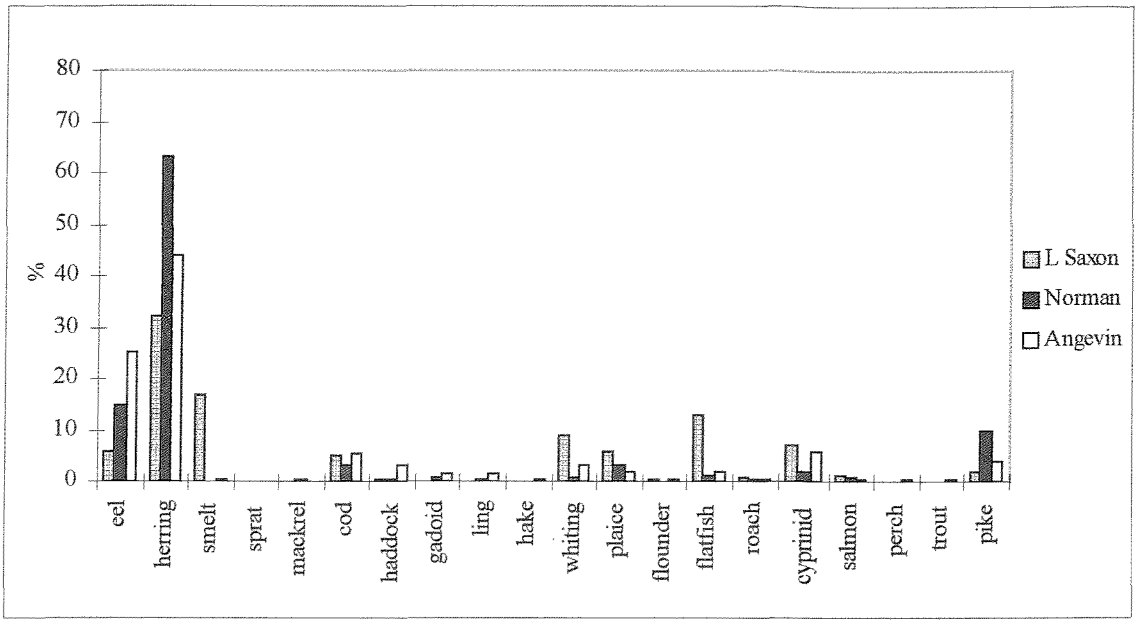
The rise in fish frequency is more dramatic for high-status sites, which demonstrate a 38% increase. It should be noted, however, that the sample size for high-status sites is very small. As a result, the Castle Mall assemblage (Albarella *et al*, 1997 and Locker 1997), which contained a large number of fish remains, was able to skew the relative fish frequency. As more data become available, it seems likely that the early/middle to late Saxon increase will become less marked, perhaps being more akin to the predicted level shown as a dotted line on Figure 56. Nevertheless, a rise in fish consumption is still apparent and, since the taxa representations are the same as for towns, it can again be interpreted as an increase in availability, due to the intensification of fishing industry.

Data for late Saxon religious houses (Figure 56) show fish to comprise an impressive 61% of the assemblage. This dominance of fish can most plausibly be attributed to the Benedictine Rule (discussed further in Chapter 8), which forbids ecclesiastics to consume quadruped flesh during periods of fast (for monastics between 190-200 days of the year) but allowed fish to be eaten (Knowles, 1940:458). The apparent absence of fish on early/middle Saxon religious sites should not be taken literally since neither the report for Wicken Bonhunt (Crabtree, 1996) nor that for North Elmham (Noddle, 1980) provided details of fish remains. Hagen (1998a:84), however, has argued that ecclesiastics did not consume fish in large quantities until the late Saxon period, when monasteries began to acquire grants of fisheries. This view is supported by the historical evidence; although the earliest documents defining monastic fishing rights date to the late seventh century, they become much more common from the tenth century onwards. For example, in his will, Theodred, bishop of London (942-951) left fishing ground in Norfolk to St Pauls (Whitelock, 1955:553) and Thorney Abbey, founded in 973, was endowed with 'a quarter of the lake called Wytlesmere and two fisheries' (Bond, 1988:80).

By 1086 religious communities were also receiving supplies of fish through the food rent system. The Domesday Book documents numerous herring tolls that were paid and received in Sussex, Kent and Suffolk. Records for Yorkshire and Lincolnshire note a higher frequency of eels and salmon (Dulley, 1969:36; Lennard, 1959:250). This regional taxa variation in fish rents accords with the spatial patterning observed for the zooarchaeological evidence: it has already been mentioned that whilst eels and other freshwater fish predominated in the north of England, herring were better represented in the south and east.

Although it was mentioned in Chapter 3 that the Norman period saw food rents replaced by cash payments, there is some evidence to suggest that fish rents were retained specifically. For example, early charters for Sussex note that Rye Abbey maintained their herring rents, even though other dues had been relinquished (Round, 1899:73). Certainly Figure 56 provides an impression of Saxon-Norman continuity, with religious sites showing only a 1% difference in fish abundance. Perpetuation of fish rents is also suggested by the very high frequency (63%) of herring shown in Figure 59. Appendix Idii demonstrates that this pattern is the creation of a single site, Eynsham Abbey (Serjeantson *et al.*, forthcoming) and does not, therefore, reflect the wider situation. Nevertheless, the dominance of herring on a monastic site in south-east England does conform to the idea of fish rents.

Figure 59: Suggested inter-period variation in the representation of fish taxa from English religious houses.



Medieval France had no similar system of fish rents (Michael Jones, personal communication), which may explain the comparatively low frequencies of fish on French high-status and monastic sites (Figure 27). Alternatively, it seems possible, as I suggested in section 2.6, that that the dearth of fish on high-status sites may be highlighting the elite's avoidance of a common food group, which was, perhaps, important to the French economy.

If, as the historical and zooarchaeological data indicate, the people of Northern France were accomplished fishermen, this, combined with the post-Conquest increase in cross-channel contact, could have encouraged increased export of fish, the introduction of new fishing techniques, or even fishermen, to England. Zooarchaeological data for English towns certainly indicate a 6% post-Conquest increase in fish frequencies, bringing their abundance of fish to beyond the level noted for French towns (see Figure 27, page 53). This increase may suggest that fishing became more professional in the Norman period: certainly fishmongers were present in Winchester by 1148 (Keene, 1985:259). The eleventh/early twelfth century also marks a change in fishing strategy. Figure 58 shows that the regional variation noted for Saxon England became less marked in the Norman period, with the north of the country joining the south in the exploitation of marine resources. Some regional characteristics were, however, maintained by differences in fishing grounds: whilst the east of England continued to harvest North Sea herring, Appendix Idii indicates that hake (*Merluccius merluccius*) became a feature of south/west assemblages (see for example those from Exeter - Maltby, 1979a, and Launceston Castle - Smith, 1995); and the north of the country began to exploit Atlantic cod (*Gadus morhua*). From the mid-eleventh century, increasing references to the capture and trading of cod are recorded (Serjeantson and Locker, 1997). Figure 58a demonstrates that some cod was obtained by the late Saxon population but it seems likely that many of these fish were imported: the Saga of Egil records that dried fish, probably cod, were being exported from Norway to England by the tenth century (Seebohm, 1952:109).

The fishing technology used to obtain gadoids differed from that used in the procurement of other marine fish. Rather than employing large nets, used to catch shoal fish, such as herring, cod were obtained using hooks and long lines. According to Vince (1994:114), large fishing hooks appear, at the Billingsgate site, for the first time in deposits post-dating 1050. Whilst this may indicate Norman influence, it is more widely believed that line and hook fishing developed in Norway and that it was the Vikings, who settled on the Orkney and Shetland Islands, who were responsible for introducing the technology to England (Serjeantson and Locker, 1997). This theory is strengthened by finds of cod on Norse settlements in Orkney (Colley, 1984). It would, therefore, seem that this change in fishing technology is unrelated to the Norman Conquest.

Although the Conquest cannot be viewed as impacting upon fishing techniques, it seems possible that systems of fish distribution did change under Norman rule. It was seen in the previous Chapter that towns and markets proliferated in the post-Conquest period. This, combined with the emergence of specialist fishmongers, would have facilitated internal trade and increased general access to marine resources. McCormick (1991:50) notes that Irish distribution systems were altered as a result of the Anglo-Norman Conquest: whereas in the early medieval period fish were found only on coastal sites, they are well represented at inland sites dating to the Norman period.

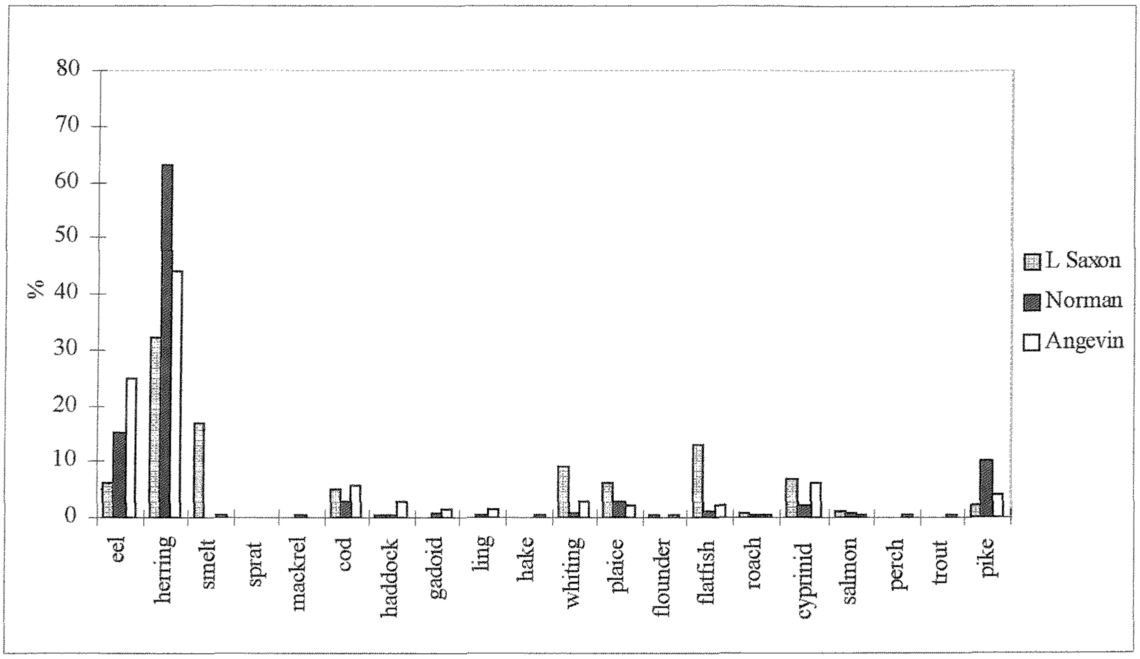
Shifts in fish exploitation that are more commonly associated with the Normans are the establishment of artificial fishponds and the restriction of fishing rights (Rowley, 1997:132). Certainly, from the eleventh century onwards many areas, such as Holderness, seem to have had their common rights to fishing revoked (English, 1979:209). It is most likely for this reason that fisheries and fishponds have come to be seen as symbols of Norman lordship. There is, however, significant documentary evidence to suggest that fishing restrictions were already in place before the Conquest. The Tideham charter, for example, mentions that every alternate fish caught within 30 hides of the whole estate had to be given to Bath Abbey and that no fish could be sold without the lord's permission (Bond, 1988:85). These restrictions, however refer to fish weirs rather than artificial fish ponds.

It is known that ponds were first created by damming natural water bodies but it is uncertain when the concept of artificial fishponds was introduced. Physical remains of fish ponds are notoriously difficult to date and historical evidence for their establishment is scarce before the twelfth century (Aston, 1988:4). At least six natural ponds were in existence in Britain prior to 1066, and two tenth-century charters referring to *Strigan pole* and *Strygan pol*, meaning 'fishpond', have been linked to artificial ponds in Oxford (Bond and Chambers, 1988:356). The Domesday Book records numerous '*vivaria vel piscinae*' (Bond, 1988: 92) and by the end of the twelfth century at least ten royal artificial ponds had been established (Steane, 1988:42). This suggests that, whilst the majority of artificial ponds were constructed during Norman rule, the concept of fish ponds was already known in pre-Conquest England.

If the Normans were responsible for increasing the management of, and restrictions concerning, resources of freshwater fish, the zooarchaeological record might be expected to demonstrate a post-Conquest change in the type of fish consumed by the upper and lower classes; with high-status sites showing a move towards (and urban sites away from) the consumption of freshwater species. It has already been noted that the frequency of fresh water fish on urban sites declines in relation to marine taxa but, although this may be related to restrictions, it seems more likely that it reflects economic change. It may be that, rather than the urban population, the effects of restriction were more strongly felt by the rural community. Unfortunately, until more evidence for village sites becomes available, this possibility cannot be assessed.

Evidence for a high-status increase in fresh water fish consumption is equally lacking. Figure 60 demonstrates that the taxa representations parallel the urban situation, with a move towards marine fishing. Indeed, the taxa range for high-status assemblages is more restricted than that for towns, being dominated by herring and cod. This suggests that the Norman elite were supplied with preserved, rather than fresh, fish. There is little evidence for the presence of fresh water taxa and even in the Angevin period cyprinids are scarce.

Figure 60: Suggested inter-period variation in fish taxa representation on high status sites



Whilst freshwater species are poorly represented in high-status assemblages, data for monastic sites show a slightly different situation. Figure 59 shows the presence of both cyprinids and, in particular, pike. This taxa range is largely a reflection of the Eynsham Abbey assemblage, a site which is known to have had an early natural fish pond (Serjeantson *et al*, forthcoming. see Appendix Ibii). It would, therefore, seem that ecclesiastics, rather than secular lords, were responsible for instigating the tradition of fish ponds. This may explain why ponds became more numerous after the Conquest, a period which witnessed the foundations of numerous religious houses. It seems possible that it was this section of society that brought continental traditions of fish management to England. Although little work on fishponds has been undertaken on the continent, it is assumed that fishponds were present in pre-Conquest France, an idea perhaps supported by the zooarchaeological data. Although evidence for fish consumption in eleventh-twelfth French monasteries is limited (Section 2.7), the fish assemblage from Charité-sur-Loire (Audoin-Rouzeau, 1986) consisted primarily of bones from cyprinids and pike, taxa known to have been maintained in medieval ponds (Bond and Chambers, 1988:365).

Summary

From the evidence provided above it would appear that fishing techniques developed throughout the medieval period, with localised trapping of fresh water taxa being replaced by wide-scale exploitation and trading of both fresh water and, in particular, marine fish. By the late Saxon period, the fishing industry was already well established. Provisioning systems must also have been advanced because there is evidence that most sections of society, perhaps with the exception of the rural population, were receiving quantities of fish.

Since most developments had occurred prior to the Conquest, they cannot be related to Norman influence. There is, however, some evidence to support the idea that the Normans encouraged the construction of fish ponds. Fresh water fish, such as cyprinids and pike, become common in assemblages from religious houses and it seems likely that these ecclesiastics, who accompanied and were often drawn from Norman nobility, were responsible for the construction of many of the post-Conquest ponds. There is little indication that lower-class fishing rights were restricted as a result. Evidence pertaining to this may, however, become available if rural sites can be examined more thoroughly for fish remains.

4.2: Birds

In many respects, the wild bird data show similar patterns to those for fish. Figure 61 demonstrates that none of the early/middle Saxon assemblages contain more than 0.5% birds.

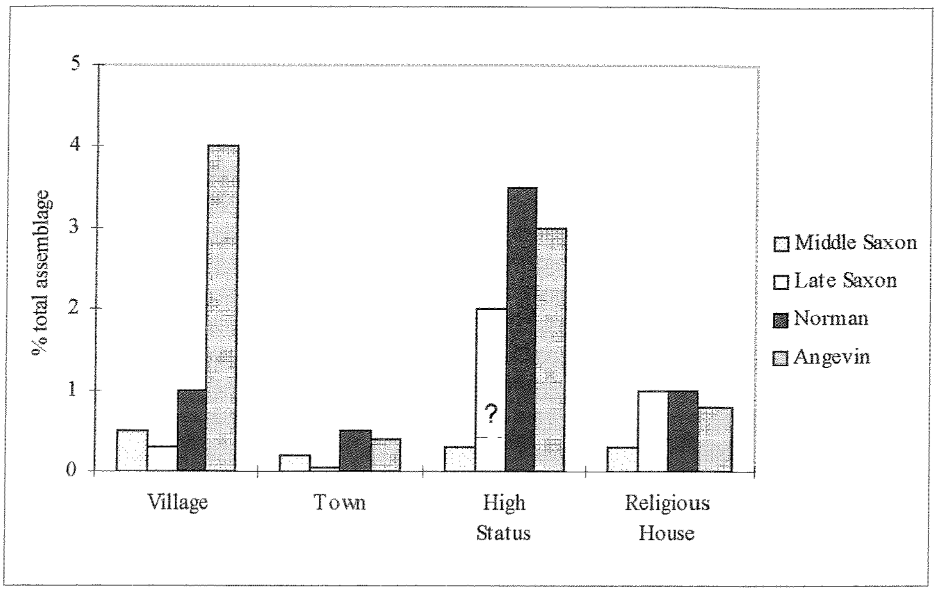


Figure 61: Inter-site and inter-period variation in wild bird frequency, expressed as a percentage of the total assemblage (excluding fish).

A lack of status-based variation is also inferred by the taxa representations (Figures 62-65) which, regardless of site type, are dominated by duck, crane and pigeon. Abundance of these taxa may be explained by the fact that all would have been locally available and, because they are comparatively slow moving, could have been caught using minimal technology.

Techniques of bird catching had seemingly developed little by the late Saxon period. Taxa representations for villages and towns remain largely unchanged with pigeon and crane continuing to dominate, although plover and goose also become common. There is no increase in bird abundance on these sites; indeed, Figure 61 shows that their relative frequency actually declines. The reverse is true for high-status and religious sites which both show a significant increase in bird representation.

Figure 62: Inter-period variation in the relative frequencies of wild bird taxa for village sites

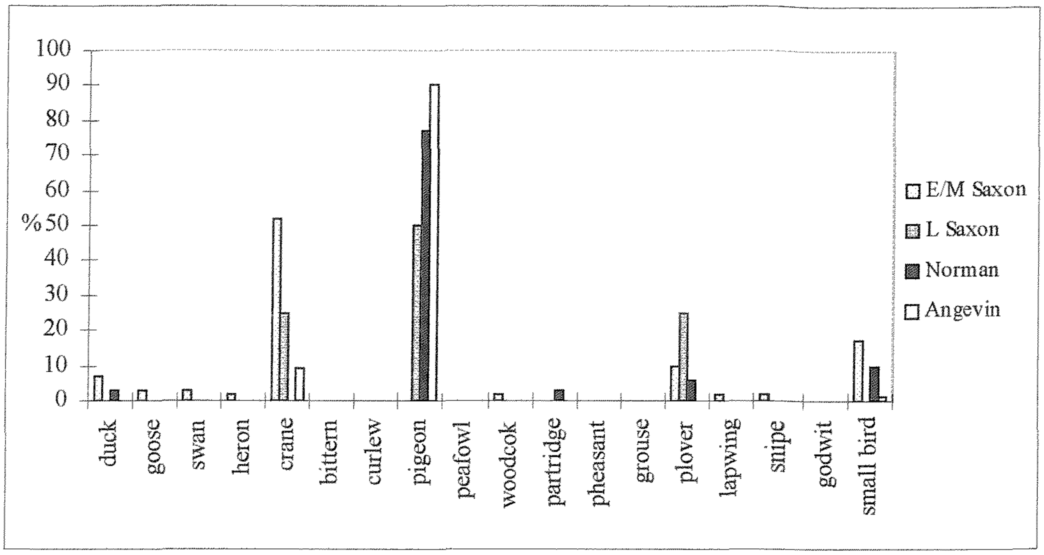
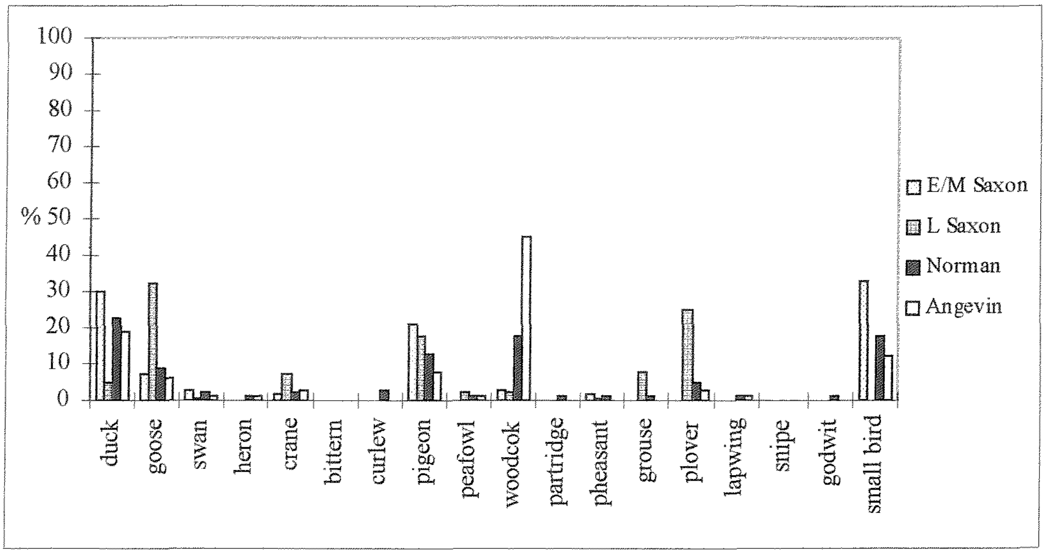


Figure 63: Inter-period variation in the relative frequencies of wild bird taxa for town sites



These shifts could be interpreted as the emergence of status based inequality but the raw data provided in Appendix Ie, demonstrate that the material from Portchester Castle is singularly responsible for the observed rise for high-status sites. Other comparable sites of this period show a much lower frequency of birds: when the Portchester Castle assemblage is excluded from the high-status totals, wild birds are shown to comprise just 0.4% of the total fragment counts (shown as a dotted line on Figure 61). If it is accepted that the latter figure is more representative of the wider situation, it may be concluded that, although occupants of some high-status sites were consuming birds in significant numbers, the late Saxon period witnessed only a slight overall rise in high-status bird frequencies. As such it would appear that social status and restrictions were not, at this point, attached generally to wild birds.

Figure 64: Inter-period variation in the relative frequencies of wild bird taxa for religious houses

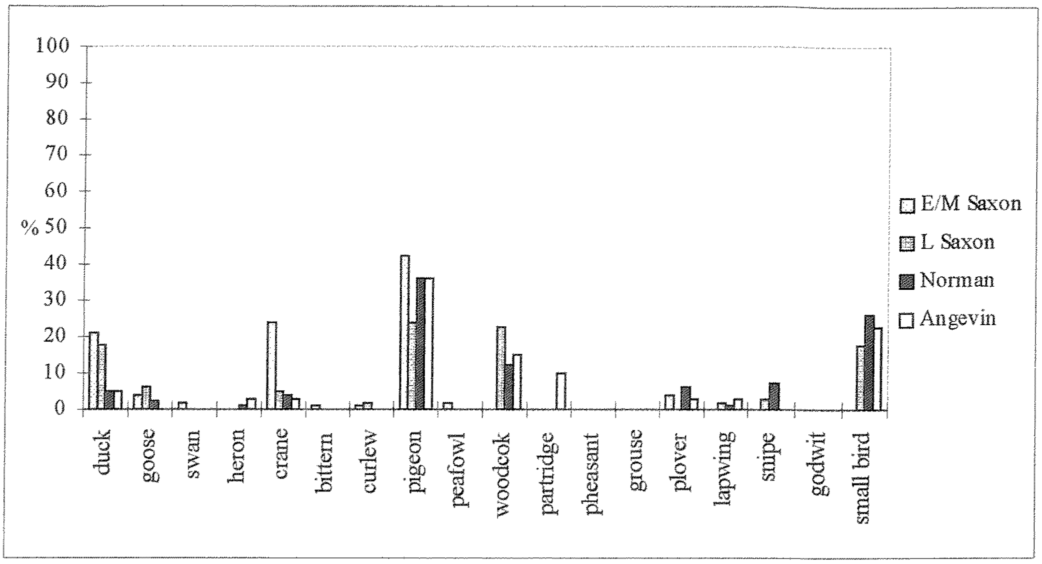
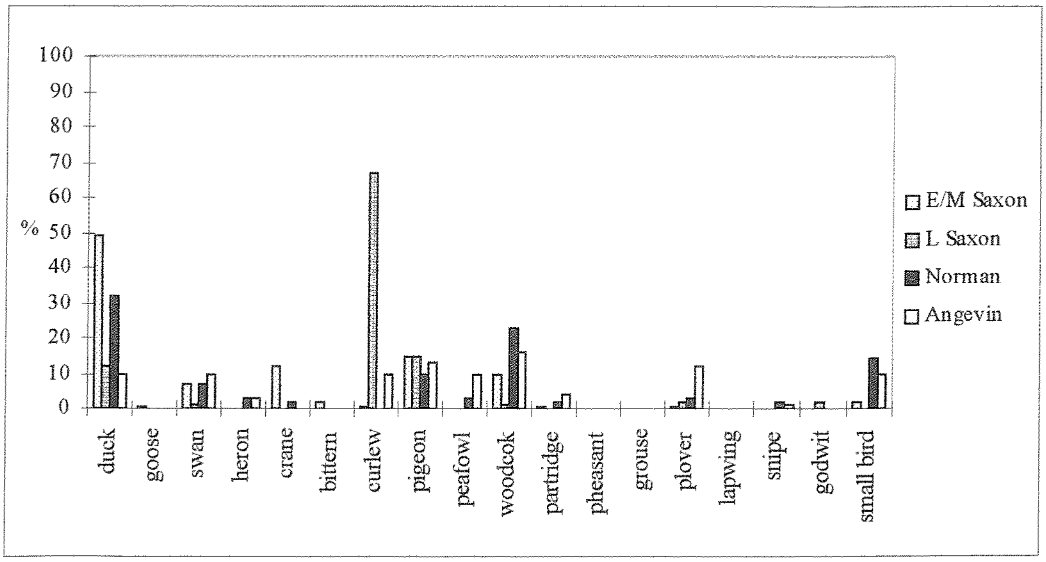


Figure 65: Inter-period variation in the relative frequencies of wild bird taxa for high-status sites



The Portchester Castle material is also responsible for the dominance of curlew (*Numenius arquarta*) shown in Figure 65: the assemblage from this site produced 94 specimens from a minimum number of 11 individuals (Eastham, 1975). No other late

Saxon sites have yielded curlew remains in such abundance and Eastham's proposal that their presence reflects cultural preference seems difficult to support. Instead, the frequency of curlew remains is most likely related to the coastal location of the castle. Such a species-specific taxa range, however, suggests that these birds were targeted, perhaps with the use of hawks.

The origins of hawking are uncertain but it is generally assumed that the technique developed in Asia and spread into Europe during the third and fourth centuries A.D. (Prummel, 1997:335). By the sixth century, hawking appears to have been an established continental practice and Burgundian law codes describe penalties for the theft or damage of someone else's hawk (Drew, 1972: code 84). Historical evidence for hawking in early medieval England is scarce: perhaps trained hunting birds were unavailable in Britain at this time (Hagen, 1998b:145). Certainly between 748-752 King Aethelbert of Kent wrote to Boniface in Germany, asking for 2 hawks (Kylie, 1911:157), perhaps indicating that he could not obtain them in England.

Ninth-century references to hawking are more common and there are several Mercian charters which mention the maintenance of trained birds. In 844, for example, King Berhtwulf freed the estate of Pangbourne, Berkshire, from the burden of entertaining the king's men who 'bear hawks or falcons' (Sawyer, 1968: S 1271). By the tenth century hunting birds had become an important item of trade. The laws of Welsh king Hywel Dda state the value of different hawks and William of Malmesbury mentions that the Welsh paid a tribute of trained hawks to Aethelstan (Whitelock, 1955:474).

These early historical references to hawking coincide with the appearance of hunting birds in the archaeological record : a near complete skeleton of a sparrow hawk (*Accipiter nisus*) was recovered from the eighth-century levels at Hartlepool monastery (Allison, 1988) and a peregrine falcon (*Falco peregrinus*) was recovered from the seventh to tenth-century site of Brandon, Suffolk (Crabtree, 1996).

If falconry was practised regularly by Brandon's inhabitants, it may explain the wild bird assemblage from this site: Appendix Ie demonstrates that ducks were hunted selectively, and falconry may have been one method by which this was achieved. To date, Brandon and Hartlepool monastery are the only sites to have produced early evidence for the use of hunting birds. Other similarly dated sites have yielded only single bones which, according to Cherryson (2000), are indicative of scavenging individuals. She argues that trained hawks and falcons are more likely to be represented by complete skeletons, due to human involvement in the disposal of their carcasses.

Although references to hawking become more abundant for the late Saxon period, skeletons of hunting birds remain archaeologically scarce. Table 11 shows that only one site, that of Flaxengate, Lincolnshire (O'Connor, 1982a), has produced good evidence for late Saxon hawking. The urban context from which the skeleton was recovered suggests that hawking was not purely an aristocratic pursuit. Indeed, the Flaxengate goshawk could feasibly have belonged to a professional fowler; such as the one described by Aelfric, who had the ability to train wild hawks but allowed them to fly away in spring to avoid the expense of maintaining over the summer (Garmonsway, 1978:31).

Site	**Period**	**Date**	**Information**	**Reference**
Brandon, Suffolk	Early/Middle Saxon	650-900AD	Partial peregrine falcon skeleton	Crabtree, 1996
Hartlepool Monastery	Middle Saxon	8th century	Sparrowhawk skeleton	Allison, 1988
Flaxengate	Late Saxon	10th-E 11th century	Partial goshawk skeleton from pit F685	O'Connor, 1982a
Castle Mall, Norwich	Saxo-Norman	L 9th - 11th century	Four goshawk bones	Albarella *et al*, 1997
Faccombe Netherton, Hampshire.		980-1070	Partial skeleton of a goshawk	Sadler, 1990
Canterbury Cathedral	Norman	late 11th century	6 sparrowhawk bones	Driver *et al*, 1990
Exeter, Devon		12th century	2 sparrowhawk skeletons	Maltby, 1979a
Portchester Castle, Hampshire.	Norman-Angevin	1100-1200	10 goshawk bones from a single individual.	Eastham, 1977
Middleton Stony, Oxford		12th-early 13th century	Sparrowhawk skeleton	Levitan, 1984a

Table 11: Archaeological representation of hunting birds (partial/complete skeletons only) After Cherryson (2000).

Since archaeological evidence for Saxon hawking is limited, it may be that other bird-catching methods were more commonly employed. This is certainly the impression provided by Aelfric's fowler who mentions hawks low down on his list of preferred techniques, although this may have been for reasons of scansion

> 'I trap birds in many ways; sometimes with nets, sometimes snares, sometimes with lime, by whistling, with a hawk or with a trap'
>
> (Garmonsway, 1978:31).

Because hawking is not the most efficient way of obtaining birds it probably never became the standard method of procurement. Nevertheless, zooarchaeological evidence does suggest that hawking became more common in the Saxo-Norman and Norman periods. Table 11 shows that partial skeletons of hunting birds have been recovered from at least six sites dating to these periods. Interestingly, all but one of these sites are high-status, perhaps indicating that hawking was becoming more closely associated with the elite. The date-span of some of these assemblages includes the last decades of the Saxon period but, since it was during the reign of Edward the Confessor (1042-1066) that Norman traditions began to infiltrate the upper echelons of society, this overlap is perhaps less problematic.

William of Malmesbury records that Edward enjoyed hawking, and Lewis (1994:127) suggests that a pre-Conquest record of 'William the falconer' may represent a Norman whom Edward brought back with him on his return to England. If Lewis' interpretation is correct, Edward's need to import falconers may imply that few English professionals were available, and that hawking was more commonly practised in France. Norman passion for hawking is inferred by William of Poitier. In his *History of William the Conqueror* he mentions that during the siege of Domfront (1048-9 or 1051) William diverted himself 'with the flight of falcons and more often with that of hawks' (Brown, 1984:20). In one scene of the Bayeux tapestry William is shown carrying a hunting hawk but this may have been illustrated more as a symbol of the character's status, since other noblemen, including the Guy of Ponthieu and Harold of Wessex are also shown with hawks.

If, by the eleventh century, hunting birds were deemed to be symbols on nobility, the status attached to hawks and falcons would have been transferred onto the birds that they were used to catch. In turn, since consumption embodies the meaning of the production process (Hamilakis,1998), inclusion of wild birds in the diet would have reproduced feelings of social superiority, perhaps making game birds a sought-after dietary component. If this hypothesis is correct, there should exist a correlation between evidence for hawking and the frequency of wild birds. For example, if hawking was more commonly practised in Normandy than pre-Conquest England, this may explain why wild birds are better represented in French high-status assemblages (see Figure 25, page 50). Furthermore, should the Normans have encouraged hawking in post-Conquest England, this may equally account for the pre- to post-Conquest rise in the representation of both hunting birds (Table 11) and wild birds (Figure 61). Appendix Ie confirms that, in contrast to the late Saxon data, the average percentage for Norman high-status sites is representative of the wider situation. Although other assemblage types also suggest a Saxon-Norman rise in bird abundance, the overall impression is one of inequality, with the Norman period representing the point at which wild birds attained a high-status significance.

If this post-Conquest rise in bird frequency was related to an increase in hawking, it might be expected that the taxa representations would also reflect this change, and to some extent this does occur. Figures 62-65 show a consistently sudden appearance of heron (*Ardea* sp). These birds are known to have been hawking targets and by the later medieval period they were even transported specifically for this purpose. For example, in 1501 the Duke of Buckingham was sent 17 live herons from his park at Newton Blossomville (Woolgar, 1999:114). Although at no point is this taxon well represented, it is notably lacking in the pre-Conquest period. One example from the site of West Stow (Crabtree, 1996) and the fact that heron remains have been found on numerous Roman sites (Parker, 1988:199) suggests that the dearth results from factors other than physical absence.

It may be significant that heron appear at the same point that crane (*Grus* sp) become less well represented. The crane decline probably reflects a situation of over-hunting;

certainly by the later medieval period they were largely extinct in Britain (Rackham, 1997:37). Reduced availability of crane could feasibly have encouraged the uptake of heron hunting. Alternatively, the fact that the piscivorous heron begins to be hunted in a period when the first artificial fish ponds were seemingly constructed, may reflect new concerns with preserving fish stocks. Another potential possibility is that the post-Conquest appearance of heron is related to Norman dietary preferences. William the Conqueror is known to have liked heron (Groundes-Peace, 1971) and it was seen in Chapter 2 (Figure 26) that heron is relatively common in high-status French assemblages.

Other Saxon-Norman changes in taxa representations include the increased abundance of both woodcock (*Scolopax rusticola*) and, for high-status sites, 'small birds'. It is difficult to know whether the latter were actually considered 'food' but the graphs for French sites (Figure 26, page 51) show that they were present in considerable numbers. In post-Conquest England their percentage on high-status sites reaches comparable frequencies perhaps suggesting Norman dietary influences. Neither small birds nor woodcock are likely to have been caught through hawking, the former would have been too small a prey, whilst the latter spend little time in flight. Instead, these taxa, and indeed most of the other represented in Figures 62-65, were probably acquired using traps and snares.

Obtaining birds by trapping would have been labour intensive and in order to procure wild birds in the frequencies suggested for the Norman period (Figure 61), specialist fowlers, like the one described by Aelfric, must have been common. This idea is supported by the increased taxa ranges noted for post-Conquest sites: towns rise from ten to sixteen taxa, and high-status sites from seven to ten. Larger sample size could be partly responsible for the increased species list but it is noteworthy that towns have a greater taxa range than high-status sites, despite having a smaller sample size. This situation is reminiscent of the patterns for urban fish assemblages, which it was suggested may reflect the importation of fresh fish by professional fisherman. Professional fowlers may be equally responsible for the diversity of wild birds observed for Norman towns.

The abundance of duck in urban assemblages, of all periods, probably reflects the riverine/estuarine location of most towns, and may suggest that urban dwellers were obtaining some resources independently. Swan (*Cygnus* sp) occupy the same ecological niche as ducks but were apparently not consumed in the same quantities. The scarcity of this taxon suggests that it may have been deliberately avoided, perhaps in response to legal restrictions. It is well known that during the later medieval period swan were reserved for royal consumption. MacGregor (1996:40) notes that these restrictions were first recorded in the mid-thirteenth century (in Henry de Bracton's *De legibus et consuetudinibus Angliae*) but it seems possible that these traditions date to an earlier period.

Zooarchaeological data for the early/middle Saxon period show that, although swan is present in all assemblage types, it is better represented in those from high-status sites. Rather than suggesting status-based restrictions, however, it seems more likely that the patterning reflects the wetland bird-dominated Brandon assemblage, from which all the high-status specimens shown in Figure 65 are derived. It has already been demonstrated that the Brandon assemblage contained an abundance of ducks, and other semi-aquatic taxa, such as the bittern (*Botaurus* sp) and plover (*Pluvialis* sp), were also represented.

Assemblages for late Saxon sites all show a low frequency of swan, indeed this taxon is absent on both village and monastic sites. Whilst this dearth continues for post-Conquest villages, towns and monasteries, swan re-emerges as a feature of high-status sites, suggesting that its status as bird of the aristocracy developed during the Norman period. The possibility that these restrictions derived from pre-Conquest France can be checked by considering the French bird data. When Figure 26 (page 51) is examined, however, it is apparent that swan was not confined to the French elite but was more commonly eaten by townsfolk. Norman influence cannot therefore, be held responsible for the inequality of swan consumption. Indeed, on the basis of historical evidence, MacGregor (1996:40) has argued that the restrictions placed on swan were a peculiarity of the English. It may, therefore be concluded tentatively that these new traditions were created by the post-Conquest elite. The significance of this will be examined in Chapter 8.

It was seen in Chapter 2 (Section 2.5) that, rather than swan, French high-status sites are characterised by an abundance of peacock (*Pavo cristatus*). By the end of the twelfth century Alexander Neckham described peacock as a bird of the English court (Holmes, 1952:195) but the actual date at which this preference for peacock infiltrated England is uncertain. Peafowl are thought to have been introduced to Britain during the Roman period (Luff, 1982), an idea supported by finds of their remains on several Roman sites (Yapp, 1983). However, with the exception of the specimens from middle Saxon Wicken Bonhunt (Crabtree, 1996) and late Saxon Thetford (Jones, 1984), they are largely absent from Saxon assemblages. By contrast, *Pavo cristatus* has been identified in several Norman contexts, such as those from Faccombe Netherton (Sadler, 1990:505), and Carisbrooke Castle (Serjeantson, 2000). Peacock remains were also recovered from 'medieval' deposits at Castle Rising (Jones *et al.*, 1997). This may indicate Norman associations with this bird, perhaps suggesting that they were responsible for its re-introduction to Britain. McCormick (1991:49) has drawn a similar conclusion for Ireland where peafowl have been identified only from post-Conquest deposits.

Another bird which may have been introduced to Britain by the Normans is the partridge (*Perdix perdix*). Figures 62-65 show that, with the exception of one specimen from Saxon Portchester (Eastham, 1975), this species appears, for the first time, in the Norman period: partridge has been identified at Walton in Buckinghamshire (Bramwell, 1976), Kings Lynn (Bramwell, 1977) and St Nicholas Street (Hutton-MacDonald, 1999) in Norfolk, and from Launceston Castle in Cornwall (Albarella and Davis, 1996). In Section 2.5 it was noted that partridge were common in French medieval assemblages and it seems likely that France was the source of the birds introduced to Britain. A Norman introduction would not conflict with Yapp's (1983:220) work on this bird. He mentions that, while the word *perdix* is not mentioned in early vocabularies, it is first recorded (in the thirteenth century) as an Anglo-Norman translation.

The pheasant (*Phasianus colchicus*) is more commonly associated with the Normans. Several scholars have suggested that they imported this bird, perhaps from Sicily, at some point during the late eleventh or twelfth century (Lever, 1979; Rackham, 1997:50, and Rowley, 1999:104). This assumption has largely been based on the historical evidence where the appearance of the word *fasianus* in medieval Latin texts had been interpreted as meaning *Phasianus colchicus*. According to Rackham (1997), pheasants are first recorded in the 1098 monastic charters of Rochester. Clutton-Brock, however, has pointed out that pheasants are also mentioned in the Old Welsh texts on the Nine Huntings (AD945) which state that:

> 'A pheasant is called a barking hunt, because when the pointers come upon it, and chase it, it takes to a tree where it is hunted by baiting.' Probert (1823)

This reference is interesting when viewed in conjunction with the zooarchaeological data. Figure 63 shows that a small number of pheasant have been recovered from the Saxon town sites of Fishergate in York (O'Connor, 1991) and Lincoln (Dobney *et al*, 1995). This evidence could undermine the theory that the Normans were responsible for introducing the pheasant. However, had this bird been widely available in pre-Conquest Britain, its scarcity in the archaeological record is surprising. One explanation for the archaeological dearth of pheasant may be problems of identification. It is difficult to separate pheasant from other galliformes and the fact that many researchers do not attempt to distinguish them from chicken and guinea fowl may account for the apparent absence of pheasant.

An alternative explanation for poor representation of pheasant may be that it reflects the true situation. Certainly it is interesting that pheasant have only been identified from town sites and it could be argued that these specimens represent individuals imported from the continent, rather than those derived from an established population. Figure 63 shows that this site-specific representation continues into the post-Conquest period, perhaps even inferring that pheasant were not established in Britain before the thirteenth century. Such a situation would correlate with Yapp's (1983) hypothesis, that the pheasant became established in Britain only after the thirteenth century. Yapp's argument was based on a re-analysis of the historical evidence which demonstrated that the word *fasianus* referred to the capercaille (*Tetrao urogallus*) rather than the pheasant. This evidence, combined with the zooarchaeological data, strongly suggests that pheasant were not common in Britain until the later medieval period, indicating that the Normans have been incorrectly attributed with the introduction of this species.

Of all the bird groups, doves and pigeons (*Columba* sp) are perhaps the most commonly linked to the Normans, who it is believed introduced the concept of dovecote management from France (Hawes, 1984:354). This idea is corroborated by the French data: Figure 26 indicates that pigeons and doves were a common element of both high-status and monastic diets. Furthermore, historical and archaeological evidence demonstrates that dovecotes were erected on many post-Conquest manors in both England and Ireland (McCormick, 1991:49). Certainly, the example discovered at Faccombe Netherton, Hampshire, is dated to the end of the Norman period (Fairbrother, 1991), as is that from Porth Column, Cornwall (Richards Jones, personal communication).

English taxa representations (Figure 64) also show monastic wild bird assemblages to be characterised by pigeons/doves but rather than being a post-Conquest phenomenon, these taxa dominate middle Saxon assemblages: such as that from Wicken Bonhunt where domestic pigeons (*Columba livia* f. domestica) have tentatively been identified (Crabtree, 1996). No other site types of this period contain pigeons/dove in excess of 20%. This may suggest that whilst pigeon/dove management was practised in the middle Saxon period it was a custom confined to religious houses.

The association between doves/pigeons and religious houses is most probably related to the Benedictine Rule (see Chapter 8); by maintaining these birds, ecclesiastics secured a reliable source of 'non-meat' which could be consumed on fast days. Certainly by the later medieval period pigeons were commonly eaten for pittances (Harvey, 1993:53). Although the behavioural ecology of pigeons/doves predisposes them to domestication, the symbolic significance of these birds should not be ignored. Medieval bestiaries (Payne, 1990), and the Christian literature on which they are based, record doves as the symbol of the Holy Ghost, an association that can be traced to the Roman period (Hawes, 1984:354). This symbolism may be the reason why they were preferentially managed and consumed by monastics.

Early evidence for pigeon management confirms that the Norman were not responsible for importing the concept; nevertheless, they may have been responsible for the restrictions surrounding the practice. If this were the case a post-Conquest reduction in pigeon abundance should be apparent for low-status sites. Towns do demonstrate a decline in pigeon/dove frequencies; however, villages show a 20% rise in the Norman period, and a further 13% rise in by the Angevin period. Admittedly, sample sizes for these period are small but if it is accepted that they reflect the true situation, the abundance of pigeons suggests that any restrictions concerning these birds were ignored by the peasants. Pigeons have the tendency to raid crops and the capacity to consume large quantities of grain (Jones, 1972). Farming communities may have resented the protection conferred on pigeons and their consumption of these birds may have been a statement of defiance against their Norman lords. Certainly the court rolls of the later medieval period record numerous instances of pigeon poaching (Bennett, 1971:93).

Summary

Between the 5th and 13th centuries wild birds moved from being an under-utilised resource to a sought after status symbol and economic commodity. The Saxon-Norman transition seemingly marks the point of departure where, for the first time, high-status sites show a disproportionately high frequency of wild birds. This change coincides with increased use of hunting birds, a move which probably encouraged the adoption of wild birds as a high-status resource. The extent to which the Normans were responsible for these changes is debatable. Certainly zooarchaeological evidence for medieval France demonstrate an unequal distribution of wild birds, with greater numbers being present on high-status sites. Historical evidence also indicates that hawking and falconry were more commonly practised in pre-Conquest France than in England.

Evidence for the importation of Norman hawking traditions may also be provided by the post-Conquest uptake of heron hunting. There are several other changes in bird representation: woodcock become more abundant and swan begin to show a high-status association. These changes do not, however, seem to be derived from pre-Conquest Normandy. The same is true for the concept of dove/pigeon management. Evidence for the middle Saxon period indicates that these birds had been targeted, at least by the occupants of monastic sites, from a much earlier period. By contrast, the post-Conquest appearance of both peafowl and partridge may be related to Norman influence. The pheasant, however, should not be viewed as a Norman introduction.

Determining whether the Normans placed restrictions on wild bird resources is problematic. Although there is an obvious status-based difference in their representation, low-status sites show no post-Conquest decline in wild bird frequencies. Taxa ranges are limited for both the Saxon and Norman villages and there is no obvious Conquest-related change. For town sites, evidence for imposed restriction may have been obscured by the activities of specialist fowlers, who may have imported a range of birds into the urban context.

4.3: Mammals

Few history books neglect to mention the Normans' 'love of the chase' and according to the zooarchaeological evidence, this would seem to be an accurate statement. Figure 66 demonstrates that although all high-status assemblages, regardless of period, contained more wild animals than either villages or towns, it is only in the post-Conquest period that inequality becomes particularly defined.

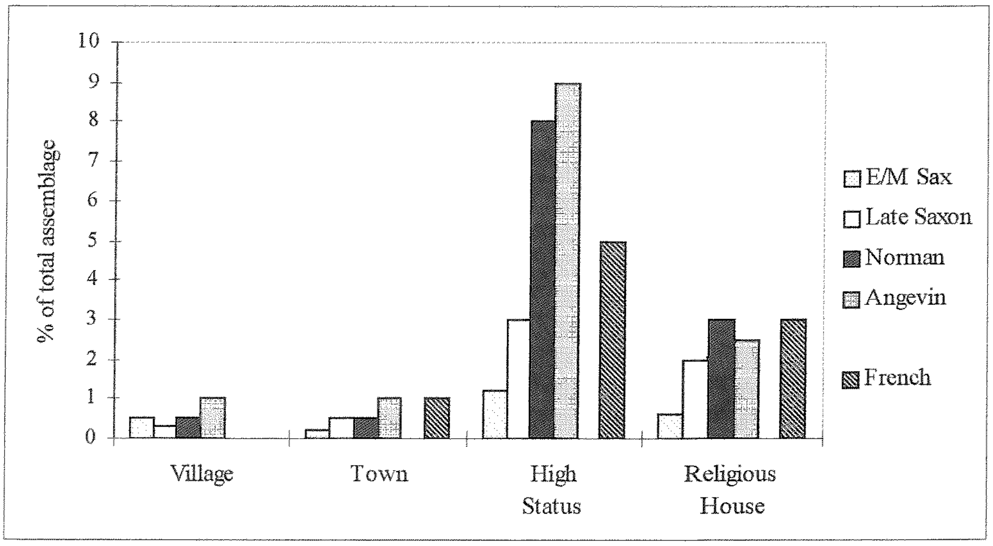


Figure 66: Inter-period and inter-site variation in wild mammal frequencies (expressed as a percentage of the total assemblage)

In the early/middle Saxon period no sites contained high frequencies of game. I argued in Chapter 3 that in the early/middle Saxon period attention focused upon agricultural production which may account for the lack of wild resource exploitation. Indeed, Grant (1981) has suggested that in a culture where farming was of great importance, wild animals may have represented a threat to domestic stock and crops and, as such, were chased away. However, the fact that a bronze figurine of a red deer was recovered from the seventh-century Sutton-Hoo burial indicates that wild animals did have some status association (Clutton-Brock, 1976). This theory is upheld by Figure 66 which shows that high-status assemblages contain marginally more game than those from other site types. In general, however, the impression provided by the zooarchaeological evidence is that, in the early/middle Saxon period, hunting was neither a popular pastime nor one associated purely with the elite.

Wild mammals are better represented on all late Saxon sites, except villages. Towns show an increase from 0.2% to 0.5% whereas the frequency of game on high-status sites rise from 1.2% to 3%. Growth in high-status game consumption coincides with the social reorganisation of the late Saxon period and, therefore, zooarchaeological evidence agrees with the idea that the *thegns* of the ninth to early-eleventh century were keen hunters who established their own game parks. Biddick (1984a) has argued that these ninth-century changes in social and landscape organisation, in particular the apportioning of ancient commons to specific manors, may have curbed the peasant's hunting rights. Reduced frequency of game on village sites correlates with the patterns for wild bird frequencies (Section 4.2) and could, indeed, imply that hunting rights were restricted. Holdsworth (1980:99), however, proposed an alternative explanation. He argued that the agricultural intensification of the late Saxon period (Chapter 3) would have left the peasantry with little time for hunting. As such, the constraints placed on the rural population were more probably derived from the practicalities of agriculture rather than legal restriction. The fact that towns display an increase in game reinforces the idea that the *thegns* did not prohibit hunting by the lower classes. Indeed, as will be seen in Chapter 5, the lower classes were often required to assist with the hunt and their participation may have helped to mask inequality.

By contrast to the secular population, hunting restrictions were placed on ecclesiastics. For example, Wulfstan's *Canons of Edgar* states:

> 'it is not fitting for a priest to be a hunter or a falconer…the law says that if a man in orders goes hunting he must forgo meat for a year if he is a cleric, two years if he is a deacon, three if he is a priest and seven a bishop' (Fowler, 1972:15)

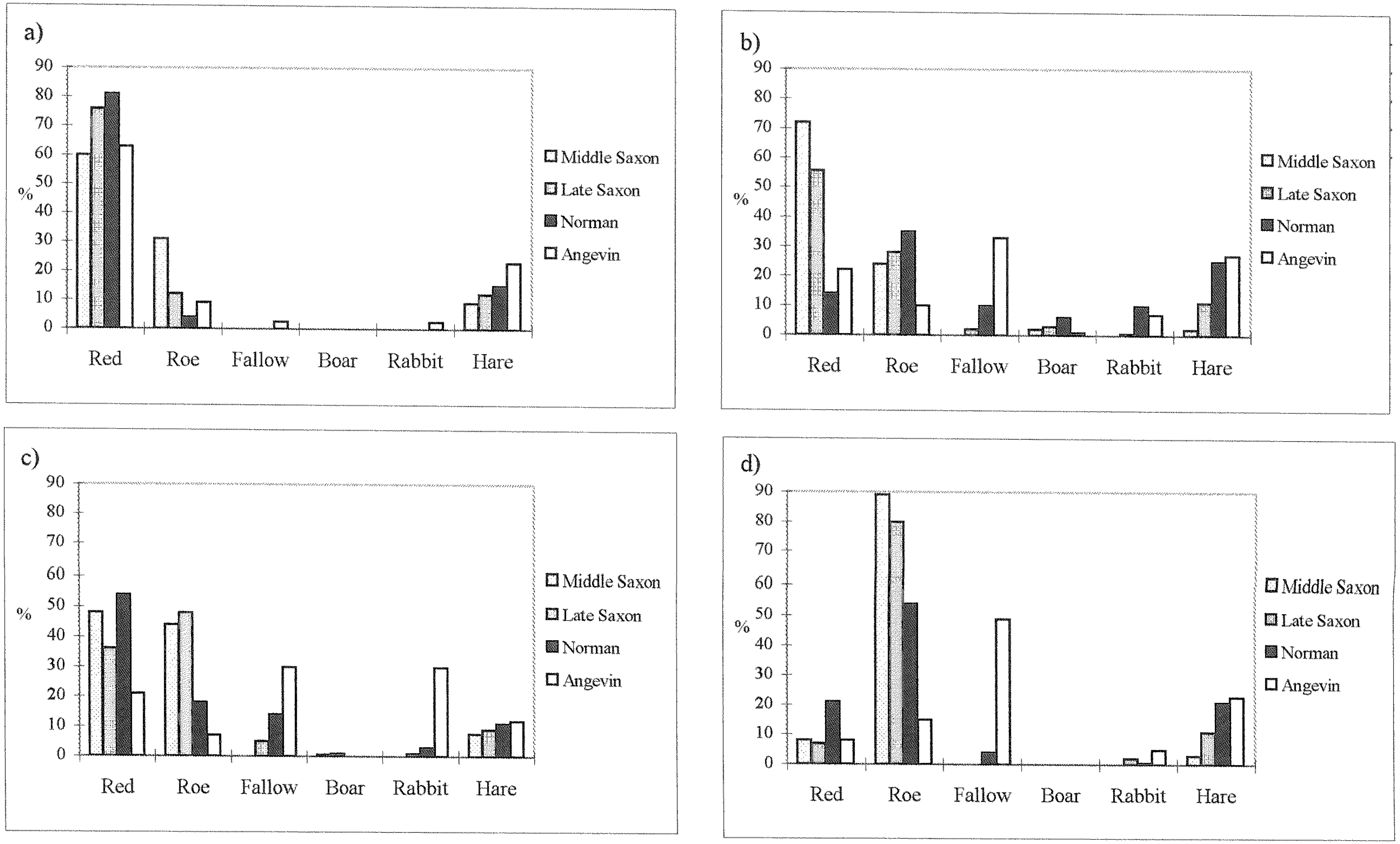
For these warnings to have been issued suggests that ecclesiastics were participating in hunts. This is certainly suggested by the zooarchaeological data which show that by the late Saxon period the relative percentage of wild mammals had increased from 0.5-2%.

By the Norman period the frequency of game on both ecclesiastical and high-status sites had increased further; the former rising from 2% to 3% and the latter from 3% to 8%. Villages also demonstrated a slight rise in the presence of wild mammals but towns show no change. Overall, low-status increases in game are not in-line with those demonstrated for high-status and monastic assemblages, perhaps indicating the effectiveness of Forest Law. The resulting social differentiation was comparable to that demonstrated by French assemblages (Section 2.4). Indeed, Figure 66 shows that the inequality of game representation even exceeds that shown by the French patterns (Figure 20, page 45). This would correlate with Gilbert's (1979:11) assertion that the Forest Law introduced to England was more severe than it had been in pre-Conquest Normandy.

Whilst it is encouraging that the zooarchaeological data support traditional perceptions of Forest Law and the Norman love of hunting, these results do not really advance the understanding of Norman influence on hunting traditions. In order to achieve this, it is necessary to examine the data at a more detailed level. Changing representations of the different wild animals are, therefore, provided in Figures 67a-d.

Perhaps the most obvious shifts in taxa representation are shown for the three deer species; red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*) and fallow deer

Figure 67: Inter-period variation in th relative frequency of wild mammal taxa on a) village, b) town, c) high status and d) ecclesiastic sites.



(*Dama dama*), whose ratios are presented in more detail in Figures 68a-d. These graphs show clearly that, throughout the Saxon period, both village and town assemblages comprised higher frequencies of red than roe deer. To some extent this could be accounted for by antler working, with artisans preferentially collecting and working the shed antler of the larger red deer. Where possible I have, however, attempted to exclude antler fragments from this synthesis and, therefore, the data set should reflect the 'real' situation.

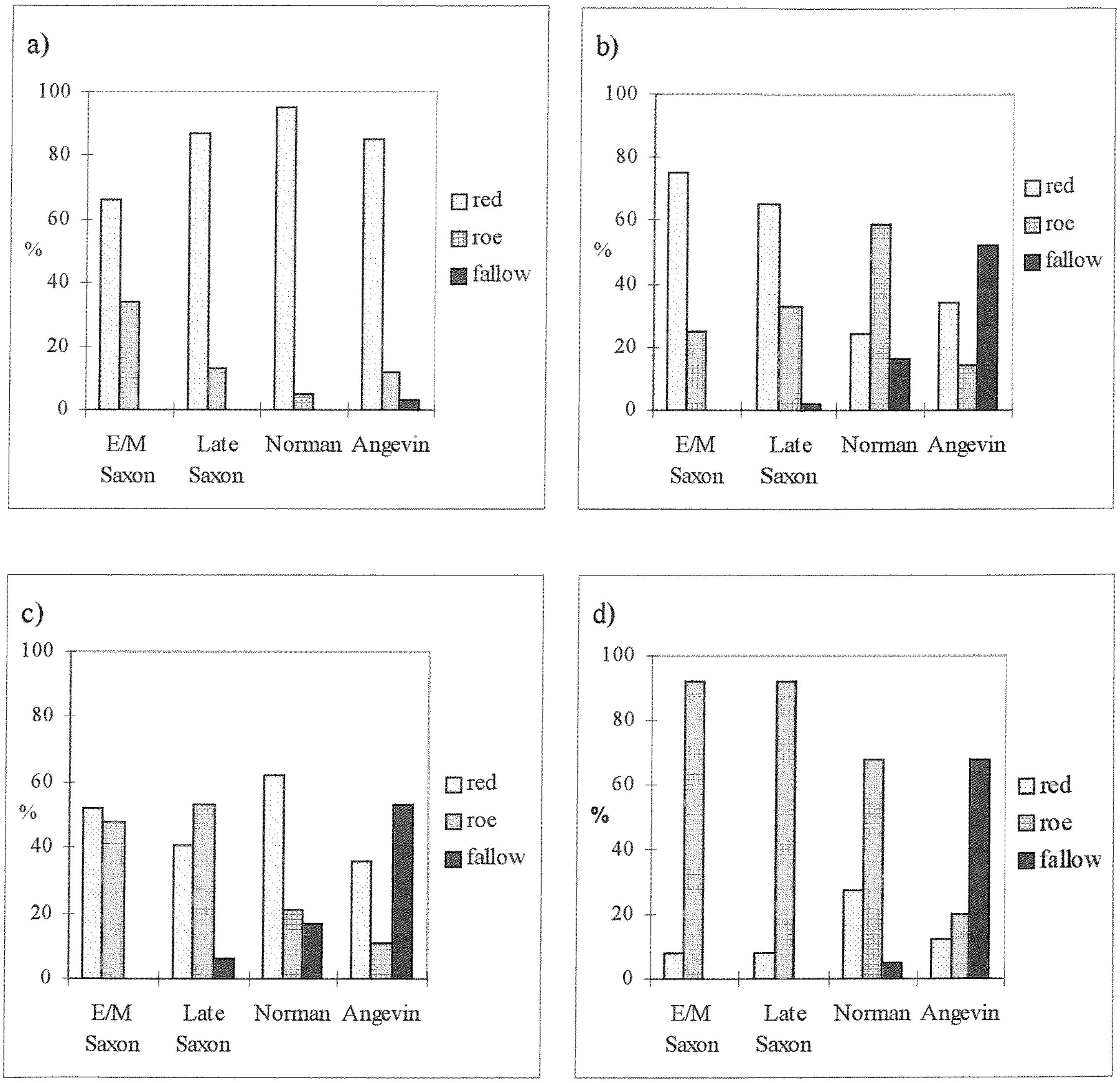


Figure 68: Inter-period variation in the relative frequency of red, roe and fallow deer on a) village, b) town, c) high status and d) ecclesiastic sites

If so, it contrasts markedly with the deer representation for Saxon high-status and monastic sites, where roe are present in greater frequencies, often outnumbering red deer. Status-based variation of this kind may hint at unequal access to deer resources, perhaps suggesting that roe deer were hunted preferentially by the aristocracy.

If the Saxon elite were targeting roe in preference to red deer, the situation appears to have reversed by the Norman period: high-status sites demonstrate a dramatic shift away from roe and towards red deer. At the same time evidence from Norman towns suggests an equally dramatic move in the opposite direction, with a significant decline in the abundance of red deer and an increase in roe. The Anglo-Saxon Chronicle certainly mentions William the Conqueror's love of red deer and the restrictions he placed on hunting them. As such, it seems possible that the shifts in deer ratios reflect Norman preferences. Certainly the general taxa representations for French sites are similar to those for post-Conquest England, with the obvious exception that wild boar are much better represented in continental assemblages. Figure 21 (Section 2.4) demonstrates that, as in Norman England, French sites, in particular Vatteville, show red deer to be the best represented deer species.

The high-status move away from roe deer has been recorded for many sites, such as Faccombe Netherton, Hampshire (Sadler, 1990) and Trowbridge castle, Wiltshire (Bourdillon, 1993). Two main explanations have been suggested. The first is that the roe population declined during the medieval period (Rackham, 1997:39) and the, second is that roe deer were no longer a favoured quarry: Whitehead (1964:210) suggested that by the early fourteenth century roe deer were no longer protected by Forest Law. Both of these explanations may be valid but credence is perhaps added to the latter when the data for religious houses are considered. Figure 68d demonstrates that from the middle Saxon to Norman period their wild assemblages continue to be dominated, even characterised, by roe deer. If ecclesiastical communities were capable of obtaining roe deer in such high frequencies it seems unlikely that the roe population was in decline.

The association between roe deer and ecclesiastical sites is demonstrated well by the assemblage from North Elmham, Norfolk. The site was founded in the middle Saxon period, from which point it, most probably, functioned as the centre of the East Anglian bishopric until, after the Conquest, the see was transferred to Thetford and then Norwich (Wade-Martins, 1980). Zooarchaeological evidence demonstrates that throughout the Saxon period, roe deer accounted for approximately 95% of North Elmham's cervid assemblage. However, by the Norman period, when the site appears to have become secular, roe deer comprised just 21% of the deer remains with red deer taking the dominant position (Appendix Ifii).

The abundance of roe deer in assemblages from religious houses may reflect the fact that ecclesiastics were often granted the right to hunt lesser animals, such as roe deer. The same system may have been in operation on the continent as Yvinec (1993) has demonstrated that assemblages from French religious houses are also characterised by roe deer (see Figure 21). If this were the case, however, it would suggest that hunting rights were defined at a much earlier date than had previously been thought. An alternative explanation for the relationship between roe deer and religious sites is that roe deer had a symbolic significance. Hunting manuals, although dating to the fourteenth century, praised roe deer for their monogamy and fidelity, whilst later medieval art even uses the roe deer as a symbol of chastity and abstinence (Cummins, 1988:89). In Chapter 8, it will be seen that, in medieval thought, it was believed that the character of an animal could be acquired through the consumption of their flesh. Roe deer venison may, therefore, have been deemed a fitting food for men of the cloth. By the Norman period, however, the dominance of roe was even being challenged on religious sites, by a relative increase in the frequency of red deer.

Rather than reflecting changes in the actual deer populations, I would argue that the Saxon-Norman shift from roe to red deer represents Norman influence on hunting strategies and perceptions of the hunting landscape. For example, in Saxon England most aristocratic hunting seems to have taken place in enclosed wooded areas, such as the *siluis uenationibus* 'woods for hunting' (mentioned in the late Saxon charter for Grimley, Worcester - Sawyer, 1968: S 1370) or the *haia in qua capiebant ferae* 'enclosure in which they used to capture wild animals' (referred to in the Domesday accounts for Worcestershire, Hagen, 1998b:135). Hunting in wooded enclosures would have been weighted towards the capture of roe deer, which are predominantly a woodland species, adapted to negotiating thick undergrowth (Darling, 1937). By contrast red deer are less suited to woodland and are better adapted to open moorland and heathland, where they form large herds (Clutton-Brock *et al.*, 1982). The Norman introduction of the 'forest' concept changed perceptions of the hunting grounds away from the bounded and wooded Saxon parks and towards the type of environment where red deer are more abundant. As Rackham (1997:130) has pointed out, 'forest' in its medieval sense did not imply woodland but meant an area subject to Forest Law. As such, forests encompassed wide tracts of open countryside, including settlements and agricultural land. By the end of the Norman period, royal forests stretched, largely unbroken, from the Solent to The Wash. I suggest that it is this change in hunting landscape that promoted red deer to premier beast of the hunt.

Changes of red:roe deer are not, however, the only Saxon-Norman changes in deer species that occurred. Figure 68 shows that fallow deer became more abundant in the Norman period (their actual introduction date will be considered in Chapter 7). Rackham (1997: 123) has argued that the post-Conquest increase in fallow deer was connected with the growing fashion for emparkment. This is highly probable since fallow deer, as a newly introduced species, would not have been set free but jealously guarded in enclosures. The number of parks multiplied during the twelfth century and this is paralleled by fallow deer frequencies: by the Angevin period they were the most common deer on high-status sites. The fact that fallow deer were kept in enclosed parks may be directly responsible for their absence of village sites. Whilst peasants could have poached red and roe deer from forest areas, greater effort and courage would have been required to enter a park and attempt to carry a fallow carcass over the boundary fence.

With the restrictions on venison and the potential difficulty of poaching from parks, it is interesting that post-Conquest town sites continued to show deer, in particular fallow deer, in such high frequencies. It is well known that in the medieval period venison was considered a priceless commodity which the king bestowed on favoured subjects (Rackham, 1997:135). As such, deer should not have been widely available for purchase by the urban population; indeed, this may account for the low frequencies of game found in eleventh/twelfth-century town assemblages. Nevertheless, some venison did percolate into urban contexts and Birrell (1979:20) has suggested that much of it arrived through an organised trafficking system. Court Rolls from the, admittedly later, thirteenth century, record the illicit trade running between the Midland forests and the urban centre of Bristol. They also revealed many convictions of deer smuggling; the roll for Cannock, Staffordshire, for example, mentions one man who had hidden deer carcasses in a cart-load of timber (Birrell, 1979:18). Problems of carcass concealment may explain why, in the post-Conquest period, towns began to receive a greater frequency of rabbits (whose introduction is examined in Chapter 8) and hares which could have been smuggled with little risk of discovery.

Whilst smuggling may account for the increased representation of hare in urban assemblages, there may be other reasons for its growing popularity. Figure 67 demonstrates that from the early/middle Saxon to Angevin period, the relative frequency of hare grew steadily on all site types. It may be of significance that the seventh-century Penitential of Theodore stated that the flesh of hare was an acceptable Christian food (Wilson, 1973:365). The traditional way of hunting hares seems to have been through coursing, evidence for which can be found on the Bayeux Tapestry. It seems possible that the growth of hare exploitation may be linked to growing availability of hunting dogs (Hagen, 1998b:136).

Similar to the patterns exhibited by the fish and bird data, urban wild mammal assemblages are characterised by a range of taxa which are represented in relatively low frequencies. Perhaps most interesting is the presence of wild boar. Although consistently present in town assemblages of all periods, this taxon is largely absent from those of other site-types. Indeed, the zooarchaeological data suggest that wild boar were not widely available. This contradicts the historical evidence which provides numerous references to the capture and consumption of wild boar. The Anglo-Saxon Chronicle, for example, mentions that William I 'forbade the killing of boars' and many later medieval documents list wild boar amongst feast foods. The 1251 Christmas dinner held by Henry III is said to have included 300 wild boar, taken from the forests of Dean and Pickering

(Rackham, 1997: 36). If wild boar were as numerous as the documentary evidence suggests, their zooarchaeological absence is surprising.

One possible explanation for their under-representation could be misidentification. Distinguishing between wild boar and domestic pig can be difficult and is often only possible for teeth. Since the taking of dental measurements have only recently become standard zooarchaeological practice, it is perhaps unsurprising that wild boar were previously seldom reported. It is noteworthy that zooarchaeologists who commonly take dental measurements have also frequently identified wild boar, for example O'Connor (1988, 1989b, 1991) Powell (1999) and Scott (1991 and 1992). The fact that these researchers have worked predominantly on urban assemblages could feasibly explain the inter-site variation in wild boar representation.

There are, however, several researchers who have worked on rural and high-status sites but, despite taking dental measurements, have found little or no evidence for wild boar (Crabtree, 1985; Sadler, 1990). This raises the question of how different medieval wild boar and domestic pigs actually were. The tradition of leaving pigs to pannage would have provided considerable opportunity for the inter-breeding of wild and domestic individuals. Such a situation could have produced wild boar that were separable from domesticates only on the basis of their temperament (Sylvia Warman, personal communication). As a result, identification criteria based on the large continental wild boar may be inapplicable for the study of British assemblages. The large individuals identified on urban sites may, therefore, represent animals imported from the continent rather than locally-raised individuals. Abundance of wild boar in France has already been noted, and increased cross-channel trade could account for the post-Conquest rise in wild boar frequency noted for British town sites.

Summary

Zooarchaeological evidence confirms that derived from historical documents: that the Norman elite both utilised and restricted resources of wild mammal more heavily that their Saxon predecessors. A more detailed study of taxa representations, however, demonstrates the way in which continental hunting systems influenced the types of animals targeted. Whilst the Saxon elite tended to take roe deer from wooded parks, the Norman introduction of the forest concept saw red deer targeted as the favoured quarry. Only monastic communities, who were generally only given the rights to take lesser beasts, continued to focus upon roe deer. In the Norman period urban sites also began to demonstrate higher frequencies of roe deer as well as hare. I have suggest this represents game trafficking by organised poachers, rather than legitimate hunters. At face value this situation appears unrelated to the Normans, however, the post-Conquest restrictions placed on wild animals made venison a sought after status symbol and thus a valuable commodity. In this respect the Normans can be held responsible for the observed changes.

4.4: Discussion and Conclusion

The zooarchaeological record provides ample evidence for an early/middle to Angevin growth of wild resources exploitation. By considering the Norman data as part of this developmental process, the impact of the Conquest has been better defined and understood.

Traditionally, the Anglo-Saxons have been viewed as drawing little from wild resources and the zooarchaeological evidence for fifth to ninth-century England supports such a perception. The animal bone data for this period demonstrate that no section of society expended much time in gathering wild birds, mammals or fish. On occasions when these resources were targeted, exploitation focused on animals that were locally available and whose capture required minimal technology, such as eels, pigeons and ducks. In general, early/middle Saxon communities gave little attention to wild taxa and derived most of their animal foods from domestic livestock.

Rural dependence on domesticates appears to have continued into the late Saxon period with villages showing a low frequency of wild animals. Other assemblage types, however, demonstrate a general widening of the resource base, with greater exploitation of fish, wild birds and mammals. This transition is particularly well demonstrated for urban sites where the limited taxa range of the early/middle Saxon period was superseded by a wider variety of animals including plover, herring and wild boar. This late Saxon shift suggests a growing awareness of wild resources and the development of procurement techniques, such as the deep-water drift net, to enable their exploitation. O'Connor (1994) argued that these changes, which he noted from medieval York, reflect market development. Certainly urban sites contain taxa that must have been imported from outside, and I have suggested that pheasant and wild boar may even have been acquired from the continent. To this extent the rise in wild resources can be linked to the growing economic intensification, noted in Chapter 3.

During the Saxon period, utilisation of wild resources shifted from low-scale local production, requiring minimal technology, to a situation of resource management and countrywide provisioning. Whilst the rate of change was gradual, the transition towards increased but restricted exploitation was already underway by 1066. It was, however, in the late eleventh and early twelfth centuries that dramatic changes occurred. Zooarchaeological data demonstrate that the frequency of wild animals on high-status and monastic sites increased considerably, whereas low-status sites were receiving little more game than in the preceding period. These changes occurred with a rapidity indicative of external influence and the fact that they coincide with the date of the Conquest is highly suggestive of Norman involvement.

In terms of both status-based inequality and the types of taxa exploited, the situation in post-Conquest England had become similar to that found in France. Red deer and heron both became well represented in assemblages of the Norman period, there is even some evidence that preferences for peacock and partridge were introduced. Wild boar, the characteristic of French assemblages, did not become favoured in post-Conquest England. Its absence is most likely due to lack of availability rather than avoidance but identification problems may also have obscured its presence.

Perhaps the most dramatic changes occurred in response to the introduction of new species, such as rabbits and fallow deer. The arrival of these animals fundamentally changed wild resource management and led to the establishment of numerous parks and warrens. Historical evidence suggests the laws surrounding these animals and the new game reserves were despised by the peasants. The popular perception has always been that the Norman elite deprived the lower classes of animals that, before the Conquest, were available to all. This is not necessarily the case. I have argued that many of the animals hunted in the post-Conquest period were either not hunted or not available in Saxon England. The introduction and management of rabbits and fallow deer could not have occurred without control. The proprietorial nature of the Norman lords is, therefore, unsurprising, especially when it is considered that enclosures were established and maintained at great expense.

Whilst the restrictions on parks were imposed to protect personal investment, the same cannot be said for forest areas. Forests were legal concepts and because they had few physical boundaries, little expenditure, with the exception of payments to forest wardens, was involved in their upkeep. By prohibiting access to naturally occurring taxa the Normans were, indeed, restricting commoners rights. This may have been undertaken as a symbol of authority but it also fulfilled an important political function. By limiting the availability of wild resources, in particular deer, they created a priceless royal resource and gifts of deer, or hunting rights, could be bestowed upon loyal supporters and withdrawn from the rebellious.

The status bestowed on wild animals increased the demand for these resources and despite the restrictions placed upon them occupants of low-status sites succeeded in obtaining supplies of game. Villagers seem to have exploited locally available animals such as red deer and, in particular, pigeons; whilst organised poachers targeted game parks, smuggling out hares, roe and fallow deer.

Not all of the wild animals arriving in towns were derived from poaching. The variety of different birds, mammals and fish suggest that an increasing number of specialist fowlers and fishermen were importing goods for sale. It seems likely that they supplied not only the urban population but also the post-Conquest elite. Commutation of food rents meant that the great households were required to obtain their supplies from alternative sources. Aristocratic hunting would have been insufficient to fill the larder and the majority of food-stuffs must have been acquired from markets: this may be one of the reasons why so many markets were founded by Norman lords (see Chapter 3).

Whilst this study has provided evidence to support the traditional view that the Norman lords did 'love hunting' and that they did restrict resources, it has also shown that several elements have been incorrectly attributed to the Normans. Neither pheasants nor dove/pigeon management can be firmly tied to Norman influence, as both of these factors are found from the middle Saxon period onwards. Interestingly, the origins of dove/pigeon management are ecclesiastic rather than secular, the same is true of the practice of maintaining freshwater fish in artificial ponds.

The impact of the Normans on wild resources can therefore be seen on many levels. As the historical evidence suggests, they imposed the continental systems of Forest Law and restricted hunting rights. This is the most obvious impact but there were many other subtle changes. Shifting taxa ratios identified in my research have informed on economic development, the introduction of Norman customs and, in particular, their hunting systems.

Chapter 5. Deer Hunting.

'I never before saw such a wild beast being so carelessly dealt with'.... Up stood a bold servant and replied to Tristrem 'we and our forebears have always advocated this. You have suggested another way. Over there lies an unflayed beast: dress it in your way and we will gladly watch you on the spot.' (Gottfried von Strassburg, translated by Hatto, 1960)

In the previous chapter it was seen that the Saxon-Norman transition was accompanied by both a change in the hunting landscape and the type of deer hunted, with red and fallow deer replacing roe as the favoured quarry of the elite. With two such dramatic shifts it is reasonable to conjecture that techniques of high-status hunting also changed. The above quote, from the thirteenth-century story of Sir Tristrem, certainly indicates that some variation between Tristrem's French customs and those of his Cornish hosts existed but the manifestation of these differences is less apparent. In this chapter I examine deer butchery and, in particular, body part patterns to ascertain if pre- to post-Conquest changes in deer hunting can be detected zooarchaeologically.

Historical evidence for Saxon hunting techniques is scarce, hence the popular belief that the pre-Conquest population were not keen hunters. However, as was seen in the previous chapter, this belief is a fallacy and some evidence can be gleaned from Saxon charters, place names and archaeological studies. From the fourteenth century onwards hunting manuals begin to appear: for example Twici's, *Le Art de Vénerie c.* 1328; *Le Livre du Roy Modus* author unknown but dated to the early fourteenth century, and Gaston Phoebus, *Le Livre de Chasse* (1406-1413). These provide detailed descriptions of the different hunting techniques employed for different animals.

It should be noted from the outset that all of these texts date to at least 200 years after the Norman period and that most of them are either French or translated from French documents. Their relevance to Saxo-Norman England is, therefore, questionable. Indeed the direct application of these texts to medieval England may explain the popular belief that wild boar were common in the forests of medieval Britain. But as it has been shown in Chapter 4, whilst wild boar were numerous in France, there is little zooarchaeological evidence for their presence in medieval England. Despite these inconsistencies, the hunting texts do provide a useful insight into medieval traditions of venery, and information from them will be drawn upon throughout this study.

Historical evidence suggests that, whilst hunting styles varied considerably, there were two main methods by which deer could be caught: they could either be driven towards the hunters or the hunters could chase after them. Both techniques seem to have been known in pre-Conquest Britain. The laws of Hywel Dda refer to a technique that appears similar to a chase, stating:

> 'A fox is a clamourous hunt, because however much the dogs pursue it in full cry, and it be chased with blowing of horns, it will continue its course until it be weary ....the roebuck is called a clamourous hunt for the very same reason.' (Probert, 1823).

Gilbert (1979) and Cummins (1988) have, however, both suggested the 'drive' (also known as 'the bow and stable') as the most common pre-Conquest hunting method. There is various historical evidence to support this proposal. The Domesday Book, for example, contains numerous references to 'hayes': entries for Kingsley and Weaverham refer specifically to *haii capreolorum* - hayes for roe deer (Yaldean, 1999:152). These are thought to have been long hedges or nets into which groups of deer were chased and then killed by archers. This idea is in accordance with Aelfric's hunter who states:

> 'I weave myself nets and set them in a suitable place, and urge on my dogs so that they chase the wild animals until they come into the nets unawares and are thus ensnared; and I kill them in the nets.' (Garmonsway, 1978)

'Bow and stable' was a highly efficient method of obtaining game, whereby large quantities of meat could be obtained in a single event. To be successful, this method would have required the participation of many people, and Cummins (1988:51) has suggested that, by the late Saxon period, drive hunting was used as a conspicuous display of royal or *thegnly* resources, demonstrating their ability to muster manpower.

Certainly, the Domesday Book mentions that some citizens of Hereford, Shrewsbury and Berkshire were obliged legally to act as drivers (Loyn, 1970:366).

The drive may have continued as the preferred hunting method into the post-Conquest period but historical evidence suggests that a new hunting style, the chase *par force*, also emerged. Details of the *par force* hunt are given in all of the later medieval hunting manuals. They describe a very long and wide-ranging hunt that was composed of several stages. These stages have been summarised by, amongst others, Cummins (1988) and Thiébaux (1967) and consist of the following:

- **The quest**. In the morning of the hunt, a small party, often a single individual, would set out to find a single deer, the finest deer, to be the quarry. Scenting dog were used to locate a herd and animals were singled out as potential targets. Their droppings (the *fumèes*), were collected to be shown to the hunting party.
- **The assembly**. On the basis of the evidence collected, the huntsman discussed the merits of each animal and once a deer had been selected, the party would prepare to set out.
- **The relays**. In advance of the hunt, relays of dogs and their handlers were posted in strategic positions where the deer were thought likely to pass by.
- **The chase**. With the relays in place the hunt set out to the last-known location of the deer and then, by studying its tracks and with use of scenting dogs, the chase began. With much blowing of horns and shouting of encouragement, the deer was chased to the point of exhaustion.
- **The death**. The deer was preferably kept 'at bay' (surrounded by dogs) until the lord arrived. On his arrival, the animal was killed by inserting a sword behind the shoulder and into its heart: this ritual took place even if the animal was already dead.
- **The unmaking**. Rather than taking the whole carcass back to the settlement, it was skinned, disembowelled and butchered in the field. The process was precise, formulaic and highly ritualised; it was accompanied by the shouting of commands and the blowing of horns. The knowledge of how to unmake a deer was the mark of nobility and the duty was often given to the most distinguished member of the party.

In terms of optimal hunting, the *par force* technique is not, by comparison to the drive, an efficient means of obtaining meat. Instead, it must be assumed that the purpose of this hunt was sport, rather than to obtain food for the table (Salisbury, 1994:46). Both Gilbert (1979:58) and Cummins (1988:51) have suggested that this highly ritualised pursuit was introduced to England by the Normans. It was demonstrated in the previous Chapter that the Norman elite were fanatical hunters, and it seems highly possible that they could have introduced techniques that elaborated and, thus, prolonged their favourite pastime. Whether these changes can be detected in the animal bone record, however, is less certain.

From a zooarchaeological perspective, the 'unmaking' is the most intriguing aspect of the *par force* hunt; indeed, it is the only stage that is likely to leave a trace in the animal bone record. The clearest description of the unmaking is provided by the *Boke of St Albans*; a late fifteenth-century text, attributed to Dame Julyana Berners. The full text is provided in Appendix VII but the pertinent points are as follows:

- First the testicles and penis were removed and hung on a stick, the *forchée*, which was used to collect various organs and titbits: the *forchée* would later be carried at the front of the homeward bound procession.

- The skin was split from under the chin to the genitals and then out to each leg and the deer was then flayed down to the spine.

- The feet were removed from the carcass but were often left attached to the skin.

- The skin was spread out to protect the venison from the ground but it was also used to collect the blood, into which bread was soaked: this was later mixed with the intestines and fed to the dogs.

- After skinning, the shoulders and the haunches were removed and then the rest of the carcass was disembowelled, de-fleshed, and the meat and antlers carried home in the skin, presumably using the feet as handles.

- Certain parts of the carcass were given to particular people, the '*corbyn* bone' (the pelvis) was cast away at the kill-site, as an offering to the crow. One shoulder was presented to the best huntsman and the other was given to the forester as his fee. In Gottfried von Strassburg's story of Tristan (thirteenth century) the head was also reserved for the overlord. Gaston Phoebus, also suggests that the front feet had particular significance and were given as trophies (Thiébaux, 1967 and Poplin, 1987).

If carcasses were treated in the way suggested by the texts, one might expect that evidence for the unmaking might be found in the zooarchaeological record. The ritualised methods of skinning and butchery could, potentially, be recognisable through butchery analysis, with chop and cut marks conforming to a standardised pattern. The fact that the unmaking rituals involved the distribution of some skeletal elements (such as the shoulders and the fore feet) and the disposal of others (the pelvis), may also be detectable in body part representations. These two groups of zooarchaeological evidence will, therefore, be examined to determine when these rituals, and thus the *par force* techniques, first appeared in England. It is intended that such a study will either substantiate or invalidate the claims made by Gilbert (1979) and Cummins (1988) that the *par force* techniques were introduced, from France, by the Normans.

5.1:Methods

Zooarchaeological reports pertaining to the medieval period were scanned for assemblages containing high frequencies of deer remains. A number were found and many of these, such as that for Goltho in Lincolnshire (Jones and Ruben, 1987) and St Albans in Hertfordshire (Crabtree, 1983) provided details of deer body part patterns. Raw data for the Faccombe Netherton assemblage were kindly provided by Peta Sadler because, although skeletal frequencies were given in the original report (Sadler, 1990), they were grouped into a wide date range: the 'Norman' period stretching from AD980 to 1204. Neither the report for Portchester Castle (Grant, 1975b and 1977) nor that for the Cheddar Palaces (Higgs and Greenwood, 1979) gave anatomical information. In order to gain this data, I re-analysed the material from these sites. The information was then combined with that collected personally from the Guildford Castle assemblage (Sykes, forthcoming).

In total, the body part evidence from eleven British sites was considered; the raw data are provided in Appendix IIId. Synthesis of this data proved slightly problematic due to inter-worker variation in recording system. For example, pelvic elements were not recorded for the Launceston Castle assemblage (Albarella and Davis,1996); the Okehampton report excluded the astragalus and calcaneum (Maltby, 1982), and neither the scapula, pelvis, astragalus or calcaneum were recorded for Sandal Castle (Griffith *et al.*, 1983). Fortunately, because the majority of data for the earlier periods had been collected personally, problems of inter-worker variation affected only the Angevin material. Synthesised skeletal representation patterns were produced, for each period, by combining the red, roe and (for the post-Conquest period) fallow deer data.

5.2: Results

Unusual deer body part patterns have been recognised from several late medieval sites. Reports for the castle sites of Launceston (Albarella and Davis, 1996), Sandal (Griffith, 1983), Okehampton (Maltby, 1982), Prudhoe (Davis, 1987) Barnard (Jones *et al.*, 1985) and Castle Rising (Jones *et al.*, 1997) have all mentioned a considerable over-representation of foot elements. Data for these assemblages are shown synthesised in Figure 69 and it is clear that the metapodia, in particular metatarsals, greatly outnumber all other elements. Many theories have been put forward to explain this patterning. One suggestion is that because cervid metapodia are highly characteristic, their numbers could have been artificially inflated compared to the other less diagnostic elements (Grant, 1988a). Whilst this is plausible for assemblages studied before 1980, current emphasis on the use of comparative collections should, in theory, eliminate this as a factor for variation.

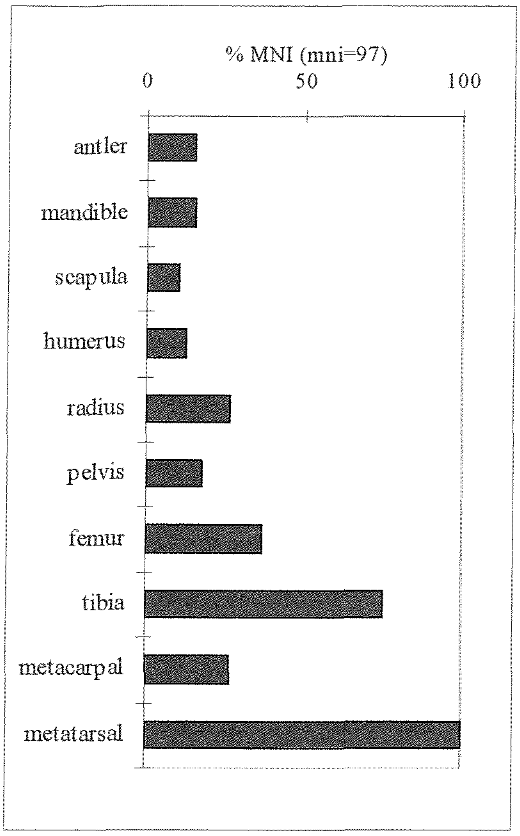


Figure 69: Body part pattern for deer (data for red, roe and fallow deer combined) from sites of the Angevin period.

Inter-element variation in preservation is another potential possibility, since bone density studies have shown that the lower limbs of cervids are comparatively more dense, and thus likely to survive archaeologically, than other elements (Kreutzer, 1992). This theory is, however, undermined by the fact that cattle and sheep have similar variation in bone density but do not demonstrate similar skeletal patterning. Albarella and Davis (1996) have proposed that preferential importation of haunches into Launceston Castle would explain the observed anatomical representation: this is certainly a strong possibility. In the later medieval period, as has been seen in Chapter 4, venison was a sought-after commodity, granted by the king to his favoured subjects. There are many thirteenth-century references to the hunting, salting and transportation of venison. For example, correspondence between King John and Roeland Bloet, who resided at Knepp Castle, Sussex, often mention the supply of deer. One letter, dated 1212, reads:

> 'We send to you Michael de Punning, commanding that you permit him to take all the fat deer he can without the park at Cnapp…and that you cause them to be salted' (Merrik-Burrell, 1850).

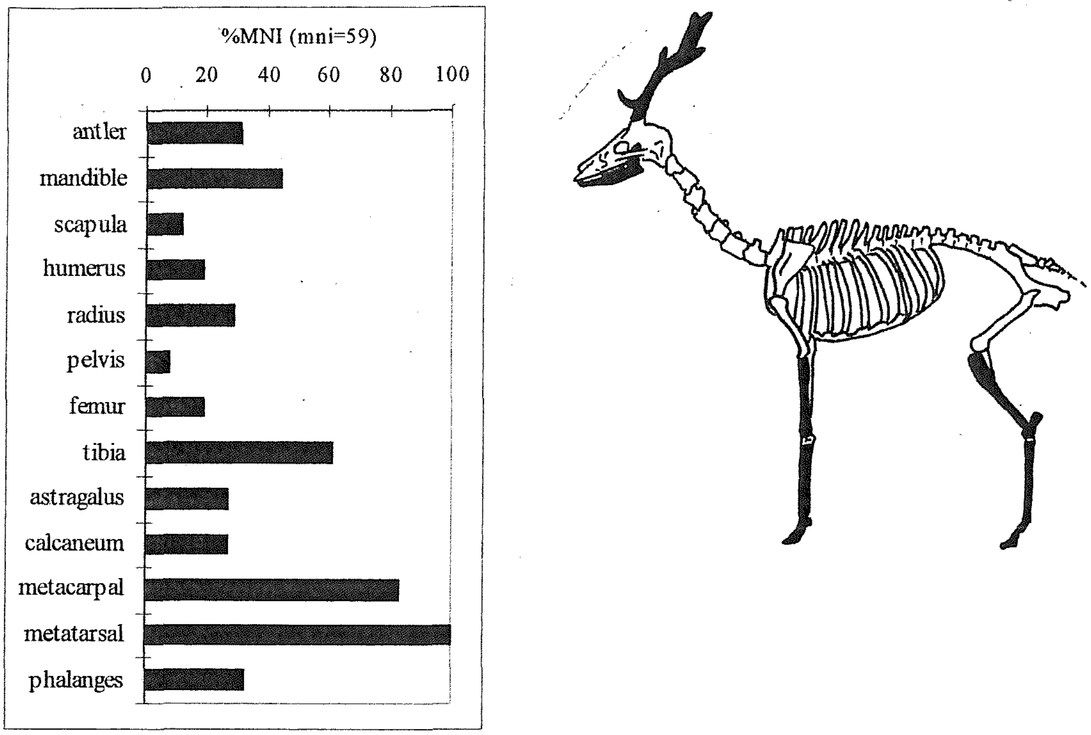
If the king was giving venison as presents, one would expect to see a higher frequency of the meat-bearing element (the humerus, scapula and femur) rather than a preponderance of elements that are more akin to butchery waste. Whilst the dearth of the femur could be related its low structural density (Lyman, 1994:236) the same cannot be said for the scapula and humerus whose glenoid cavity and trochlea, respectively, are both composed of hard cortical bone.

The idea that shoulder joints did not arrive at high-status sites is reinforced by Jean Birrell's study of late medieval household accounts. She has revealed that whereas haunches of venison are commonly recorded, venison from the forelimb is seldom mentioned (Jean Birrell, personal communication).

Whilst none of the above suggestions adequately account for the observed body part patterns, if the skeletal frequencies are considered in the context of the *par force* rituals, there is a better correlation. From the descriptions in hunting texts, an assemblage dominated by foot elements would be expected, and the fact that the metacarpals are also present in lower frequencies than the metatarsal count be accounted for if the forefeet were being presented as trophies. At the same time the under-representation of the scapula and humerus fits the practice of rewarding the forester and the best hunter with shoulders of venison. Similarly abandonment of the '*corbyn*' bone would accords with the absence of the pelvis.

Figure 70 demonstrates that this pattern also typifies Norman assemblages, indicating that *par force* hunting was, indeed, practised in the years following the Conquest. Compared with the Angevin data, Figure 70 shows less of a discrepancy between the metacarpal and metatarsals and it seems possible that, at this point, the forefeet were not yet considered as trophies. Certainly the retention of forefeet is not mentioned until the texts of the fifteenth century, and Thiébaux (1967:267) argues that the hunt became even more heavily ritualised in the later periods.

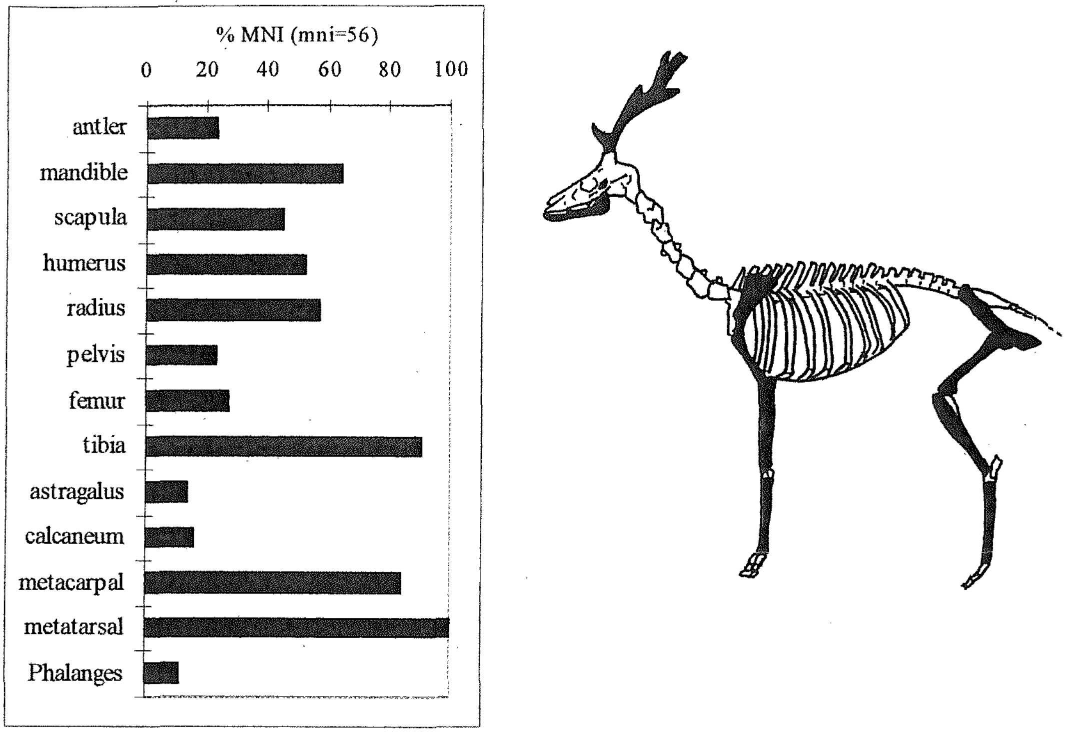
Figure 70: Body part pattern for Norman deer (combined data for red, roe and fallow deer)



If it is accepted that these body part patterns reflect the unmaking rituals, they may provide the key to ascertaining the introduction date of *par force* hunting. Should the Normans have introduced this hunting style, as both Gilbert (1979) and Cummins (1988) suggest, the characteristic skeletal representations should not be apparent for the Saxon assemblages.

Data for pre-Conquest deer are shown in Figure 71. It is immediately obvious that the patterns are not similar to those of the succeeding period. All parts of the skeleton, in particular the shoulders, are well represented and even the pelvis is present in considerable numbers. Although the metapodials continue to be amongst the most frequent elements, there are fewer phalanges. Overall, the patterns for the Saxon period would suggest a situation where the deer were being brought back to the settlement complete, or at least with minimal butchery having taken place. There is no indication of patterns that could be attributed to the unmaking rituals. Consequentially it would seem that, if the body part patterns are associated with the *par force* rituals, this method of hunting arrived in Britain at some point after the Conquest.

Figure 71: Body part patterns for Anglo-Saxon deer (data for red and roe deer combined)



Unfortunately, the nature of archaeological assemblages, in particular those of the Saxo-Norman period, makes it difficult to date precisely the appearance of these distinctive skeletal patterns. The material from Goltho in Lincolnshire (Jones and Ruben, 1987) Eynsham Abbey in Oxfordshire (Serjeantson *et al.* forthcoming) and Faccombe Netherton, Hampshire (Sadler, 1990) was, however, quite closely dated. From these sites it was possible to determine that the characteristic element frequencies did, indeed, emerge during the reigns of the first three Norman kings (1066-1135).

Interestingly, the butchery data also demonstrate a pre- to post-Conquest shift, suggestive of a change in the methods of carcass processing. Whereas Saxon deer were butchered in the same way as sheep and cattle, with the majority of marks (72%) deriving from marrow extraction, in the post-Conquest period the situation seems to have changed, with marrow-extraction marks accounting for just 20% of Norman deer butchery. Although the domesticates also show a pre- to post-Conquest decline in the percentage of marrow extraction marks, the style of deer butchery appears different to that for cattle, sheep and pig. This was especially true for deer tibia; 38% of those that were butchered demonstrated shaving marks on the *tuberositas tibiae*. By contrast only 14% of Norman cattle tibiae exhibited similar marks (see Appendix Va-c).

Such patterns are reminiscent of those observed for the Vatteville assemblage. Indeed, in Section 2.4i (Figure 22) it was seen that cut mark number '9' was exhibited by a high percentage of butchered deer tibiae from this site. Skeletal representations for Vatteville's deer are also akin to the situation in post-Conquest England. In Chapter 2, I suggested that the butchery and body part patterns might be related to the de-boning and transport of venison but now it seems more likely that they reflect *par force* hunting techniques. If this is the case, it would seem that, as the historians suggest, the Normans were responsible for the introduction of *par force* hunting to England, and that this hunting method did form part of a 'Norman Package'. Before this is concluded absolutely, it is worth re-considering the evidence from France.

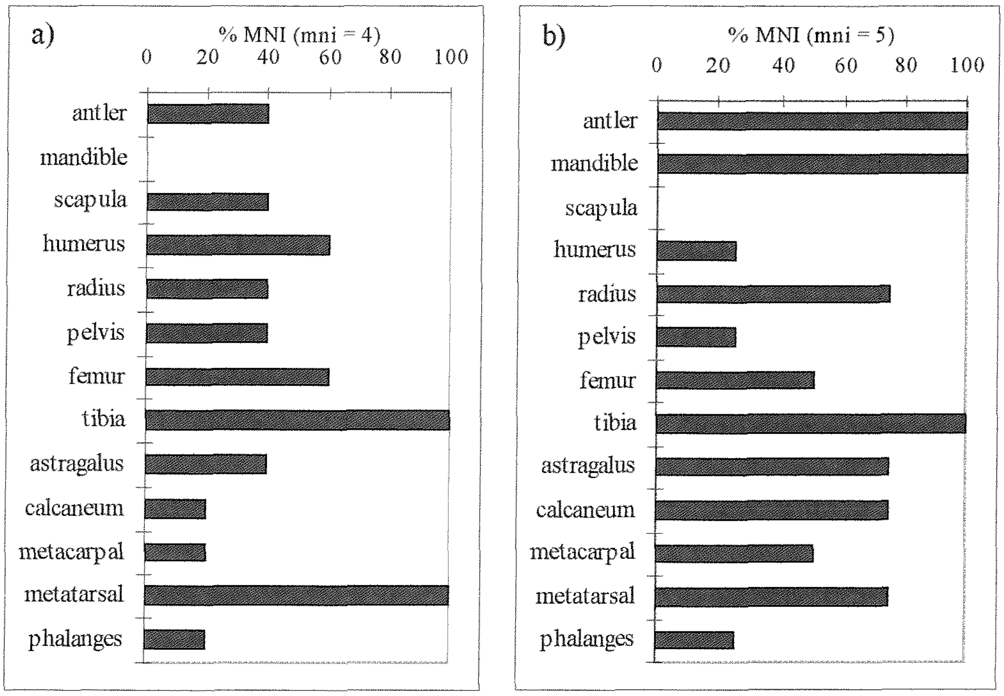


Figure 72: Body part patterns for deer from the a) eleventh/twelfth and b)thirteenth-fifteenth century deposits from Vatteville-la-Rue (data for red, roe and fallow deer combined)

In Chapter 2, the deer anatomical representations were shown synthesised for all periods but sample sizes are just sufficient to permit the data to be split into two groups: twelfth century and the thirteenth to fifteenth century. Skeletal frequencies for these two date groups are shown in Figure 72a and 72b, and surprisingly they are not the same. Whilst the graph for thirteenth-fifteenth century deer is akin to that for post-Conquest England, that for the twelfth-century material is more similar to the pattern for Anglo-Saxon England: all body parts, including the scapula, humerus and pelvis were well represented.

If the Vatteville data are representative of the wider continental situation, they indicate that *par force* rituals did not appear in France until at least the thirteenth century. Lack of detailed zooarchaeological information for medieval France makes this theory difficult to prove but it is supported by the evidence from medieval Germany. Figure 73 shows the body part data for German deer and, similar to twelfth-century Vatteville, there is no patterning suggestive of the unmaking rituals. These findings have considerable implications concerning the theory that *par force* hunting spread to Britain from the continent. Rather than being imported from Normandy, it would seem that the unmaking rituals either evolved in post-Conquest England or followed a different path of introduction. To determine which explanation was the most likely, it was decided to extend the analysis deer body part patterns to sites in southern Europe.

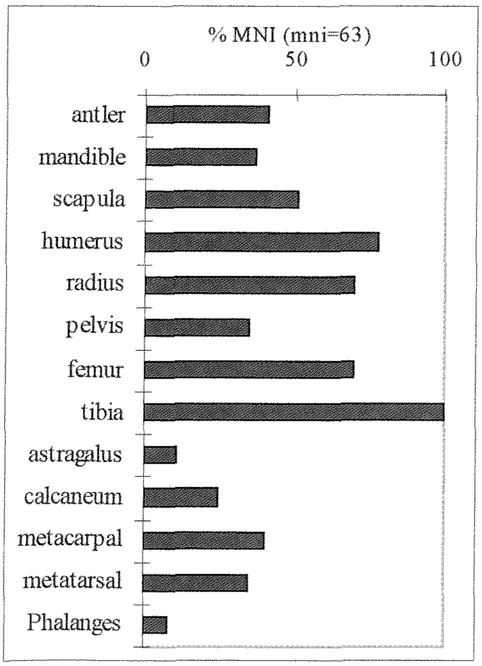


Figure 73: Body part patterns for medieval German deer (data for red and roe deer combined)

Baker and Clark's (1993) survey of zooarchaeological work in northern Italy provided some useful information concerning hunting. In particular, Baker and Clark noted that, where present, deer assemblages were usually dominated by foot bones and antler. Hunting does not, however, appear to have been an important activity and few sites have produced quantities of deer remains. Whilst this may have been the case in northern Italy, hunting may have been more important in the south of the country and on the island of Sicily. Little zooarchaeological work has been undertaken in these regions (Gillian Clark personal communication) but one report for the eleventh to fourteenth-century site of Brucato, Sicily (Bossard-Beck, 1984a and 1984b) proved exceptionally informative. A number of red, roe and, in particular, fallow deer, bones were recovered from this site. Their skeletal representations are presented below.

Anatomical Element	Red Deer	Roe Deer	Fallow Deer
Antler		1	153
Mandible			1
Scapula	Not Recorded		
Humerus		1	3
Radius	2	2	9
Pelvis	2	4	4
Femur	1		12
Tibia	2	3	11
Astragalus			2
Calcaneum		1	1
Metacarpal		1	1
Metatarsal	3	1	10
Phalanges	2	5	4

Table 12: Body part representations (fragment counts) of deer from Brucato, Sicily.

It is interesting to note that red and roe deer, although present only in small numbers, were represented equally by all body parts. They certainly give no indication of the effects of unmaking rituals, indeed, the results for roe deer show the pelvis to be one of the best represented elements. By contrast fallow deer demonstrate a more selective body part pattern. Most obvious is the high frequency of antler, which seems to have been inflated both by the importation of shed antlers and fragmentation caused by working this element. More significant are the patterns for the post-cranial skeleton which show an over-representation of hind limb elements, similar to that observed for post-Conquest England. Scapulae were not recorded for this site but the dearth of humeri and pelves is indicative of the *par force* rituals.

Whilst data from a single site need not be representative of the wider situation, the fact that the characteristic skeletal frequencies are found in eleventh-century Sicily may suggest that the unmaking rituals were of southern, rather than northern, European origin. This does not, however, negate Norman involvement in their transport. Although in Britain the Normans are famed for conquering England, in southern Europe they are better known for their campaigns in southern Italy and Sicily (Rowley, 1999:147). Under Norman leadership, Sicily was gradually conquered in the thirty years between 1061-1091. The length of the Conquest resulted from the fact that the strength of the army was dependant on other Norman commitments (Rowley, 1999:152). This suggests that there was considerable movement of Norman soldiers from one region to another. Such a situation would have provided ample opportunity for the spread of hunting ideas. It is surprising that the rituals by-passed Normandy and arrived directly in England but the fact that such a situation seems to have arisen demonstrates the complexities of contact between the different areas of the Norman Empire.

On arrival in England, the hunting rituals must have rapidly been applied to red and roe deer as, if the data from Brucato is representative, it suggests that the rituals were originally specific to fallow deer. The association between fallow deer and the unmaking rituals has implications for their connection to *par force* hunting. Jean Birrell (personal communication) has pointed out that fallow deer do not run in straight lines, like red deer, but in wide circles. As such, their behaviour is not conducive to *par force* hunting. The fact that fallow deer were maintained in parks would also have precluded this hunting method, which was wider ranging and better suited to the open forest. Hunting manuals suggests that fallow deer were taken by ‘the bow and stable’ (Cummins, 1988:87). Evidence to support this is provided by a fallow deer skull, recovered from Faccombe Netherton, that was found to have arrow embedded in it (Sadler,1990:487). If the unmaking rituals were originally specific to fallow deer, their association to *par force* hunting must have occurred at a later date. The post-Conquest appearance of the characteristic body part patterns cannot, therefore, be interpreted as the introduction of the chase *par force*.

Without evidence from body part patterns the origins of *par force* hunting seem obscure but it may be possible to detect their introduction date through other lines of enquiry. For example, as has been noted above, *par force* hunting was best suited to an open landscape, where a single deer could be tracked for an unlimited distance. In Chapter 4 it was argued that the Norman introduction of forest law changed perceptions towards this type of unbounded hunting landscape. Hunting manuals, and indeed deer behaviour, indicate that red deer were the most suitable quarry for the *par force* technique. Red deer were certainly targeted by the medieval French elite and it was shown in Chapter 5 that high-status assemblages from Norman England witnessed a shift towards the exploitation of red deer. This evidence alone supports Cummins' (1988) and Gilbert's (1979) contention that the chase *par force* was introduced from the continent by the Normans.

The original *par force* hunt would not, however, have been the ceremonial affair it later became. It was only with the adoption of the unmaking rituals that the traditions, so well documented by later medieval texts, came into existence. Because the unmaking rituals were, as I have argued, derived from Sicily, they would have been as foreign to the new Norman lords as they were to the Saxon population. Since the terminology of the unmaking rituals was French, and the earliest hunting manuals imply French origins for these methods, this suggests the post-Conquest elite swiftly adopted them as 'Norman' customs; certainly to the conquered population the rituals must have been viewed as such.

By the thirteenth century, expertise in the unmaking, and in particular the French terminology that surrounded it, had become a mark of nobility (Rooney, 1993:12). In Gottfried von Strassburg's story of Tristan, for example, Tristan's Cornish companions are said to have wondered at his specialised hunting vocabulary and ability to dress quickly a carcass. The underlying implication of this text is that the English methods, and hence the English, were unrefined whereas Tristan, with his French techniques, was truly noble (Rooney, 1993:92).

Although by the late twelfth century Richard FitzNigel was able to write 'it can scarcely be decided who is of English Birth and who of Norman' (Gillingham, 1995:75), in the period shortly after the Conquest, the unmaking rituals would have served as a strong statement of the Norman's ethnicity and social status: not only was the terminology of *par force* hunting French but the forests in which it took place was one of the most hated symbols of the Norman authority.

5.3: Conclusion

Zooarchaeological evidence confirms the historical perception of the Norman period as a time when ritualised *par force* hunting appeared in England. To some extent the theory that *par force* hunting was imported as part of a 'Norman Package' can be upheld. When the origins of the unmaking rituals are considered, however, the data begin to diverge from the historically accepted situation.

Skeletal representations for pre- and post-Conquest deer assemblages are significantly different. Those for the later period show a dearth of the elements that, according to documentary evidence, were given away as part of the *par force* rituals. Evidence from Normandy demonstrates that the patterns characteristic of unmaking rituals are absent before the thirteenth century. Body part patterns akin to those of post-Conquest England have, however, been recognised for a fallow deer assemblage from eleventh-century Brucato. Although further research in Sicily would be required before it could be concluded that the Brucato assemblage was representative, in this Chapter I propose tentatively that the unmaking rituals were of Sicilian origin. If this is the case, their spread to post-Conquest England probably occurred as the result of contact between the Normans of England and Sicily.

It was, perhaps, shortly after 1066 that these rituals became an integral part of the *par force* hunt, which was present in pre-Conquest Normandy and arrived in England as an accompaniment to forest law. Norman impact on Saxon hunting techniques was, therefore, dramatic, with influences from both France and Sicily amalgamating to alter irreversibly the pre-Conquest situation.

It was concluded in Chapter 4 that the Norman period witnessed an increase in the elitism of hunting. A similar impression is provided by the data in this Chapter. Historical evidence indicates that adroitness in hunting matters, in particular the unmaking, was a mark of nobility. Although the earliest documents to suggest this date from the thirteenth century, it seems likely that as soon as hunting rituals were introduced, they acquired a high-status significance, representing Norman power.

In this Chapter I suggested that the unmaking rituals may, originally, have been linked to fallow deer. The possibility that the two are linked will be considered in the next chapter, where the evidence for the British introduction of fallow deer is examined.

Chapter 6. The Normans Introduced Fallow Deer: Myth or Reality?

'It [fallow deer] was probably introduced by the Romans' - Clutton-Brock, 1984:167
' That fallow deer date from a Roman introduction is almost certainly untrue' Rackham, 1997:49
'The Normans introduced fallow deer' Rowley, 1999:104

Of all the naturalised animals in Britain, none has been surrounded by as many myths and theories as the fallow deer (*Dama dama*). This cervid species has been the subject of tomes of literature, all puzzling over its introduction to Britain (Millais, 1906; Whitehead, 1964; Chapman and Chapman, 1975; Lister, 1984, and Yalden, 1999). The bones of fallow deer have been recovered from many deposits dating to before the last glacial. After this point, during the Devensian period, they seem to have become extinct across north-west Europe, surviving only in areas of the Near East. Their re-introduction to Europe was assisted largely by human transportation but, as the quotations above demonstrate, the question of who should be attributed with their introduction to Britain has remained contentious.

Most scholars consider the Normans to be the most likely candidates (Chapman and Chapman, 1975, and Lister, 1984 and Yalden, 1999). Indeed, this species has now obtained a position within the 'Norman Package', the group of elements (such as castles, feudalism, Romanesque architecture, Forest Law and rabbits) commonly cited as introduced to post-Conquest England from pre-Conquest France (for example, Brown, 1969, 1973). Some of these elements have more evidence than others to commend them as Norman introductions. For example, whilst it is clear that the Normans were responsible for the introduction of Forest Law, the idea that feudalism or motte-and-bailey castles were either new to post-Conquest England or introduced from a pre-existing set-up in Normandy is insupportable (Golding, 1994). Furthermore, there is now evidence to suggest that, rather than the Normans introducing new architectural styles to England, Saxon traditions of hall construction were actually transported to post-Conquest Normandy (Impey, 1999).

The status of other elements, such as rabbits (Chapter 7), the free-threshing tetraploid wheat (see Chapter 3, page 75) and, indeed, fallow deer, is less clear. Fallow deer remains have been recovered from numerous eleventh/twelfth-century sites (Table 13). However, specimens have also been identified from several pre-Conquest deposits and, as a result, the theory that fallow deer were introduced by the Romans has maintained considerable support (Grant, 1975a; Lever, 1977; Luff, 1982; Clutton-Brock, 1984).

Whilst arguments pertaining to fallow deer introduction have often drawn on both historical and archaeological evidence, no attempt has ever been made to re-examine the raw material on which the original theories were founded. Many of the pivotal assemblages supporting a pre-Norman introduction (such as those from Portchester Castle and Cheddar Palaces) were analysed before the 1980s when the use of reference collections was not a priority. Without the use of comparative material, fragmentary cervid specimen could feasibly have been misidentified since, although the bones of fallow, red and roe deer can usually be distinguished on the basis of size, they are similar in overall form.

The possibility that arguments for fallow deer introduction have been based on fallacious data demands that the existing evidence is re-considered. In this chapter, therefore, I re-analyse the archaeological representation of fallow deer to investigate whether the Normans have correctly been attributed with the introduction of fallow deer or if this species actually arrived in Britain at an earlier date.

6.1: Methods

In order to ascertain the most likely date and route by which fallow deer were introduced into Britain, I surveyed European site reports for the presence/absence of *Dama* remains: the results are provided in Tables 13 and 14. Reports that claimed the early presence of fallow deer were then examined for specific details:

- Context information: confusion about a specimen's status may result from intrusive material, whereby material from a later period becomes incorporated within an earlier deposit. To overcome this problem I checked all the sites reports for evidence of context disturbance.

- Body part evidence: the presence of *Dama dama* specimens within a context need not equate to the introduction of a living individual. For example, shed antler could feasibly have been traded as a raw material for bone working. Reports were, therefore, examined for skeletal representation data.

- Metrical data: where measurements were provided within the reports I was able to check the identification of the specimens. Although Lister (1996) states that the size range of different deer species may overlap, this is rarely the case for Roman and medieval animals. During these periods red deer were considerably larger, and roe deer considerably smaller, than fallow deer.

Unfortunately, the most influential reports, those for Portchester Castle (Grant, 1975a, 1975b) and the Cheddar Palaces (Higgs and Greenwood, 1979), provided no information concerning the above factors. I therefore decided to return to the actual bone material (archived at Fort Brockhurst in Hampshire and Somerset County Museum, respectively) to check both the body part data and the validity of the context dating and specimen identifications.

During the re-examination all of the deer bones recovered were identified using reference material. Lister's (1991) criteria for separating between red and fallow deer were employed and, where possible, measurements were also taken, following von den Dreisch (1976).

Table 13: British sites reporting early evidence for fallow deer.

Site	**Date**	**Description of Specimens**	**Reference**
Westward Ho!	Mesolithic	misidentified	Churchill, 1965
The Mound, Glastonbury	Iron Age	6 fragments (intrusive)	Darvill and Coy 1985
Lydney, Gloucester	Iron Age	shed antler	Wheeler, 1932
War Ditches	Iron Age	two pieces of worked antler	Phillipson, 1964
Monkton, Kent	Roman	2 antler, , 2 scapula, 1 radius, 3 metacarpal, 1 metatarsal	Bendrey pers. com
Canterbury Kent	Roman	1 metatarsal	Bendrey pers. com
Catterick Bridge	Roman	no details	Meddens, 1990
Wroxeter	Roman	no details	Meddens, 1987

(Table 13 Continued)

Site	Date	Description of Specimens	Reference
Redlands Farm, Stanwick	Roman	single calcaneum	Davis, 1997b
Barnsley Park	Roman	6 fragments	Noddle, 1985c
Portchester Castle	Roman	11 fragments	Grant, 1976
Scole Dickleburgh	Roman	*almost complete shed antler*	Baker, 1998
St Albans	Roman	shed antler	O'Neil, 1945
Cowdery's Down	Roman	radius (superior bone preservation)	Maltby, 1983
Wraysbury	Roman	2 fragments (from mixed context)	Coy, 1989a
Ipswich	Saxon	misidentified (Serjeantson pers.com)	Jones and Serjeantson 1983
Portchester Castle	Saxon	28 fragments	Grant, 1976
Barking Abbey	Saxon	no details provided	Rackham, 1994
Hereford	Saxon	3 fragments	Noddle, 1985a
Cheddar Palaces	Pre-930	1 fragment	Higgs *et al* 1979
Brandon Road	10th century	distal humerus Bt 36.3mm	Jones, 1993
Goltho	850-1000	antler fragments	Jones and Ruben, 1987
Castle Rising	Saxo-Norman	7 fragments	Jones *et al*, 1997
Goltho	1000-1080	25 fragments	Jones and Ruben, 1987
Cheddar Palaces	L10th/E11th	3 fragments	Higgs *et al* 1979
Guildford Castle	1000-1170	3 fragments	Sykes forthcoming
Faccombe Netherton	980-1204	91 fragments	Sadler, 1990
Trowbridge	950-1139	4 fragments	Bourdillon, 1993
Bath	10th/11th	4 fragments	Grant, 1979
Exeter	1000-1150	1 fragment	Maltby, 1979
Kings Lynn	1050-1250	1 fragment	Noddle, 1977
North Elmham	Saxo-Norman	13 fragments	Noddle, 1980
St Ebbes	10th/11th	present	Wilson and Locker, 1989
St Martins-at-palace plain	11th/12th	2 fragments	Cartledge, 1987
Dudley Castle	Pre-1070	1 tibia	Thomas, pers. com.
Castle Acre	Saxo-Norman	1.75% of the assemblage	Lawrance, 1982
Portchester Castle	Saxo-Norman	1 fragment	Grant, 1977
Launceston Castle	1104-1175	1 fragment, many by 13th century	Albarella and Davis, 1996
Exeter	1100-1200	5 fragments	Maltby, 1979
Bramber Castle	12th century	10 fragments	Westley, 1977
Castle Rising	medieval	152 fragments	Jones *et al*, 1997
Sandal Castle	1106-1188	5 fragments	Griffith *et al.* 1983
Lurk Lane	1070-1188	1 fragment, many by 1190-1400	Scott, 1991
Saxon Palaces	1100-1400	1 fragment	Harman, 1985b
Dudley Castle	1071-1175	5 fragments	Thomas, pers. com.
Ascot Diolly Castle	1130-13th	9 fragments	Jope, 1959
Copt Hay		present	Pernetta 1973
Middleton Stony		present	Levitan, 1984a
George Street	12th-14th	2 fragments	Jones, 1983
St Martins	11th/12th	2 fragments	Murphy, 1987
Carisbrooke Castle	1100-1293	27 fragments	Smith, 1994
Oakhampton	pre-1300	48 fragments	Maltby, 1982
North Elmham	medieval	22 fragments	Noddle, 1980
Portchester Castle	12th/13th	7 fragments	Grant, 1977
Lewes Castle	12th/13th	19 fragments	Sykes, 1997
Trowbridge	1139-1200	3 fragments	Bourdillon, 1993
Bath	13th century	3 fragments	Grant, 1979
Hereford	12th/13th	2 fragments	Noddle, 1985
Goltho	1080-1150	5 fragments	Jones and Ruben, 1987
Eynsham Abbey	12th/13th	6 fragments	Serjeantson *et al* forthcoming
Guildford Castle	1170-1230	4 fragments	Sykes, forthcoming
Faccombe Nertherton	medieval	172 fragments	Sadler, 1990
Alms Lane	1150-1275	1 fragment	Cartledge, 1985

Table 14: Continental sites reporting early evidence for fallow deer

Site	**Date**	**Description of Specimens**	**Reference**
Roissy, near paris	Roman	antler fragment	Yvinec pers. com.
Rouen, Normady	1st century	astragalus	Yvinec pers. com.
Chartres	Roman	antler fragment	Yvinec pers. com.
Savy, Sommes	Roman	antler fragment	Yvinec pers. com.
Marseille-La Bourse	3rd-5th century	MNI 2 compared with 14 red deer	Lucien, 1976
Tourinness-Saint-Lambert	Roman	originally misidentified by Spiegeleire	Ervynck *et al*, 1999
Valkenburg	43-250 A.D.	antler artefact	Prummel, 1975
Augst	Roman	3 metatarsals	Schibler and Furger, 1993
San Potito-Ovindoli	Roman	1 fragment	Bökönyi, 1986
Brucato	11th century	320 cranial and post-cranial fragments	Bossard-Beck, 1984

6.2: The Origins of European Fallow Deer

The pre-history of British fallow deer has been examined in detail by Chapman and Chapman (1975) and Lister (1984). Although the origins of this animal do not immediately appear relevant to the current study, an understanding of their ancient distribution provides important evidence which will be drawn upon throughout this chapter.

The earliest British finds of fallow deer date to the Cromerian inter-glacial period (ca.400ka years BP). Specimens have been recovered from Westbury-sub-Mendip, Somerset (Bishop, 1982) and West Runton, Norfolk (Lister, 1984). From this point onwards, representation of fallow deer is sporadic, with their presence seeming to coincide with the Hoxnian and Ipswichian inter-glacials. Absence of fallow deer during the glacial Anglian and Wolstonian periods suggests that this species is intolerant of cold climates (Lister, 1984).

During the last glacial period, the Devensian, fallow deer apparently became extinct across all of Europe. A study of 165 European Mesolithic sites has demonstrated that whereas red deer are generally the commonest mammal species, fallow deer are in no case present (Jarman, 1972). Their dearth within these assemblages is not definitive proof for their absence but it seems likely that if fallow deer were available they would have been hunted and thus represented within the assemblages.

The reason why fallow deer did not re-colonise Europe on this final occasion has never been explored satisfactorily. It may be significant that whilst fallow deer seemingly survived the Anglian and Wolstonian glacials in southern France, Spain and Italy, during the Devensian they became extinct across all of Europe surviving only in the Near East (Chapman, 1975; Lister, 1984, Massetti, 1996). As a starting point for re-colonisation, this area is less conducive to a northward spread since the Black Sea and the Caucasus mountains could have acted as effective natural barriers. Fallow deer may, therefore, have adapted to, and remained in, these warmer areas.

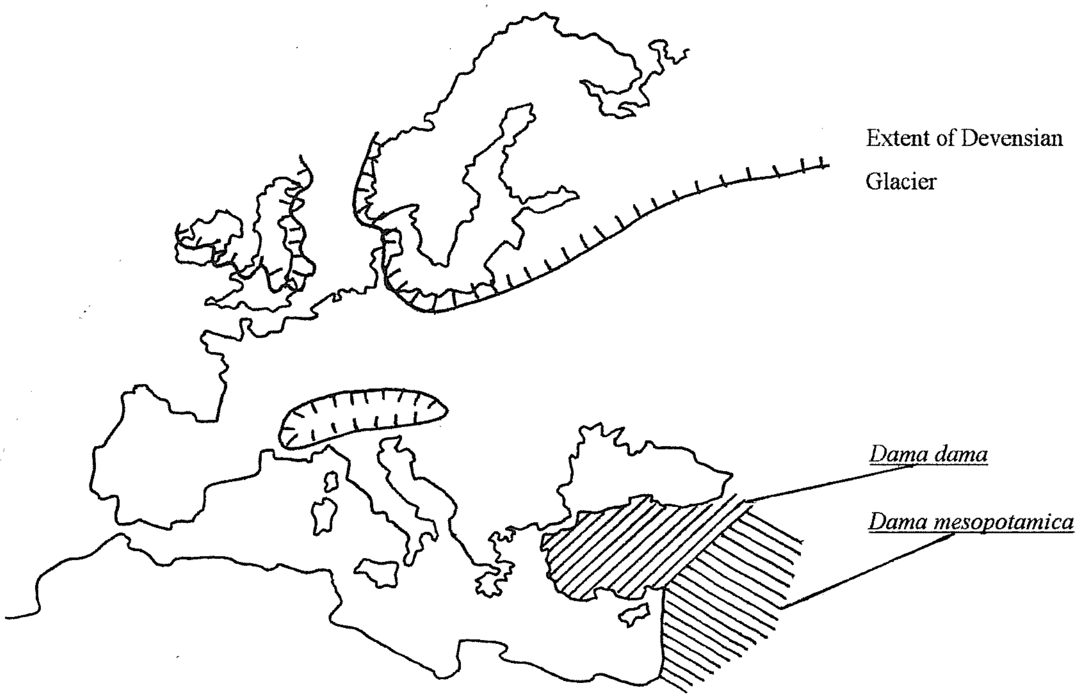


Figure 74: Map showing the ancient distribution of European (*Dama dama*) and Persian (*Dama mesopotamica*) fallow deer after the last glaciation (after Massetti, 1996)

Determining the Near Eastern distribution of *Dama dama* is complicated by the fact that the European fallow deer is one of two *Dama* species that are thought to have inhabited the area. The second is the Persian fallow deer (*Dama mesopotamica*) and most of the specimens recovered from the Near East are from this species. On an osteological basis it can be difficult to separate *Dama dama* from *Dama mesopotamica*, the only differences being the antler shape and a variation in body size, the European fallow being smaller. Despite the problem of differentiation, researchers working in areas of the Near East have been able, using metrical and morphological analysis, to separate their remains. Data published by Sakala LaBianca and von den Driesch, (1995) demonstrate that, although there is slight overlap between the male *Dama dama* and female *Dama mesopotamica*, there is a generally an obvious size difference between the two species.

Speciation of the specimens recovered to date has enabled the creation of distribution maps for *Dama dama* and *Dama mesopotamica* (Uerpmann, 1987 and Masseti, 1996). It is becoming clear that the geographical range of the two species never overlapped, with the Persian fallow deer inhabiting the Middle East and the European fallow deer being confined to Anatolia (Figure 74).

Argument against this theory, and the suggestion that fallow deer survived as a relict population in the Balkans, has been presented by Bökönyi (1971 and 1989). He identified a number of *Dama* remains from Neolithic and Bronze Age sites in Bulgaria, Greece and several Greek islands. The size of the specimens certainly fits within the range for *Dama dama* and it seems unlikely that they are intrusive. Whether these remains prove, as Bökönyi (1989:322) claims, 'the survival of a large population of fallow deer into the Early Holocene' is perhaps more debatable. The specimens need not indicate an autochthonous population but could represent animals transported during the course of the early Neolithic. Yannouli and Trantalidou's (1999) study of the archaeological representation of fallow deer in Greece agrees with this conclusion. They demonstrated that whilst fallow deer were present in Pleistocene assemblages, they disappear at the end of the last glacial. Fallow deer are weakly represented (3 fragments) on just one Mesolithic site (that of Korykeion - Trainer, 1973) and they begin to appear frequently only in the Neolithic and Bronze age (see Figure 75). Yannouli and Trantalidou concluded that this re-appearance of fallow deer was the result of importation by humans. Even if the spread of the European fallow deer began in the Neolithic, the questions of how, when and why they arrived in Britain still remain.

Figure 75: Map showing representation of European fallow deer (Dama dama) on Greek Neolithic and Bronze Age sites.

6.3 When Were *Dama dama* Introduced to Britain?

Various peoples have been suggested as the conveyors of the European fallow deer. One of the first groups to be proposed were the Phoenicians (Millais, 1906). The Phoenicians were certainly famed for their ship-building and they had trade routes and colonies all around the Mediterranean (Figure 76). It seem plausible, therefore, that they could have transported fallow deer into southern Europe and then into Britain. There is, however, no evidence to support this. Indeed, it is debatable whether the Phoenicians, whose land corresponded to modern day Lebanon and parts of Syria and Israel, would have had immediate access to the European fallow deer. The distribution of the two *Dama* species means that Persian fallow deer would have been far more readily available to the

Phoenicians. It is, of course, possible that the European fallow deer could have been obtained from neighbouring regions: a small number of *Dama dama* specimens were found on a Phoenician site on the island of Motoya, near Sicily (Ryder, 1975).

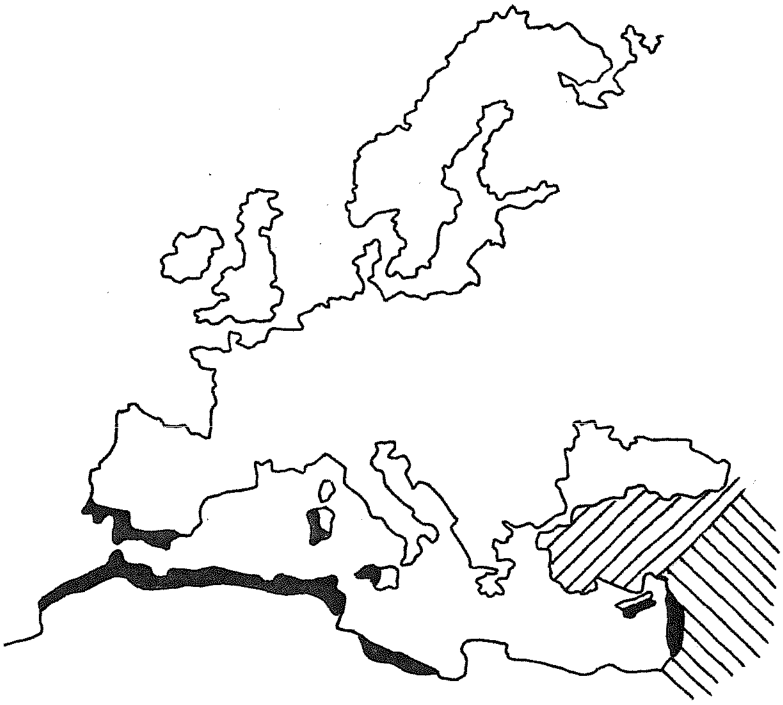


Figure76: Map showing coastal areas under Phoenician influence (after Barraclough, 1986)

Whilst the Phoenicians may have transported fallow deer about the Mediterranean coast, it is the Romans who are more commonly cited with introducing them to Britain. For such an effort to be put into the movement of a species, the question of motive must be answered. There are several reasons why the Romans would have wanted fallow deer. One explanation is that they were considered to have religious significance. The Roman religious system was influenced heavily by elements from Syria, Persia, Egypt but above all those from Greece. As has been noted above, fallow deer had been present in Greece from the Neolithic period. Greek mythology as well as iconographical and artefactual evidence, in particular coins, suggest that fallow deer had attained a consequential position within classical Greek culture (Yannouli and Trantalidou, 1999). The site of the Korykeion Antron, near Delphi produced a large number of fallow astragali that are thought to have been left as votive offerings (Poplin, 1984). Similar evidence for the offering of fallow astragali was found at the Kabireion sanctuary, near Thebes, where 11 of the 14 *Dama* specimens were astragali (Boessneck, 1973). Through the Romans' adoption of Greek religion it is possible that they took on the fallow deer as a ritually significant, possibly sacrificial, animal.

An alternative explanation for the Roman acquisition of fallow deer is as an exotic animal for display. There are several pieces of historical evidence which demonstrate the capture, taming, emparking and exhibiting of deer. The majority of the documents refer to red deer but some appear to suggest fallow deer. One reference which has been interpreted as firm evidence for the presence of fallow deer in Roman Italy is that regarding Gordian's amphitheatre show of A.D. 238 (Toynbee, 1973). It is mentioned that 200 '*cervi palmati*', whose antlers were like the 'palms of a hand', were transported from Britain and exhibited. Subsequent to the original interpretation, it has been suggested by Yalden (1999:153) that these animals were more probably elk and that their place of origin had been confused. References to '*Dammae*' are common in the list of animals used in the shows put on by the Roman Emperors. But whilst the word '*Dammae*' may have meant 'fallow deer', Chapman and Chapman (1975:46) suggest that it could equally have been the word for 'gazelle'. Even if these animals were fallow deer, their presence as exotica implies that they were not locally available and cannot therefore be equated to a situation where a breeding population was established.

There is some evidence that the Romans had game parks, in which fallow deer could feasibly have been bred. Indeed, according to Reinken (1997) the Latin word *Dama* had the same origin as 'tame', suggesting the Romans may well have attempted to domesticate fallow deer. The first-century author Columella, mentions (in his *Res rustica* IX. I) that, inspired by the Romans, chieftans in Gaul also set up game parks which were stocked with, amongst other animals, fallow deer (Rackham, 1997:123). This reference has led some researchers (for example, Lever, 1979) to suggest that the Gauls themselves were responsible for the introduction of fallow deer to Britain. Similarities between the material culture from pre-Roman sites in Gaul and south-east Britain indicate that there was considerable cross-channel contact during the pre-Roman period (Millett, 1998). There is, however, little archaeological evidence to support a pre-Roman introduction. Only three Iron Age assemblages (those from the Mound, Glastonbury, War Ditches and Lydney - see Table 13) have claimed to contain fallow specimens. According to Darvill and Coy (1985), the fallow remains from the Mound were recovered from unstratified layers and were probably medieval intrusions. By contrast, the Lydney material (Wheeler and Wheeler, 1932) came from a secure context but the specimen was a shed antler and, as such, cannot be taken as positive evidence for the presence of living animals. The possibility that antler may have been traded as a raw material is supported by the fact that both of the specimens from War Ditches were worked antler (Phillipson, 1964).

6.3i: The Roman Material

A number of Roman sites allege the presence of *Dama dama* specimens (see Table 13). The 400 year Roman occupation of Britain, and the resulting increase in trade links with the Mediterranean, would certainly have allowed both time and opportunity for fallow deer to be imported. If this was the case, however, it is surprising that of the hundreds of Roman sites excavated in Britain, only 11 have indicated the presence of fallow deer. Furthermore, uncertain dating means that the status of some of these specimens is questionable. For example, Davis (1997b) identified a fallow deer calcaneum in a disturbed Roman layer from Redlands Farm but when the specimen was radiocarbon dated it were found to be of a much later date (Simon Davis personal communication). Context disturbance was also suggested for the Wraysbury material, where a single *Dama* humerus was recovered from a context (layer 406) which also produced medieval finds (Coy, 1989a). Similarly, the radius fragment found at Cowdery's Down was noted as having 'markedly superior preservation to the other bones in the context' causing Maltby (1983a:191) to suspect that it may be intrusive.

Whilst much of the evidence for Roman fallow deer is dubious, well-dated specimens from the Portchester Castle assemblage have commonly been cited as evidence for a Roman introduction date (Chapman and Chapman, 1975, Lister, 1986 and Yalden, 1999). Grant (1975a) reported eleven *Dama* specimens from Roman contexts and the contextual analysis demonstrated that they came from pits 130a and 235: in the latter pit fallow deer was recorded as the only cervid species represented. On re-examination of the Roman assemblage I was unable to find any *Dama* specimens but I did identify a roe deer (*Capreolus capreolus*) scapula from pit 235, suggesting that the fallow specimen originally recorded for this context was a misidentification.

By discrediting the evidence from the Portchester assemblage, the theory of a Roman introduction is weakened but cannot be dismissed. The reason for this is that recently some of the most important specimens of Roman fallow deer have been recovered. The assemblage from the site at Scole-Dickleburgh in Norfolk (Baker, 1998) yielded an almost complete shed *Dama dama* antler from a securely dated Roman well. Furthermore, radiocarbon analysis of the specimen produced an A.D. third-sixth century date. Shed antler was also recovered from St Albans, Hertfordshire (O'Neil, 1945) and the Romano-British site of Monkton in Kent (Robin Bendrey, personal communication). Because these specimens are antler, again they do not prove the presence of living animals. The latter site, however, also produced seven post-cranial bones (see Table 13) that, on the basis of their size and their morphology are, without doubt, fallow deer: Figures 77 and 78 show how the measurable bones plot comfortably within the fallow deer range. Whilst the scapulae and radius could be interpreted as representing imported joints of venison, the same cannot be said for the presence of the non meat-bearing metapodia. Bendrey (personal communication) has also identified another single metatarsals from a Roman site in Canterbury, Kent.

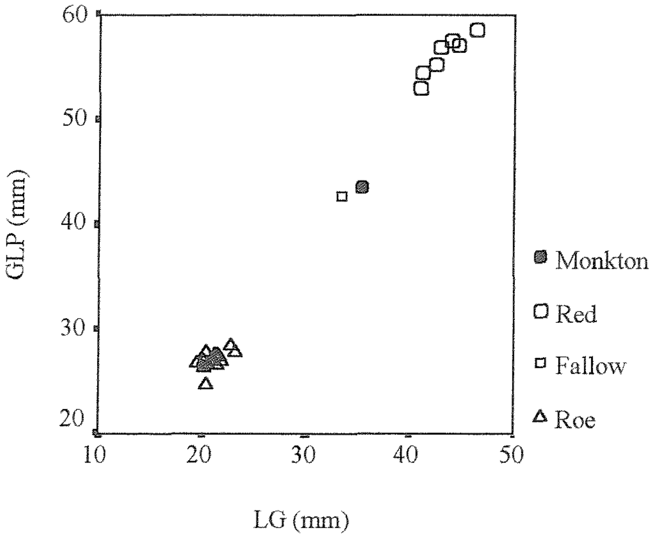


Figure 77: scatter-plot for deer scapulae, GLP (greatest length of proximal) by LG (length of glenoid), showing the Monkton specimen against the red, roe and fallow deer distributions.

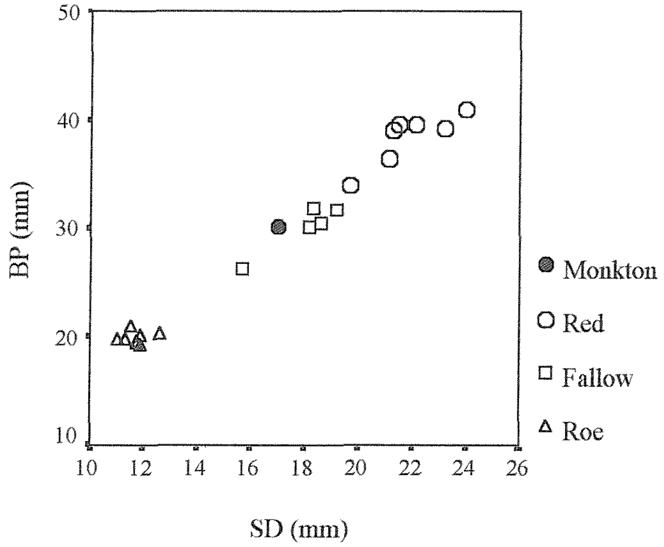


Figure 78: scatter-plot for deer metacarpals, BP (breadth of proximal) by SD (smallest diameter), showing the Monkton specimen against the red, roe and fallow deer distributions.

From this evidence it is perhaps possible to conclude that while fallow deer may have been known by some inhabitants of Roman Britain, they were not an established species. Even with the data provided by Bendrey, fallow deer are poorly represented in Roman Britain and, where present, their remains consist predominantly of antler fragments and foot bones. The case for a post-Roman introduction is strengthened further when it is recognised that the situation in Britain is paralleled by that on the Continent.

Ervynck *et al.*'s (1999) study of *Dama* in Belgium produced no evidence for a Roman introduction of fallow deer. They did note that fallow deer were recorded at the *vicus* of Tourinnes-Saint-Lambert (Spiegeleire, 1982) but on re-analysis these specimens were found to be misidentified sheep bones. Of the small number of north European sites where fallow deer have been identified with certainty, in no cases are they represented by more than a few fragments. For example, the assemblage from Augst in Switzerland produced just 4 fallow deer specimens (all of which were metatarsals) from over 210,000 identifiable fragments (Schibler and Furger, 1993).

Roman finds in France have been equally sparse and, when present, fallow remains have consisted only of antler and foot elements. Yvinec (personal communication) identified antler fragments from the urban site in Chartres, as well as the rural villas of Roissy (near

Paris) and Savy, Somme. He also found a single astragalus from a first-century deposit in Rouen, Seine-Maritime.

It is possible that this body part pattern is an artefact of identification. The palmate antlers of fallow deer are highly characteristic, whereas many of the other elements could easily be mistaken for red or roe deer. Such an argument is less convincing for the metapodia, for although these elements can easily be recognised as 'cervid', their identification to species is neither easier nor more difficult than for other post-cranial elements. Once bones have been categorised as 'deer' they can generally be identified to species. As such, if the skeletal representations for fallow deer were related to identification problems, it would be expected that all deer species would exhibit the same patterns. This is not the case. Red and roe deer assemblages, such as those from Augst (Schibler and Furger, 1993), demonstrate the presence of all skeletal elements.

Body part patterns noted for fallow deer would, therefore, appear to be accurate, suggesting that antler and foot bones were selectively being transported by the Romans. Evidence to support this suggestion is provided by the fallow deer metatarsal recovered from a Punic ship, wrecked off the coast of Sicily (Ryder, 1975). This specimen does not appear to have been food waste but formed part of a small assemblage derived from exotic animals: the metatarsal was accompanied by two teeth from a false killer whale (*Pseudorca crassidens*) and a utilised radius of a white stork (*Ciconia ciconia*). Although this material is pre-Roman, dating to the third century BC, it demonstrates that *Dama* body parts were traded for reasons other than their meat value, perhaps as religious relics.

A more functional explanation for the restricted skeletal representations is that they represent trade in skins. Studies of archaeological tanning and tawying have shown that hides were often transported with cranial and foot elements attached (see for example, Serjeantson, 1989). The spotted coat of fallow deer may have been a desirable commodity and trade in their pelts could account for the over-representation of metapodia. Alternatively antler and metapodia may have been traded as raw materials for bone working. Certainly the antler from Scole-Dickleburgh showed signs of utilisation

(Baker, 1998). Furthermore, the only certified *Dama* specimen from Roman Netherlands is a worked metatarsal, from the site of Valkenburg, which Prummel (1975) concluded was an imported artefact and thus did not represent the presence of living fallow deer.

Summary

The zooarchaeological data presented above provides little evidence to support the idea that the Romans were responsible for importing fallow deer to Britain, or indeed, northern Europe. This study has shown that Roman introduction theories have been based on misidentified and poorly-dated specimens. Whilst some legitimate Roman *Dama* examples exist, these consist predominantly of antler and metapodia, whose presence can be accounted for by trade.

6.3ii: The Saxon Material

Although the evidence for a Roman introduction of fallow deer has been shown to be insufficient, this does not discount a pre-Norman introduction. The *Colloquies of Aelfric*, which mention the hunting of '*dammas*', is often cited as potential evidence for a pre-Norman introduction of fallow deer (for example, Chapman and Chapman, 1975, and Rackham, 1997). Recently, however, Yalden (1999:153) argued that the text was mistranslated, with the Saxon word for Roe buck, '*rann*', being taken to mean fallow buck.

Table 13 shows that several reports for Saxon sites claim the presence of fallow deer but, similar to the Roman material, many of these specimens are either antler fragments (Jones and Ruben, 1987), dubiously identified (for example Jones and Serjeantson, 1983) or poorly dated. For example, Jones (1995) suggested that the fallow deer humerus recovered from Brandon Road was intrusive.

Problems of intrusion were believed to be minimal for the Portchester Castle assemblage because Grant (1975b) analysed material only from secure and undisturbed deposits. According to the original report, 28 *Dama* remains were recovered from the Saxon layers; these came from five pits (34, 37, 107, 135 and 220).

I completely re-analysed the Saxon assemblage but, as with the Roman material, I was unable to find the fallow remains mentioned in the report. I paid particular attention to pits 37 and 107, for which fallow deer were indicated as the only represented cervid species. In these pits, however, rather than fallow deer, fragments of roe and red were present, strongly suggesting that the reported *Dama* remains were misidentifications. Before concluding this was the case, I decided to study the original records. Annie Grant kindly went through her archive with me and we were able to compare results. In the majority of cases, it was possible to demonstrate that the specimens originally recorded as fallow deer had been misidentified. For example, for the Saxon pit 34, the archive indicates the presence of 2 fallow bones (a fragment of a tibia and a proximal phalanx). My re-analysis also located these specimens but identified them, with the use of a reference collection, as part of a roe deer tibia and a red deer phalanx.

The theory that the material had original been misidentified was confirmed when Grant and I compared our results for pit 135. Both of us recorded a cervid humerus measuring Bd 30.0mm and Dd 26.5mm but whereas Grant had identified it as fallow deer, on the basis of my reference material I recorded it as roe deer. Figure 79 shows a plot for this specimen which suggests that the humerus is too small to be *Dama* but falls within the range for roe deer.

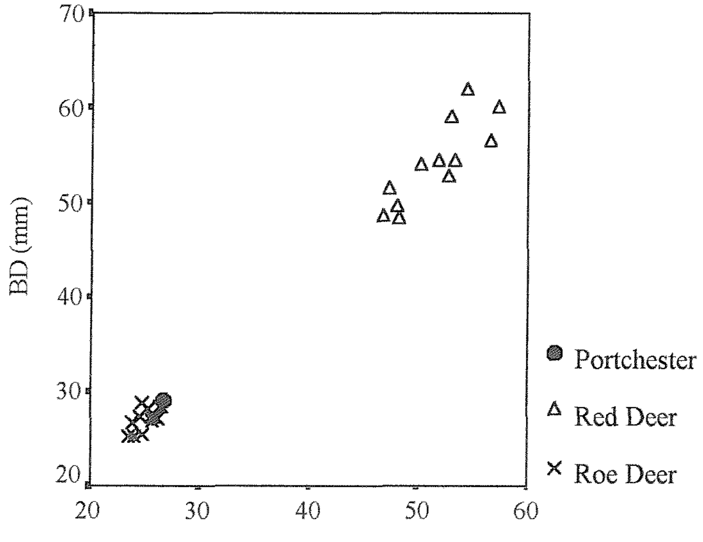


Figure 79: scatter-plot for deer humeri, Bd (breadth of distal) by DD (depth of distal), showing the Portchester specimen against the red and red deer distributions.

Figures 80-83 show plots for the remaining cervid bones from Portchester Castle and it can be seen that none of the specimens fall within the size-range of fallow deer; providing further proof for the absence of fallow deer.

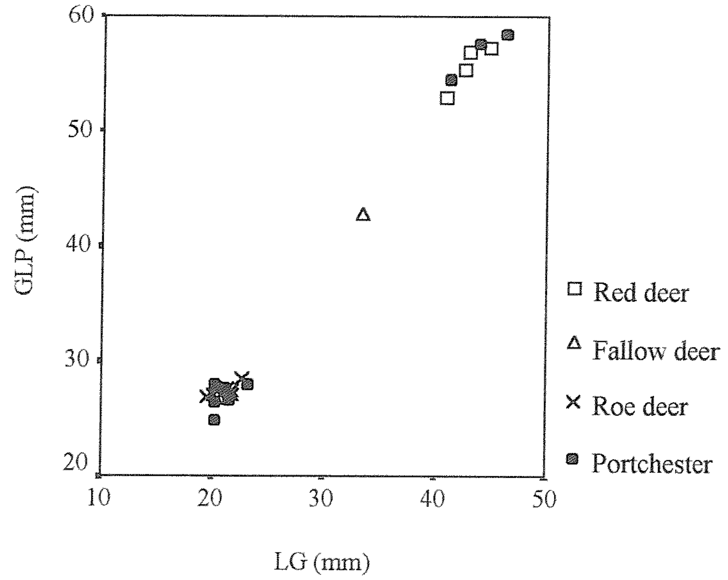


Figure 80: scatter-plot for deer scapulae, GLP (greatest length of proximal) by LG (length of glenoid), showing the Portchester specimens against the red, roe and fallow deer distributions.

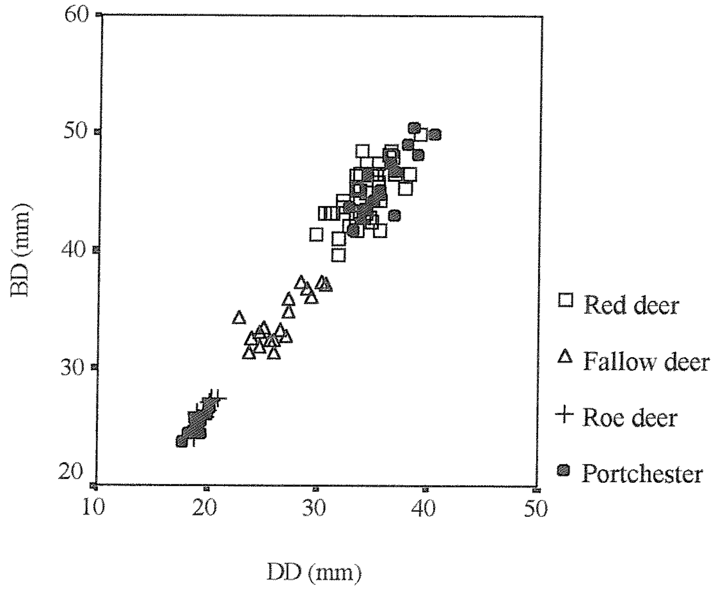


Figure 81: scatter-plot for deer tibiae, BD (breadth of distal) by DD (depth of distal), showing the Portchester specimens against the red, roe and fallow deer distributions.

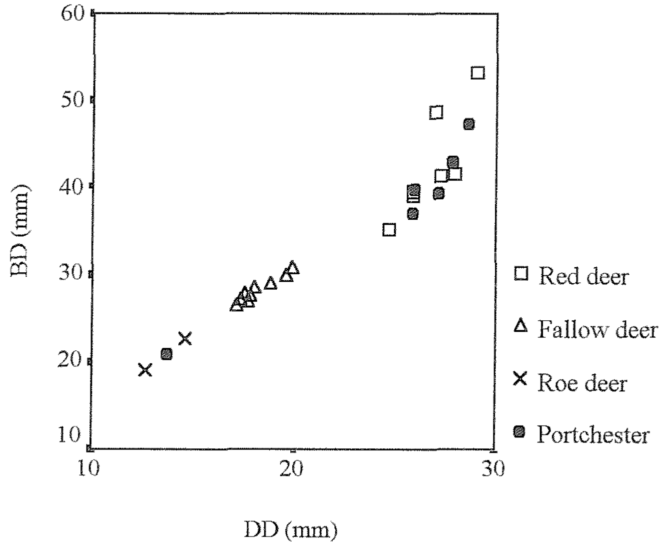


Figure 82: scatter-plot for deer metacarpals, BD (breadth of distal) by DD (depth of distal), showing the Portchester specimens against the red, roe and fallow deer distributions.

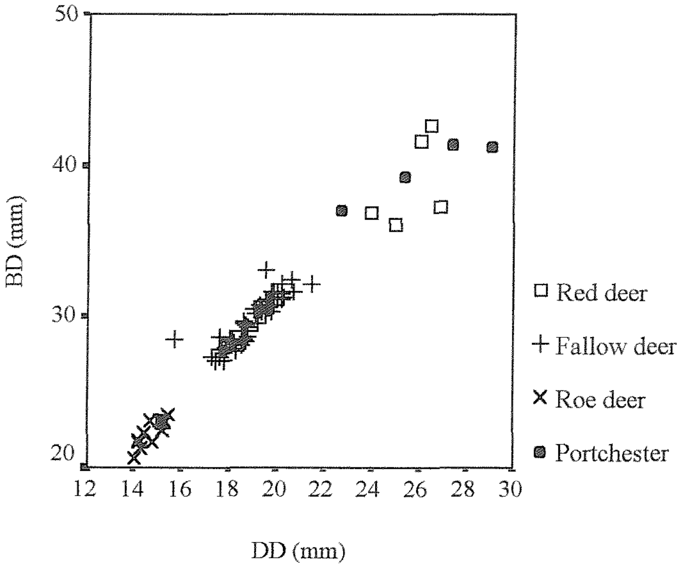


Figure 83: scatter-plot for deer metatarsals, BD (breadth of distal) by DD (depth of distal), showing the Portchester specimens against the red, roe and fallow deer distributions.

The re-analysis of the Portchester Castle material highlighted the problem of misidentification, especially within assemblages examined before 1980. The possibility that material from the Cheddar Palaces, Somerset may also have been incorrectly recorded, dictated further investigation.

The Cheddar Palaces complex was excavated by Rahtz in the 1960s and the animal bones were later analysed by Higgs and Greenwood (1979). According to their report, fallow deer bones were recovered from three occupation phases: 1 specimen from phase I (pre-

930), 3 from phase II/III (late tenth to early eleventh century) and the remaining fallow remains came from phase VI (fourteenth century). The early specimens from this site are the linchpin in the case for a pre-Norman introduction (for example Yalden, 1999: 154 and Lister, 1984:223) and, as such, establishing their correct identification and dating was vital to my research.

The material from the Cheddar palaces had actually been lost for 20 years and was re-discovered just before I came to re-examine it. The number of boxes returned to Somerset County Museum suggests that all of the original material was present but it is possible that some of the assemblage is still absent. Much of the material was not properly bagged and some contexts had become mixed since the original analysis. Fortunately, the majority of bones were marked and I was able to ascertain period for most of the material.

I re-examined all of the Cheddar material but that from Phase I (pre-930) and II/III (late tenth to early eleventh century) was examined with particular interest. Despite this, I did not locate the fallow specimen reported for phase I. I did, however, identify a *Dama* metatarsal in the phase II/III material (late tenth to early eleventh century) and Figure 84 confirms its identification.

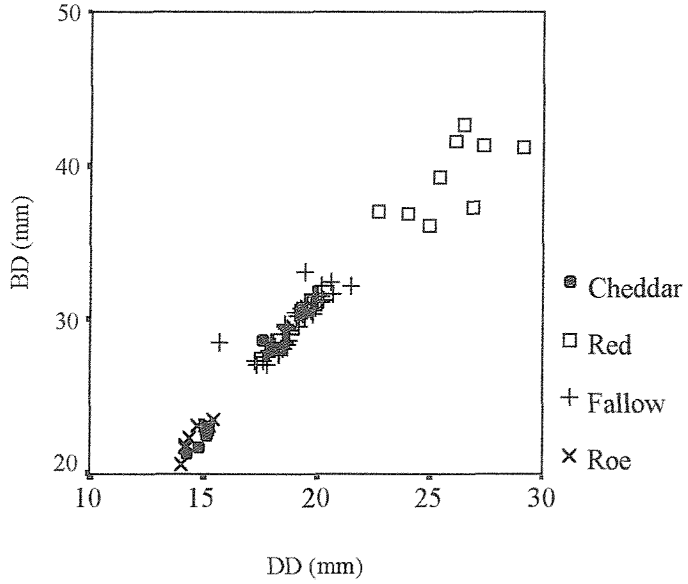


Figure 84: scatter-plot for deer metatarsals, BD (breadth of distal) by DD (depth of distal), showing the Cheddar specimens against the red, roe and fallow deer distributions.

Interestingly this specimen was one of those that had been marked and it was labelled as 'III +'. This indicates that whilst this specimen may have been of Saxon date, it could equally have come from a later period and, as such cannot be used to support a pre-Norman introduction. The only other example of fallow deer was a tibia from phase V (thirteenth century) which provides no evidence concerning the introduction of this species.

Before it is concluded that fallow deer were not present in pre-Conquest Britain, the specimens recorded for Barking Abbey (Rackham, 1994:131) and Hereford (Noddle, 1985a) should be mentioned. Neither report provided details of the specimens or mentioned the significance of their presence. Although the material from these sites would benefit from re-examination, I believe that, even if these specimens were shown to be correctly identified or dated, they would be insufficient evidence to support the idea that fallow deer were living in Saxon England.

Again data from continental Europe reflect the situation in Britain. Indeed, there is less evidence for fallow deer in early medieval Europe than there is for the Roman period. One tenth/eleventh-century assemblage, from a rural site in Champagne (Yvinec, personal communication), produced a single fallow deer specimen but this was again an antler fragment. Audoin-Rouzeau's (1993) synthesis of European zooarchaeological data mentions no early medieval sites in north Europe with evidence for fallow deer. This absence of fallow deer raises the possibility that the Normans would not have had access to fallow deer and thus would not have been able to export them to Britain. It seems possible, however, that the lack of evidence is due to the fact that few Continental medieval sites have been excavated and even fewer have been analysed zooarchaeologically.

Summary of the Saxon Material

The zooarchaeological data from Britain and the rest of northern Europe argue against a pre-Norman introduction of fallow deer. The specimens from both Portchester Castle and the Cheddar Palaces, which have been so influential in the construction of introduction dates, have now been discredited as reliable sources of evidence. Specimens from poorly-dated contexts, such as that from Brandon Road, have also been discounted. As a result, the only specimens which can be attributed confidently to the Saxon period are antler and, these could feasibly have been imported. The lack of British evidence for pre-Conquest fallow deer certainly supports the idea the Normans were responsible for introducing this deer species. I shall, therefore, now examine the validity of the belief that fallow deer did form part of a 'Norman Package' imported from pre-Conquest Normandy.

6.3iii: The Norman Data

Today most scholars assume that it was the Normans who successfully brought, and established, fallow deer from across the channel. Motivation for a Norman introduction has been associated with the Norman's well-documented, and zooarchaeologically demonstrated, love of hunting (see Chapter 4). Although pre-1066 Britain already had two species of deer, the red and the roe, the behavioural ecology of fallow deer makes them more suitable for emparkment (Yalden, 1999:153), a tradition of housing game animals that, according to Gilbert (1979), was common in Normandy from the early eleventh century onwards.

Table 20 shows that, during the Saxo-Norman period, fallow deer begin to appear on sites across the country and metrical data confirm the correct identification of these specimens. For example, cervid measurements for Faccombe Netherton (dating to 980-1204), Trowbridge (950-1139) and Guildford Castle (1000-1170) shows that the specimens recorded as fallow deer do indeed fall within the fallow range (see Appendix IVd).

Problems of dating Saxo-Norman assemblages often makes it difficult to determine from which side of the Conquest the *Dama* specimens are derived. However, the Saxon absence of fallow deer, demonstrated above, suggests that Saxo-Norman specimens most likely date from the post-Conquest part of the date range. This idea is reinforced by the fact that most of the early *Dama* examples have been recovered from Norman-built castle sites.

The Anglo-Saxon Chronicle's obituary of William the Conqueror does not mention fallow deer, whereas red and roe deer are both recorded as the King's favourites (Garmonsway 1967). Rackham (1997) suggests this as evidence for the absence of fallow deer during the reign of William the Conqueror. Certainly fallow deer were not common at this point but early dated specimens from Goltho (1000-1080) and Dudley Castle (pre-1070) indicate that they were present and I would propose a late eleventh-century date for their introduction.

Rackham (1997:131) suggests that Henry I (1100-1135) may have been responsible for importing fallow deer. Certainly he would be a fitting character to have encouraged the establishment of this species. Henry I supposedly devoted much of his time to the study of venery and his dedication to the sport was well known amongst his contemporaries. Indeed, William of Warenne is said to nicknamed him 'Stagfoot' (Mayr-Harting and Moore, 1985:30). According to William of Malmesbury, Henry was intrigued by exotic animals, and collected beasts, such as lions, leopards and camels, in his park at Woodstock (Bartlett, 2000:672). These he received from foreign rulers and friends. Trade in exotic animals was commonplace amongst medieval royalty; for instance, in the early ninth century Charlemagne was sent an Elephant, called Abu l'Abbas, by the Abbasid caliph (Hodges, 2000:36). It seems highly possible that fallow deer arrived in England via such gift exchange and, perhaps, even formed part of Henry's menagerie.

During the twelfth century the populations of fallow deer seem to have grown quickly, a situation which is reflected by the significant rise in the number of recorded parks (Rackham, 1997:123). By 1180 Alexander Neckham was able to list fallow deer amongst the animals commonly available in Britain (Bartlett, 2000:673). Zooarchaeological evidence confirms his statement: it was seen in Section 4.3 (Figure 68) that, by the Angevin period, fallow deer were the best represented cervid species on many high-status sites.

It would, therefore, seem that fallow deer were introduced to Britain while it was under Norman rule. Whether this species formed part of a 'Norman package' imported from pre-Conquest Normandy can only be answered by considering the situation in France.

6.3iv: The French Data

My research on the Vatteville-la-Rue assemblage again provided a useful comparative data-set. Of the 503 deer specimens, seventeen were recorded confidently as fallow deer (see Table 8, page 31). Unfortunately all of the specimens were recovered from broadly dated (eleven to sixteenth century) deposits and thus they provide limited evidence for fallow deer representation in pre-Conquest France. Nevertheless, it is interesting to note the low frequency of fallow deer relative to the other two cervid species. In Britain there are few twelfth to fifteenth-century castle assemblages where fallow deer are not the most frequent deer species (Figure 68) and, if Normandy was the source of British fallow deer, it is surprising that they were not present in similar frequencies.

The Vatteville-la-Rue assemblage suggests that fallow deer were not as common in medieval France as they were in Britain; a theory which is upheld by the lack of fallow deer on other French sites (Audoin-Rouzeau, 1993). Yvinec (personal communication) has stated that fallow deer are absent from French assemblages pre-dating the thirteenth century. Certainly this would account for French medieval hunting documents where fallow deer are described in a way that led Cummins (1988:84) to suggest that they were not a common species.

According to Yvinec (personal communication) it is a commonly-held belief amongst French zooarchaeologists that fallow deer were introduced to France from England. This suggestion is surprising and contradicts British perceptions of *Dama* introduction but the theory is actually supported by historical evidence: the Close Rolls mention that in 1238 King Henry III ordered that 120 live fallow deer should be boxed up and sent to Flanders, no doubt, as Rackham (1997:131) suggests, to set up a game park. This reference infers that fallow deer were not, at that time, available in either Flanders or northern France. If this was, indeed, the case, the idea that British fallow deer were imported from pre-Conquest Normandy cannot be upheld. Instead, it would appear that, as with other elements deemed to be part of the 'Norman package', their introduction was more complex than would first appear.

While it may be concluded that fallow deer were introduced to Britain during the late eleventh century, the information provided above argues against the British perception that fallow deer were introduced from pre-Conquest France. Indeed, a study of the wider situation in north Europe excludes this area as potential sources for fallow deer. There remains, therefore, the question of where fallow deer were introduced from? Whilst it may not, on the basis of current evidence, be possible to answer this conclusively, the next section provides a possible explanation for the introduction of fallow deer.

6.4: From Where Were Fallow Deer Introduced?

From the small amount of zooarchaeological data available for southern Europe, it appears that the medieval distribution of fallow deer was little advanced from the situation in the Classical period.

Figure 85: Map showing the suggested twelfth-century distribution of European fallow deer (*Dama dama*)

The fact that fallow deer did not spread naturally is less surprising when the genetic structure of this species is considered. Pemberton and Smith (1985) demonstrated that, at some point in their history (perhaps at the last glaciation), *Dama dama* went through a genetic bottle neck causing the species to exhibit no biochemical polymorphism. As a result of this, modern fallow deer are exceptionally poor at adapting to altered environments and are unlikely to spread without human intervention. At the same time, when fallow deer are placed in suitable habitats (for example, parks) their low genetic variability means that they can be inter-bred with minimal risk of adverse mutation. Further benefits of this are that a healthy breeding population can be created from a small number of individuals. The establishment of fallow deer in Britain need not, therefore, have required the introduction of many animals.

Because the eleventh-century distribution of fallow deer was restricted, the possible sources of British fallow deer are also limited. Figure 82 indicate Anatolia, Greece or Sicily as the most likely areas of origin. Rowley (1999:104) suggested that the Normans may have discovered fallow deer in the Levant whilst on the first crusade (AD1095). Certainly the Normans were based in Antioch until it fell to Moslem armies in 1268. However, the distribution of *Dama dama* and *Dama mesopotamica* suggests that if the Norman crusaders had discovered fallow deer, it would have been the Persian rather than European species. Furthermore, finds of *Dama* specimens in British assemblages pre-dating 1080, indicate that fallow deer were present in England before the first crusade.

The fact that fallow deer were present in England whilst absent across the rest of northern Europe, is reminiscent of the pattern of occurrence noted for the 'unmaking' rituals. In the previous chapter it was seen that novel body part patterns, suggestive of new hunting practices, suddenly appeared in post-Conquest deer assemblages. The origins of these rituals were not immediately obvious as there was no evidence for their existence in eleventh/twelfth-century France or Germany. Eventually, similar body part patterns were recognised in a fallow deer assemblage from the site of Brucato, in Sicily. It was suggested in Chapter 6 that the hunting rituals were originally specific to fallow deer. This hypothesis is reinforced by the evidence from well dated sites, in particular Goltho. The assemblage from this site demonstrates that as soon as fallow deer arrive, the characteristic body part patterns also appear. The synchronicity of their arrival in Britain certainly indicates an association between fallow deer and the unmaking rituals, suggesting that both derived from a common source.

Evidence to support Anglo-Sicilian connections is provided by archaeobotanical work. It has already been mentioned (above and in section 3.1ii) that a new wheat type (*Triticum turgidum/durum*) appeared in England shortly after the Conquest. Moffett's (1989) study of wheat species representation demonstrated that, similar to fallow deer, free-threshing tetraploid wheat was seemingly absent across the rest of eleven to thirteenth-century northern Europe, being found only in Meditteranean regions. Furthermore, Moffett (personal communication) has proposed Sicily as a probable source for this cereal.

Several scholars (for example, Chapman and Chapman, 1975; Rackham, 1997; Rowley, 1999) have proposed Sicily as a possible source for British fallow deer. Certainly there is much to commend this opinion. For example, the Normans were present on Sicily from at least the mid-eleventh century and they ruled the kingdom for over a hundred years (from 1091-1194). This would have provided ample opportunity for the exchange of ideas and goods between the Normans of Sicily and Britain. Rowley (1984:212) has argued that Henry I's park at Woodstock was based on Sicilian models and it seems possible that fallow deer were introduced as part of this scheme.

6.5: Conclusion

For many years the introduction of fallow deer into Britain has been discussed and various theories concerning the people responsible have been proposed. In this chapter, I re-analysed the zooarcheological evidence for this species, to determine whether the Normans should be attributed with this addition to British wildlife and, if so, whether fallow deer came to England as part of a pre-existing Norman package.

By undertaking a survey of European site reports, it was possible to gain an insight into ancient fallow deer distributions. The picture became even clearer once the dubiously identified and poorly-dated specimens, such as those from the Cheddar Palaces and Portchester Castle, were discounted. Resulting data-patterning suggested that fallow deer had long held a cultural significance and that their spread was almost completely the result of human activity.

Evidence from south-east Europe indicates that fallow deer were transported to Greece, from their homeland in Turkey, during the early Neolithic period. By the late Bronze Age fallow deer seem to have been incorporated into cultural practices, perhaps as a religious icon. Certainly several sites have produced concentrations of *Dama* remains, suggestive of votive offerings. Their significance may have endured into the Roman period, since fallow deer body parts, in particular antler and metapodia, were seemingly transported about the Mediterranean and up into northern Europe. However, if fallow deer were ritually significant, it is surprising that the Romans apparently made little attempt to establish them across their Empire. Zooarchaeological evidence for the existence of breeding populations is scarce. Instead, the few finds of *Dama* specimens can most probably be explained as traded raw material for bone working, a theory supported by finds of fallow deer antler and bone artefacts.

From this evidence it would seem that a pre-Roman or even, pre-Norman fallow deer introduction cannot be upheld. Indeed, their presence in northern Europe is rare before at least the thirteenth century. My research in France, and work by others in Belgium, has provided little evidence for fallow deer before this date. England would, however, appear to be the exception to this, where *Dama* specimens are recorded increasingly from deposits of the late eleventh century onwards. Such dating promotes the Normans as strong candidates for fallow deer importation but the absence of this species in northern France demonstrated that Normandy could not have been the source for this introduction.

Whilst the arrival of fallow deer in England was not documented, it seems possible their departure from the source area could have been. This is especially the case since the transportation of animals was generally undertaken on the behest of governors or monarchs. For example, Flanders was eventually supplied with fallow deer by Henry III.

It seems likely that this was how fallow deer originally arrived in England. Henry I, who is known to have collected exotic animals at his park in Woodstock, is the most obvious candidate to have taken receipt of fallow deer. He also obtained animals such as lions and camels, indicating that distance was not a hindrance to their supply.

Although the route by which fallow deer arrived in Britain may never be known, areas which might be targeted profitably for further historical and zooarchaeological research would be Sicily and southern Italy. In the first instance, Sicily is promoted as a potential source because fallow deer were actually present on the island during the eleventh century. The fact that the Normans also controlled the area at this point is another piece of circumstantial evidence. At present, zooarchaeological data from Sicily are scarce but it was interesting to note that the Brucato assemblage, in which fallow deer were well represented, demonstrated skeletal patterns similar to those observed for fallow deer in post-Conquest England.

The apparent relationship between fallow deer and these skeletal frequencies is difficult to ignore, and the fact that they are both present in Sicily before they arrive in Britain seems to be more than coincidence. Archaeobotanical investigations have also highlighted potential links between Norman England and Norman Sicily and it seems possible that environmental evidence is detecting patterns of Conquest-related influence that have not been recognised by other artefact categories. As such, environmental archaeology could potentially hold the key to understanding connections between different regions of the Norman Empire. Certainly, it has demonstrated that the introduction of fallow deer was more complicated that has often been proposed and it may be concluded that, whilst this species does not form part of the 'Norman Package', it was a Norman introduction.

Another animal that has commonly been cited a Norman import is the rabbit. The Mediterranean origins of this species are well known and it seems possible that it also arrived in England via these Anglo-Sicilian connections. Whether this was the case will now be examined.

Chapter 7. The Rabbit: Another Norman Introduction?

'The Romans may have brought rabbits to England' Sheail, 1984:135
'Rabbits were here before the Romans' - Warry, 1988:14
'They (rabbits) came here with the returning Plantagenet crusaders' Lever, 1977:
'Evidence still supports the conventional view of the rabbit as a Norman introduction' Bond, 1988:56

Just as with fallow deer, the date at which rabbits (*Oryctolagus cuniculus*) were introduced to Britain has been the subject of much debate. The Angevins and Romans have both been proposed as potential candidates for their introduction (Veale, 1957; Lever, 1979; Sheail, 1971,1984) but most modern researchers believe it was the Normans who brought rabbits to Britain (Bond, 1988; Rackham, 1997; Rowley, 1997, 1999, Yalden, 1999). The uncertainty surrounding their introduction is due largely to the ambiguous nature of the historical and archaeological evidence. For example, whilst the earliest historical references to rabbits are well dated they can be viewed only as a *terminus ante quem* and need not represent the actual arrival of the animals. The situation is complicated further by the propensity of modern rabbits to burrow down into archaeological deposits. As a result, rabbit remains recovered during excavation are often not contemporary with the wider zooarchaeological assemblage. In these cases it can be difficult to determine the status of rabbit specimens and reliance upon historically-based introduction dates has meant that those found in deposits pre-dating 1066 are often dismissed as 'intrusive' (Crabtree, 1990; Miles, 1984). On other occasions, early deposits containing rabbit remains have had their dating questioned, or even re-assigned to the post-Conquest period (Jones, 1993; Sutermeister, 1976). As a consequence, the belief that the Normans introduced rabbits is perpetuated whilst potential evidence for alternative introduction dates is disregarded.

These points were raised by Warry (1988) who questioned the reliability of the historical evidence and suggested that rabbits could have been present not only in pre-Norman but perhaps even in pre-Roman England. Although some of Warry's suggestions, such as rabbits being a native British fauna, cannot be substantiated, his theory of a non-Norman introduction deserves consideration.

In this chapter I explore the historical and archaeological evidence to determine whether the Normans were responsible for the introduction of rabbits or if this species arrived in Britain at an earlier, or later, date. To provide an overview of archaeological rabbit representation I present a synthesis of data derived from published reports. Potential problems of original misidentification or intrusive material prompted my decision to re-examine certain pivotal assemblages. During re-analysis, taphonomic indicators such as cut marks, gnawing and burning were used to infer archaeological status. In addition, bone-size was tested as a potential determinant and in this chapter I propose biometrical analysis as a method by which archaeological and intrusive rabbit bones can be differentiated. Using this system I re-examine the archaeological evidence for rabbit introduction and re-consider the possibility of Norman involvement.

7.1: The History of Rabbits

Rabbits have only been referred to as such for the last two hundred years. Prior to this they were known as 'conys' and only juvenile animals were called 'rabettes'. 'Cony' derives from the Latin '*cuniculus*', which, like the animal itself, is thought to be of Iberian origin (Robinson, 1984:241). According to Zeuner (1963:410) the first records of rabbits were made by the Phoenicians, who colonised the Iberian coast in about 1100B.C. Although the Phoenicians may have been responsible for transporting rabbits about the Mediterranean, the earliest historical reference to rabbits outside Spain dates to the second century B.C., when the Greek historian Polybius mentioned their presence on the island of Corsica. By the first century B.C. rabbits also seem to have been imported into Italy: the Roman writer, Varro in his *Rerum Rusticarum* (12.7), recommended that they be kept in *leporaria* (Hooper and Ash, 1967)

Zeuner (1963:411) suggests that rabbits had either migrated naturally or been taken to south-west France by the first century AD. Breeding populations were apparently established by the sixth century, as in 590 bishop Gregory of Tours is said to have scorned the Lenten consumption of rabbit foeti ('laurices'), which were not considered to be meat (Zeuner, 1963:413). The desire of monks to acquire foetal rabbits is seen as one of the main driving forces of rabbit domestication (Nachstein, 1949). It has been suggested that between the sixth and tenth centuries rabbits were bred within the walls of French religious houses and that the practice gradually spread from monastery to monastery (Zeuner, 1963; Van Damme and Ervynck, 1988). Nevertheless, rabbit breeding can have been common only in southern and central France because in 1149 the abbot of the Benedictine monastery of Carvey, on the Wesser (Germany) asked the abbot of Solignac, in south-west France, for two pairs of rabbits (Nachstein, 1949). Such a request infers that rabbits were not available either locally or in northern France. Indeed, Peter de Crescentiis of Bologna, writing in the late thirteenth century, stated that rabbit distribution was restricted primarily to Spain, Lombardy and Provence (cited in Veale, 1957). If rabbits were not established in late eleventh-century northern France, it seems unlikely that they would have been present in England. This is certainly the impression provided by British historical evidence.

The earliest British references to rabbits are presented below and it can be seen that this taxon was first recorded on mainland England only in 1187-94. Alexander Nequam's list of English wildlife (dated to the 1180s), made no reference to rabbits although it recorded hares as well as fallow, red and roe deer (Bartlett, 2000:672). At this point, rabbits appear to have been kept on small off-shore islands such as Scilly and Lundy, evidence for which dates to 1176 and 1183-1219, respectively. Most of the historical references are, therefore, over a century later than 1066 and date to at least forty years after the Norman period. This, combined with the dearth of historical data for rabbits in northern France, would seem to contest the idea that the Normans introduced rabbits. There is one earlier, but seldom cited, reference to rabbits in England which comes from an Anglo-Saxon charter for Marksbury (see Table 15). It has a nominal date of 936 but may be a thirteenth-century forgery.

It must, of course, be recognised that the date of the earliest references does not equate to the actual date of rabbit introduction: they could have been established in England and Northern France for some time before their presence was first recorded. This theory was taken to the extreme by Warry (1988) who argued that the rabbit had been present in England since pre-Roman times and that modern misconceptions have arisen from taxonomy.

Date	Reference
936	Survey attached to a charter of Marksbury (Somerset) mentions *Conigrave* 'Rabbit Grove' (Grundy, 1932)
1087	The Domesday Book records one *Warenna leporum* at Gelston in Lincolnshire (Darby, 1986)
1176	Richard de Wyka granted 'all my tithes from Scilly, and expressly those from the rabbits' to Tavistock abbey (Finberg, 1947).
1183-1219	At some point during this period the tenant on Lundy Island was given entitlement to take 50 rabbits from certain *chovis* on the island (Chanter, 1870-1)
1187-94	A grant of land made by Simon le Bret to the canons of Waltham (Essex) mentions that he had a *cunicularium* there (*Early Waltham Charters*, cited in Bartlett, 2000)
1204	Rights '*in warennis et cunigariis*' are mentioned in a charter granting land in Connaught to Hugh de Lacy (Veale, 1957)
1209	King John gave permission to William Picot to take roe deer, hare, rabbit, pheasant and partridge on his land in Lincolnshire
1225	A *custod' cuniculorum* was mentioned on the manor of Bowcombe, Carisbrooke, on the Isle of Wight (Veale, 1957)
1235	The *Close Rolls* record that Henry III presented a gift of *decem cuninos vivos* from his park at Guildford (Veale, 1957)
1240	King Henry III ordered a supply of rabbits for his Christmas feast. From this date the Liberate Rolls (for the years 1240-5 and 1245-51) record numerous orders for rabbits (Veale, 1957).
1340	The *Inquisitiones nonarum* records 100 acres of land in Ovingdean (Sussex) which were devastated by William de Warrene's rabbits (Blaauw, 1847)

Table 15: Early English references to rabbits

Warry suggested that, before the twelfth century, rabbits and hares were known collectively as '*lepus*' and that the introduction of the word 'coney' has, mistakenly, become associated with the arrival of the animal. In support of this Warry (1988:13) cited Varro statement that 'there are three kinds of *Lepus* of which *cuniculus* in one'. With this argument Warry highlights one of the greatest problems in zooarchaeology; that researchers tend to project current meanings and systems of classification, namely Linnaean, back on to past societies. Modern taxonomy may bear little relevance to the way in which ancient animals were viewed. Indeed many cultures have classified animals according to their age, sex, size and manageability rather than genetic similarity. For example, in ancient Mesopotamia sheep and goats were viewed as the same taxon, named 'senu' (Hesse and Wapnish, 1985:11). Likewise, the Anglo-Saxons gave porcupines the same name as hedgehogs '*igil*' (Crossley-Holland, 1993:91). Even today the animal named the 'Belgian Hare' is actually a rabbit (Robinson, 1984). It is, therefore, possible that in the pre-Conquest period rabbits and hares, being of similar outward appearance and size were, as Warry suggests, known collectively as '*Lepus*'. If this were the case it may account for the Domesday reference to the '*warenna leporum*' at Gelston (Lincolnshire), although Bond (1988) argues that this should be regarded as a warren specifically for hares.

If rabbits were present in pre-Norman Britain, it might be expected that their remains would be represented zooarchaeologically. Indeed, considering the uncertainty of the historical evidence, a study of the rabbit's archaeological presence may provide the best opportunity for determining both the date of, and Norman involvement in, their introduction.

7.2: The Archaeology of Rabbits

The main sites from which rabbits have been recovered are listed in Table 16. It can be seen that rabbit bones have been recorded from sites of all periods, from the prehistoric to the medieval, but that the majority of examples date to the Saxo-Norman and Angevin period. This situation has already been noted by Bond (1988) who compared the archaeological presence of rabbit to that of hare. He demonstrated that while there are a few early-dated rabbits, many hare specimens have been recovered from well-dated prehistoric, Roman and Saxon contexts. For example, at St Aldates in Oxford, hare bones were found in the early ninth to fourteenth-century deposits but rabbit were not represented until the late twelfth century (Marples, 1977). Bond argued that this dearth of rabbit remains is good evidence for their absence in pre-Conquest Britain.

Whilst Bond's theory may, indeed, be correct, his comparison of rabbit and hare representation need not be relevant. Although the two taxa are similar in outward appearance, their behavioural ecology is different: hares live above ground and are active during the day, whereas rabbits are burrow dwelling and nocturnal by nature (Southern, 1965). Although modern rabbits are often seen above ground during daytime, this is a recent behavioural mutation which occurred in response to the Myxomatosis virus (Sheail, 1971). Prior to this, regular access to subterranean rabbits may have been made possible only with the introduction of ferrets (*Mustela putorius* f. furo). In northern Europe the earliest finds of ferret remains date to the thirteenth century: two partial skeletons were recovered during excavations of Laarne Castle in Belgium (Van Damme and Ervynck, 1988) and six ferret bones were found, along with 78 rabbit specimens, in a pit at Southampton, Hampshire (Noddle, 1975b, see Table 16). The thirteenth-century increase in rabbit representation may, therefore, reflect the introduction of the ferret, and rabbits may have been present for a greater length of time.

Table 16: Prehistoric-Angevin Sites which Record the Presence of Rabbits.

M - Mesolithic; BA - Bronze Age; IA - Iron Age; R - Roman; RB - Romano-British; MS - Middle Saxon; LS - Late Saxon; SN - Saxo-Norman; N - Norman; NA- Norman/Angevin; A - Angevin.

Site	Date	Description	Reference
Thatcham, Berkshire	M		King, 1962
Brean Down,	BA	A number of specimens noted as intrusive	Levitan, 1990
Croft Ambrey, Hereford	IA		Whitehouse, 1974
Barton Court, Oxford	R	Small number of bones thought to be intrusive	Miles, 1984
Latimer, Buckingham	R	Single bone - status uncertain	Hamilton, 1971
Gorhambury, Oxford	R	2 specimens	Locker, 1990
Carne's Seat, Sussex *	R	278 bones of adult and juvenile 'hare' classified as intrusive	Beech, 1986

(Table 16 Continued)

Site	Date	Description	Reference
Catsgore, Somerset	RB	Small number of bones - status uncertain	Leech, 1982
Hambleden Valley, Buckingham	RB		Cocks, 1921
West Stow, Suffolk	MS	197 'probably intrusive' rabbit specimens recovered as partial skeletons	Crabtree, 1990
Brandon, Suffolk	MS	32 specimens	Crabtree, 1996
Abbots Worthy, Hampshire	MS	Single rabbit bone from pit F7341	Coy, 1987
Ribblehead, Yorkshire	LS		Rackham, nd
Burpham, Sussex *	LS	Small number of bones recovered from a pit	Sutermeister, 1976
Steyning Village, Sussex*	LS	11 of 17 pits are recorded as containing rabbit bones	O'Shea, 1993
Cheddar Palaces, Somerset*	LS	Tibia (proximal end unfused) from phase I (pre 930)	Collected personally
16-22 Coppergate	LS	single specimen recovered from a late 9th-mid 11th century deposit	O'Connor, 1987
North Elmham, Norfolk	SN	L9th/10th century 1 specimen; 6 'Saxo-Norman' bones and 3 from 'Medieval' deposits	Noddle, 1980
Goltho, Lincolnshire	SN	2 specimens dating to 1000-1080 and 1 fragment 1080-1150	Jones and Ruben, 1987
Faccombe Netherton, Hampshire *	SN	24 bones recovered from Saxon layers but believed to be intrusive, although some are possibly contemporary.	Sadler, 1990
St Martin-at-Palace, Norwich	SN	1 specimen	Cartledge, 1987
Rayleigh Castle, Essex	SN		Hinton, 1912-13
Redcastle Furze, Norfolk	SN	E/M 11th century 1 tibia L 11th century 1 mandible, 1 pelvis	Wilson, 1995
Thetford, Norfolk	SN	10th century 1 specimen 11th/12th century 1 specimen	Jones, 1993
St Nicholas' Street, Norfolk	SN	11th and 12th centuries - 8 specimens	Hutton MacDonald, 1999
Brighton Hill South, Hampshire	SN	M-L 11th-12th century 165 rabbit bones	Coy, 1995
Eynsham Abbey, Oxford	SN	Single bone from L11th/12th century deposit	Serjeantson et al, forthcoming
Castle Rising, Norfolk	SN	10 specimens dating to the Saxo-Norman period and 333 from 'Medieval' deposits. Bone fusion and element representation data suggest that they may be intrusive.	Jones *et al*, 1997

(Table 16 continued)

Site	Date	Description	Reference
Alms Lane, Norwich	SN	1 specimen dating to 1150-1275	Cartledge, 1985
Boltophs, Sussex *	SN	Maxillary fragment	Stevens, 1990
Exeter, Devon	SN	7 specimens from deposits dating between 1000-1200	Maltby, 1979
Brighton Hill South, Hampshire	N	Numerous bones thought to be intrusive	Coy, 1988
Upton, Gloucestershire	N	1 specimen	Yealland and Higgs, 1966
Castle Acre, Norfolk	N	Rabbits comprise 2.3% of total assemblage	Lawrance, 1982
Bramber Castle, Sussex*	N	6 bones, discarded since original analysis	Westley, 1977
St Aldates, Oxford	N	3 metapodia recovered from L12th century deposits.	Marples, 1977
Clay Hill, Sussex *	NA	burnt humerus from well-dated M-L 12th century context	Sykes, forthcoming
Guildford Castle, Surrey*	A	24 bones dating to between 1170-1330	Sykes, forthcoming
Hadleigh Castle, Essex	A	3 specimens sealed under clay packing	Elison, 1975
St Ebbes, Oxford	A	rabbits present but unquantified	Wilson, 1989
Southampton, Hampshire	A	78 rabbit specimens (MNI 9) and 6 fragments identified as ferret recovered from pit 14 (L13th century)	Noddle, 1975b
Quilters Vault, Hampshire	A	8 specimens dating to the 13th century	Bourdillon, 1979
Launceston Castle, Cornwall *	A	19 bones recovered from L13th century deposits	Albarella and Davis, 1996
Portchester Castle, Hampshire *	A	4 bones from 13th/14th century deposits	Grant, 1977

Table 16 does give examples of rabbits recovered from pre-Conquest and even prehistoric sites. Whilst this could be taken as corroborative evidence for Warry's (1988) theory, most of these early specimens or the deposits from which they were recovered are of dubious date. The Bronze Age deposits from Brean Down, for example, were noted as being disturbed by rabbit burrows (Levitan, 1990) and the rabbit remains from Barton Court, Oxford (Miles, 1984) and West Stow, Suffolk (Crabtree, 1990) are also thought to be intrusive. The latter conclusion was based on the fact that the rabbit assemblages was composed primarily of partial, often juvenile, skeletons, suggestive of a situation where infant rabbits have died in their burrows.

The assemblage from the Roman site of Carne's Seat in Sussex also contained large number of juvenile lagomorph bones, again recorded as intrusive (Beech, 1986). The intriguing aspect of the latter assemblage was that the specimens were identified as hare not rabbit. This is interesting because, as has been mentioned above, hares are surface dwellers and do not burrow. If the 278 recorded specimens (which comprise approximately 30% of the identified material) are indeed hare, they are unlikely to be intrusive and may represent an important, perhaps ritual, assemblage. Alternatively, and perhaps more probably, the 'hare' specimens may actually be misidentified rabbits. Certainly the morphology of rabbit and hare bones is similar, and without the use of a reference collection the two may be confused.

Of all the pre-Norman sites mentioned in Table 18, few have provided convincing evidence for the presence of contemporary rabbit remains. There is certainly little reason to believe that the Romans were responsible for introducing this species. Only one Roman specimen, that from Latimer in Buckinghamshire (Hamilton, 1971) is not obviously intrusive. However, even if the example from Latimer does represent an early introduction, it is insufficient to support the idea that the Romans established breeding populations in Britain.

The case for an Anglo-Saxon introduction is, perhaps, stronger. Eight Saxon sites have noted the presence of rabbit remains. Four of these sites: Burpham (Sutermeister, 1976), Steyning (O'Shea, 1990), Abbots Worthy (Coy, 1987) and Coppergate (O'Connor, 1987) have claimed that the specimens were recovered from well-stratified deposits. It would, as O'Connor (1987:110) argues, be easy to classify these specimens as intrusive but the possibility that they represent early introductions cannot be ignored. When these cases are viewed against the historical evidence, namely the reference to rabbits in the Marksbury Charter, a late Saxon introduction date for rabbits seems feasible. Nevertheless, such a situation is surprising when the continental evidence is considered.

Table 17 provides details of the earliest rabbit examples from France, Belgium and the Netherlands. It can be seen that the earliest evidence comes from the eleventh to twelfth-century religious house of Charité-sur-Loire. This date is perhaps surprising as it is generally believed that breeding populations had existed in France for some time before they were introduced to England (Zeuner, 1963:413). Rabbit representation in Belgium and the Netherlands is more in accordance with the historical evidence, both suggesting rabbits arrived in the late twelfth or thirteenth century. The idea that rabbits spread via monastic routes is supported by the assemblage from Ename Abbey, Belgium (Ervynck *et al*, 1994). A latrine deposit from this site produced the remains of numerous juvenile rabbits suggesting that the practice of consuming 'laurices' was, indeed, the motivation for their spread.

Site	**Date**	**Reference**
Charite-sur-Loire,	L11th/12th century	Audoin-Rouzeau, 1986
Mayenne, Manche	12th century	Powell, 1998
Vatteville-la-Rue, Normandy	L 12th century	Collected Personally
Ename Abbey, Belgium	L 12th/E 13th century	Ervynck *et al*, 1994
Laarne, Belgium	13th century	Van Damme and Ervynck, 1988
Dune Abbey, Belgium	E 13th century	Gautier, 1984
Huis te Merwede, Netherlands	13th century	Clason, 1967

Table 17: Continental sites with early evidence for rabbits

Since both the historical and archaeological evidence from the continent suggests that rabbits were not present in northern France before the late eleventh century, the presence of rabbits in Saxon deposits is interesting. If these specimens are legitimate, it would indicate that rabbits were introduced to Britain prior to becoming established in northern France. Although this possibility contravenes the widely-held view that rabbits were imported from France, the study of fallow deer introduction (Chapter 6) has shown that popular conceptions can often be unfounded.

Determining the status of the late Saxon specimens is, therefore, pivotal to ascertaining Norman involvement in rabbit introduction. Should the Saxon specimens prove to be both archaeological and correctly identified, the theory that the Normans were responsible for importing rabbits to Britain would be undermined. If the Saxon specimens prove to be erroneous, however, the findings would still not support the Norman case. To conclude that rabbits were introduced by the Normans would require all pre-Conquest specimens to be proved invalid and to demonstrate that the earliest authentic rabbit remains dated to the Norman, not a later, period. Unfortunately, a re-analysis of all the rabbit specimens recovered to date, is beyond the scope of this project. Nevertheless, it has been possible to undertake a sample study focusing on the county of Sussex.

7.3: A Sussex Case Study

Details of the Sussex sites which claim the presence of pre-Conquest and early post Conquest rabbits are provided in Table 16. In order to check the validity of these reports, it was decided to re-examine their osteological material. Archives for most of the sites were stored at Worthing Museum but that from Carne's Seat was housed at Chichester District Museum, and the specimen from Clay Hill is stored at Barbican House Museum, Lewes.

Several of the archived assemblages were accompanied by texts detailing the 'rabbit' specimens and the contexts from which they were recovered. In these cases it was easy to check identifications. Distinguishing archaeological from intrusive specimens was, however, more difficult; especially in the absence of charring, butchery or gnawing marks. Bone colour, texture and preservation provided an indication of whether the rabbit specimens were likely to be contemporary with the rest of the assemblage. All of these criteria were utilised during the re-examinations.

The earliest-dated site with potential evidence for early rabbits is the Romano-British hill-fort of Carne's Seat. As has been noted above this site was recorded as containing large numbers of intrusive 'hare' bones. On re-examination of the material it was discovered that a small number of specimens were, indeed, hare but that the majority were misidentified rabbits. The possibility that these rabbit bones were contemporary with the Romano-British assemblage was queried when comparisons of bone preservation were made. In general, the assemblage was highly fragmentary and the bone colour was grey with a powdery surface texture showing pitting consistent with having been buried in a chalk soil. By contrast, the rabbit bones were well preserved with a firm and smooth surface texture and a light brown colour. This disparity in bone condition suggests that the rabbits were intrusive. Furthermore, the fact that a number of the bones were unfused correlates with Beech's (1986) conclusions that the assemblage represents a death assemblage.

Material from Bramber Castle had, unfortunately, been discarded after the original analysis and only the written record was available. Although some of the osteological material was traced to the Institute of Archaeology in London, no rabbit bones were present. Conclusions could not, therefore, be made concerning the status of the specimens recorded as rabbit. Without the possibility of further investigation the evidence pertaining to this site has, for the purpose of this study, been disregarded. A similar decision was made for the evidence from the late Saxon site of Burpham. Although the bone material from the excavation had been retained, re-analysis of the assemblage revealed that the single rabbit mandible was not present. Sutermeister's (1976) report on the osteological material mentioned the significance of the specimen and it seems possible that, because of its importance, it was removed from the assemblage and has not since been reintegrated. Inability to confirm the status of the Burpham rabbit means that the reported identification cannot be used as positive evidence for a Saxon introduction date.

Potentially the best evidence for a pre-Conquest rabbit introduction was provided by the assemblage from the late Saxon town of Steyning. The report for this site stated that rabbit bones were recovered from '11 of the 17 sealed pits' (O'Shea, 1993). The site archive contained an inventory of the identified specimens, allowing the contexts for which rabbits were recorded to be targeted. Despite working in conjunction with the written notes no rabbit bones were found during the re-examination. As with the Burpham assemblage, it seems possible that the specimens were removed but misidentification during the original analysis is also possible. I propose the latter theory is most probable. Evidence to support this was provided by one pit which was said to contain two rabbit femora of different sizes, one from the left and one from the right side. This context contained only 15 bones but on re-examination none were found to be rabbit: two chicken femora fitting the above description were, however, present. On the basis of this discovery, it was concluded that the absence of the recorded rabbit bones was due to misidentification rather than their removal.

The Saxo-Norman rabbit bone recorded in the site report for Boltophs, Bramber, also seems to have been a misidentification. During re-analysis of the assemblage a lagomorph maxillary fragment was recovered from a Saxo-Norman layer (context 97). The preservation and colour of the specimen was similar to the wider assemblage, suggesting that it was contemporary. Whereas it is easy to differentiate the post-cranial rabbit and hare bones on the basis of size, their skulls show less metric variation. Tooth form can be used to separate rabbits and hares (Hillson 1993:80) but unfortunately, the Boltophs specimen contained no teeth. Using Southern's (1965:251) identification criteria, however, it was clear that the maxillary morphology was closer to that of hare than rabbit. The size of the tooth sockets also appeared too large to be rabbit: the length of the maxillary row was 15.5mm which is more comparable to brown hare.

The final rabbit bone to have been recorded in Sussex is that from Clay Hill, which was discovered during the 1999 season of excavation. The specimen was a distal right humerus which had been burnt and, as such, is undoubtedly archaeological. I was present at the excavation when the specimen was discovered and was able to three-dimensionally record its exact stratigraphic position in an undisturbed deposit. Subsequent to this, post-excavation work has shown the context is of a mid to late twelfth-century date, thus post-dating the Norman period.

Summary

If the Sussex material is representative of the British situation as a whole, problems of misidentified may be considerable. Should this be the case, definitive conclusions concerning rabbit introduction could not be made without a re-analysis of all of the assemblages said to contain rabbit specimens. On the basis of bone preservation it seems likely that the rabbits from Carne's Seat are intrusive. Furthermore, by discrediting the evidence from Saxon sites, a twelfth-century introduction seems most likely. The twelfth century, however, spans both the Norman and Angevin period and, as such this does not clarify the actual period of introduction. If the Clay Hill specimen was derived from a first generation imported animal, it would suggest a Post-Norman introduction date. If, however, the rabbit humerus represented an individual from a well-established population, the Normans would be stronger candidates for the introduction of rabbits. Differentiation between early and later rabbit generations may appear to be beyond the scope of zooarchaeological analysis but the possibility that it may be recognisable through bone size will now be considered.

7.4: A Biometrical Study

The decision to undertake a biometrical study was made on the basis that Mediterranean rabbits (*Oryctolagus cuniculus huxleyi*) are, and have always been, considerably smaller than those from northern Europe (*Oryctolagus cuniculus cuniculus*) (Miller, 1912; Zeuner, 1963). Recently Vanderford (1997) undertook a metrical study of modern rabbit bones from Spain and Britain, and she noted a significant size difference between the two species; the former having an average cranial length of 74.0mm and the latter 77.5mm. This size difference may be explained by Bergman's (1847) rule concerning the relationship of environmental temperature to an animal's surface-area to body-volume ratio. Bergman observed that individuals belonging to the same, but geographically wide-ranging, species tended to be larger in colder climates and smaller in hot climates. He argued that this size variation was related to maintaining body temperature. Large individuals have a greater body-volume to surface-area than smaller individuals. As such they conserve heat and are better suited to cold environments. By contrast, smaller animals have a proportionally greater surface-area to body-volume, which is better suited to the heat dissipation required in warm climates. Zooarchaeological application of Bergman's law has been attempted by several scholars, including Davis (1981), Dayan *et al.* (1991) and Klein and Scott (1989). Whilst they demonstrated that the relationship between environment and body size can be complicated by factors of nutrition and inter-species competition, I decided to use metrical analysis in an attempt to determine the introduction date of rabbits.

Since rabbits were introduced to Britain from the warmer climate of southern Europe, it might be expected that the first generations of imported stock would be smaller than those which derived from them. According to Robinson (1984:241), rabbits rapidly adapt to modified circumstances. For example, when a breeding population from mainland Spain was established on the island of Madeira, average rabbit size reduced within several generations. From a zooarchaeological perspective, the use of bone size may, therefore, be a useful criteria not only to distinguish archaeological from modern rabbit specimens but also to determine early from later generations of British rabbits.

In order to test this theory it was necessary to obtain measurements for both Spanish and British Rabbits. Metrical information for British rabbits was obtained from five skeletons from the Faunal Remains Unit at the University of Southampton and an amount of personally collected material. Because the sample size was small, measurements from the sixteenth to eighteenth-century layers from Dudley Castle (provided by Richard Thomas, University of Birmingham) were incorporated into the British sample. Obtaining a sample of Spanish rabbits was more problematic and the bulk of the measurements derived from intrusive specimens recorded in Spanish zooarchaeological reports (Uerpman, 1970; Altuna, 1976; Mariekurrena, 1986). Since both the British and Spanish data-sets were composed either in part or entirely from archaeological specimens, it was necessary to check the reliability of the measurements. Vanderford's (1997) averages for English rabbits were used to check the British sample, whilst Simon Davis (Instituto Portugues de Arqueologia, Portugal) kindly supplied metrical data for two unsexed *Oryctolagus cuniculus huxleyi* skeletons. The fact that none of the material was sexed causes few problems because rabbits show little sexual dimorphism (Southern, 1965:252).

Since the measurements were derived from, and for application to, archaeological material, the metrical study focused upon elements that were easily measurable and well represented archaeologically: the scapula, humerus, radius, femur and tibia (raw metrical data are provided in Appendix VIe). In order to determine which elements and measurements were the most useful for separating Spanish from British rabbit, T-tests were undertaken for each measurement and the results are shown in Appendix V. It was immediately apparent that the Spanish and British samples showed no significant difference in bone length (GL). The same was true of the radius BD (breadth of distal), scapula BG (breadth of glenoid) and femur BP (breadth of proximal). By contrast, all of the smallest diameter (SD) measurements, and SLC (smallest length of neck) for the scapula, showed significant Spanish-British variation. Even better separation was apparent for the distal widths of upper limb bones (BD for femur and humerus). Correspondingly, the proximal breadths for the lower limb bones (BP for tibia and radius) also showed a good separation.

Although the Spanish and English distributions for these measurements were significantly different statistically, their ranges were not entirely separated. Such a situation is to be expected and it demonstrates that biometrical analysis is not, when used in isolation, a foolproof method of determining archaeological from intrusive material. Nevertheless, when used in conjunction with contextual and bone preservation evidence it may be sufficient to draw strong conclusions.

Whilst the Sussex case-study highlighted specimens from two sites (Carne's Seat and Clay Hill) whose status might potentially be clarified through biometrical analysis, data from other non-Sussex sites have also been considered in this study. Personal examination of assemblages from Guildford Castle, the Cheddar Palaces and Portchester Castle all yielded potentially early rabbit specimens (see Table 16). The report for

Faccombe Netherton (Sadler, 1990) also mentioned the presence of rabbits in Saxo-Norman contexts. No metrical data were provided in the report but Peta Sadler kindly supplied me with measurement, context and dating evidence for all of the specimens within the assemblage: several of them were said to derive from tenth-century deposits. Rabbit measurements collected during analysis of the Vatteville-la-Rue assemblage were also examined to see if the specimens dating to the late eleventh/early twelfth century were likely to be intrusive.

Scatter-plots for the archaeological and modern rabbit bones are shown in Figures 86-91. On most graphs, Vanderford's average measurements for British rabbits, and the *O.c.huxleyi* data provided by Davis are highlighted. Whilst Vanderford's averages generally plot in the middle of the British distributions, Davis' averages more often fall at the smaller end of the Spanish distribution, suggesting that the archaeological Spanish rabbits represent the larger end of the possible size range. By using these average figures as a check, it was possible to recognise potentially unreliable measurements.

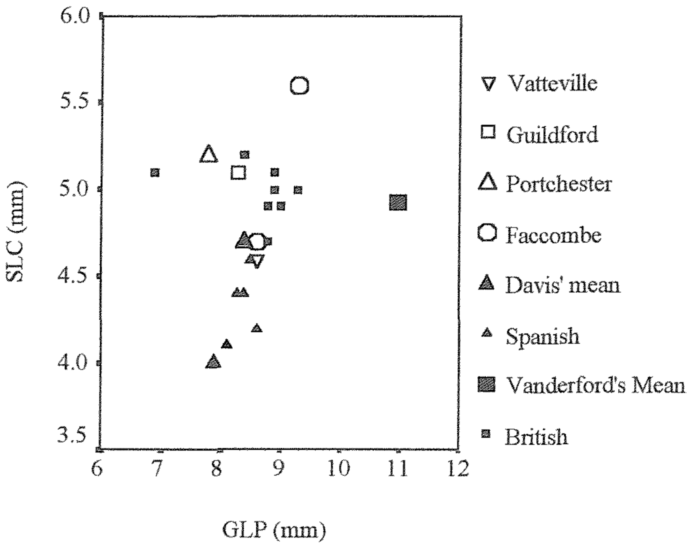


Figure 86: Scatter-plot for modern and archaeological rabbit scapulae SLC (smallest width of neck) by GLP (greatest length of proximal)

For example, although statistical analysis revealed good British-Spanish separation for scapula SLC, Figure 86 demonstrates that Vanderford's average falls some distance from the main British scatter, indicating that the sample may not be representative of the true biological range. This may explain why measurements for several archaeological specimens (that from an undated context at Vatteville-la-Rue, and those from thirteenth-fourteenth-century deposit at Portchester Castle and Faccombe Netherton) plotted within the Spanish range. As such, the information provided by the scapula is inconclusive.

Unfortunately, Vanderford (1997) provided no average for the tibia BD and, although the T-tests indicated a good Spanish-British separation, it is uncertain whether the British BD distribution is likely to be representative of the biological range. Figure 87 demonstrates considerable overlap between the English and Spanish distribution and it could be that the BD measurement is less useful than the T-test infer. Because of this, the presence of archaeological specimens within the 'Spanish' range may not be significant but the fact that some specimens do fall into the Spanish range deserves consideration.

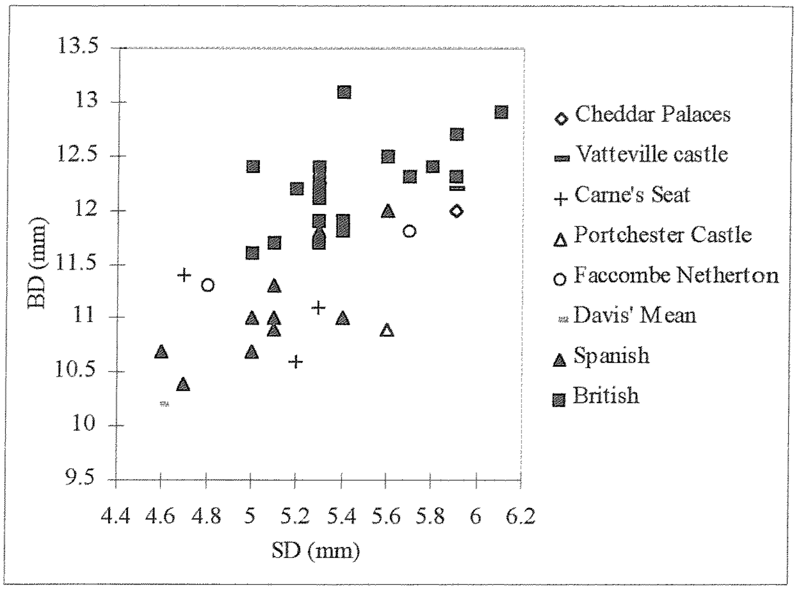


Figure 87: Scatter-plot for modern and archaeological rabbit tibiae BD (breadth of distal) by SD (smallest diameter)

Of particular interest are the specimens from the Romano-British site of Carne's Seat. In section 7.3 it was argued, on the basis of their preservation and state of fusion, that these specimens were intrusive. Whilst their small size could suggest that they represent some of the early generations of imported rabbits, it is, perhaps, more likely that the specimens were from juvenile animals. It is certainly noteworthy that all of them were missing their proximal ends, a form of bone breakage more likely to occur if the proximal epiphyses were unfused. The theory that these specimens were juvenile is supported by the fact that the other small archaeological tibia, that from Faccombe Netherton, was also sub-adult (Sadler, personal communication). Interestingly, Sadler's context information demonstrates that the tibia was recovered from an undisturbed pit (context number 2906) dated to 1070-1180. It is possible that this specimen is archaeological and its unfused state may be evidence for the consumption of juvenile rabbits. Nevertheless, its potential date range is too wider to provide definitive evidence concerning rabbit introduction.

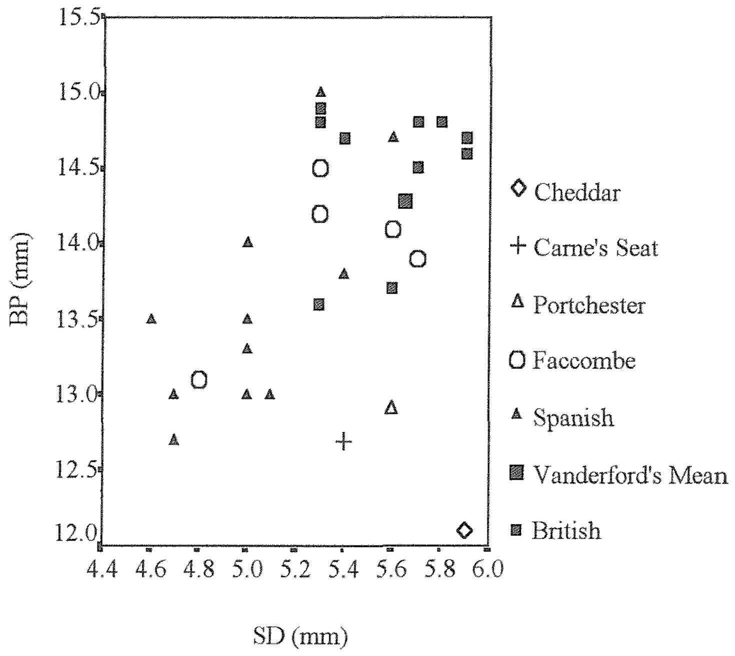


Figure 88: Scatter-plot of modern and archaeological rabbit tibiae BP (breadth of proximal) by SD (smallest diameter)

The plot for tibia BP/SD is shown in Figure 88. Vanderford's average is presented and it can be seen that it fits the British distribution well. As is suggested by the T-tests, however, the BP measurements are more variable than those for the BD, and the Spanish-British overlap is considerable. Again archaeological specimens from Carne's Seat, as well as those from Portchester Castle and Vatteville-la-Rue, fall outside the main British range. The low BP but high SD values of these specimens suggests that the reason for their anomalous plots may be due to erosion of the proximal end. The tibia shaft is much stronger and the fact that all three specimens have an SD greater than 5.4mm indicates that they are derived from individuals of a size comparable to a modern British animals. With the exception of the juvenile tibia, mentioned above, most of the specimens from Faccombe Netherton plotted within the area of Spanish-British overlap. The tibia measurements therefore provide no suggestion of small rabbits suggestive of early generation introductions.

Better evidence was provided by the femur SD/BD scatter-graph (Figure 89). Vanderford's data plotted in the middle of the British distribution and the overlap between the Spanish and British ranges was less marked than for the tibia. The single specimen from Carne's Seat was considerably larger than any of the Spanish individuals, falling at the top end of the British range. The size of this individual again supports the suggestion that the rabbit remains were intrusive rather than of Romano-British date. One specimen from Faccombe Netherton did, however, fall within the Spanish range. This femur was completely fused and thus its small size cannot be attributed to immaturity. Interestingly, the specimen was recovered from the same pit as the small tibia dated to1070-1180. Again this is good evidence for the specimen's archaeological status but the date-range does not help to clarify whether a Norman or Angevin introduction date is more likely.

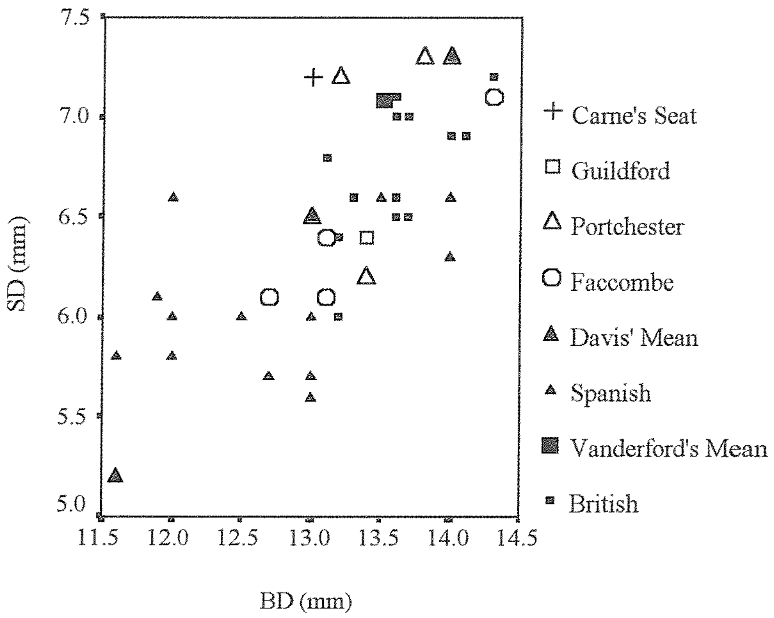


Figure 89: Scatter-plot for modern and archaeological rabbit femora SD (smallest diameter) by BD (breadth of distal)

One other specimen was also found in a late eleventh to twelfth-century context (number 2859) from Faccombe Netherton. In this case, however, its measurements were SD 7.1 and BD 14.3, placing it amongst the largest British individuals. This suggests that the specimen was intrusive, an idea that is supported by the context description: the deposit is recorded as disturbed by rabbits. All of the other examples from Faccombe Netherton plotted within the British range and thus may have been intrusive. Alternatively, since all the specimens were recovered from deposits dating between 1280-1356, it is possible that rabbit size had already increased by this point. The same explanation could be given for the Guildford Castle and Portchester Castle specimens which all derive from later medieval deposits.

Sample sizes for the radius were small and, thus, perhaps unrepresentative, but the separation using SD/BP appears to be good and Vanderford's measurements plotted comfortably within the middle of the British range (see Figure 90). The archaeological material came from two sites, Vatteville-la-Rue and Faccombe Netherton. Both assemblages produced specimens that plotted within the Spanish range. Interestingly these bones were both from undisturbed and well-dated contexts: the Vatteville specimens derived from a late twelfth-century deposit whilst that from Faccombe Netherton was recovered from the primary fill of a ditch, dating between 980-1180. Again the wide date range of the Faccombe Netherton deposit adds no weight to either the Norman or Angevin arguments. By contrast, the small size of the Vatteville bone indicates that at this point French rabbits had altered little from their Mediterranean form. This supports the historical evidence for a late twelfth-century introduction to northern France.

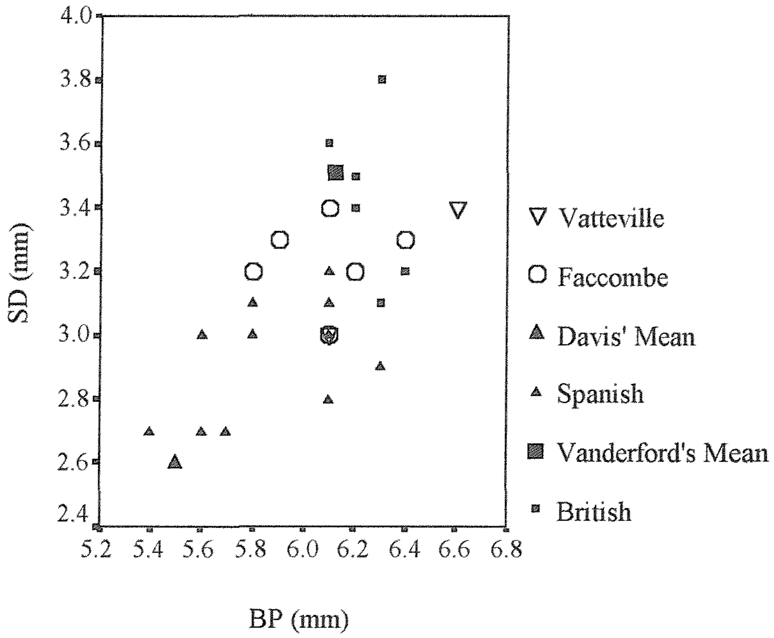


Figure 90: Scatter-plot for modern and archaeological rabbit radii SD (smallest diameter) BP (breadth of proximal)

All of the larger radii shown in Figure 90 were from later medieval deposits. One exception was a specimen from Faccombe Netherton, measuring 3.4mm (SD) by 6.2 (BP), which was recovered from a late eleventh to late twelfth-century context (2856). Again, however, context descriptions revealed that the deposit had been disturbed by rabbits thus the specimen can most probably be labelled as intrusive.

The final scatter-plot (Figure 91) produced the best separation between Spanish and British rabbits. These results can be considered reliable because not only were sample sizes good but Vanderford's average plotted in the centre of the British distribution. All of the archaeological specimens from Faccombe Netherton, Portchester Castle and Carne's Seat fell within the British distribution and cannot, therefore, be deemed to represent early generation introductions. This is particularly significant for the Carne's Seat material as it confirms the impression that these specimens are intrusive rather than Romano-British. One of the humeri from Faccombe Netherton was recovered from a pre-Conquest deposit (number 2629) underneath the external bank.

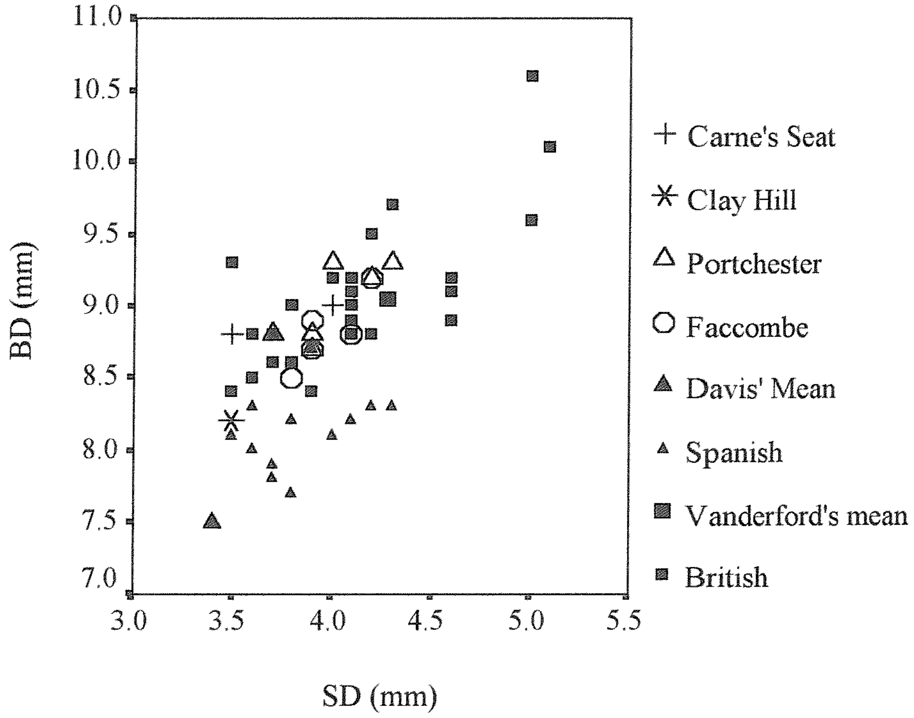


Figure 91: Scatter-plot for modern and archaeological rabbit humeri BD (breadth of distal) by SD (smallest diameter)

The large size of the specimen and the fact that the bank was disturbed by rabbit burrows suggests that the humerus was intrusive. The same explanation can be given for the specimen (measuring SD 4.2mm and BD 9.2mm) from the late eleventh to twelfth-century context (2859) which, as has already been noted, was also disturbed.

One specimen that did plot within the Spanish range was that from Clay Hill, Sussex. As has been mentioned above, this humerus was burnt and derived from a securely dated middle to late twelfth century-deposit. If it is accepted that rabbits, once introduced to Britain, increased their size rapidly, the small size of this specimen is highly significant. It suggests that the humerus represents one of the earliest rabbits in Britain and, as such, infers an Angevin rather than Norman introduction date.

7.5: Conclusion

It has long been thought that the Normans were responsible for introducing rabbits but when the historical and archaeological evidence is examined this possibility cannot be upheld. A re-analysis of the evidence from Sussex suggests that theories concerning rabbit introduction have been confused by misidentified and intrusive specimens. Whilst misidentified material is easy to discount, the same is not true for intrusive remains, especially if they have obtained similar colouration to the wider zooarchaeological assemblage.

Biometrical analysis has proved a useful tool for differentiating between intrusive and archaeological specimens. This was particularly the case for the material from the Roman-British site of Carne's Seat in Sussex. Although the original report for this assemblage suggested that the lagomorph bones were intrusive, the biometrical study, demonstrated that their size was more compatible with modern British than Spanish rabbits. This combined with bone colour and preservation evidence, made it possible to confidently label them as 'intrusive'. Similar conclusions were made for several other specimens, recovered from pre-Conquest and early post-Conquest deposits; in particular those from Faccombe Netherton.

It seems significant that none of the specimens that were confidently attributed to the late eleventh/late twelfth century were large; all plotted within the Spanish distribution. By contrast, all of the rabbit bones from thirteenth-century and later medieval contexts fell into the British range. This infers that rabbit size increased quickly after their introduction to Britain. If this is the case, the similarity in the size of the Faccombe Netherton bones to those from Vatteville (late twelfth century) and Clay Hill (mid-late twelfth century) suggests that the Faccombe Netherton specimens most probably date to the latter part of their 1070-1180 range.

When the date ranges provided by the archaeological and historical data are considered it seems likely that rabbits were introduced to Britain during the Angevin period, most probably during the 1170s or 1180s. Furthermore, there is little evidence to suggest that rabbits were present in Northern France much before they arrived in England. Instead they appear to have spread quickly from their source in southern France and were introduced to both northern France and England at approximately the same date. If this is the case, the idea that rabbits were introduced by the Normans, as part of a pre-existing 'Norman package' can simply not be upheld. Unlike the introduction of fallow deer, that of rabbits must now be viewed as a post-Norman achievement. This study has demonstrated that theories constructed on ambiguous historical and archaeological evidence should not be accepted, and thus perpetuated, without critical re-examination.

Chapter 8: Cooking, Class and Cultural Identity

> 'He was abstemious in his food and drink, although in his hall there was drinking to all hours after dinner in the **manner of the English**...While others drained great foaming tankards he, holding the smallest goblet in his hand, encouraged them to make merry, though honouring thus the **customs of the country** rather than the judgement of his heart. Nor did he disregard the **customs of the Normans** '
>
> William of Malmesbury *Gesta Pontificum BK IV* (Brown, 1984. my emphasis)

Cuisine is culturally determined and develops through complex social, political and economic interactions. As a result, diet not only reflects a society's structure but can also, potentially, provide substantial information concerning the thoughts and beliefs of the consumer group. In the medieval period, for example, diet was strongly influenced by the Christian church. St Isidore of Seville (c.560-636) encouraged fasting, in particular the avoidance of meat (Scully, 1995). These concepts were used to define dietary laws for monastics and, by the seventh century, when the first religious houses were founded in England, monastic diet was already governed by the sixth-century rule of St Benedict of Nursia. The Benedictine law states that everyone, except the weak and sick, had to abstain from the flesh of 'quadrupeds' during periods of fast, which at this point totalled between 190-200 days of the year (Hagen, 1998:84).

The ideological significance of medieval consumption is illustrated well by the twelfth-century story of a man who returned from the crusades and proclaimed to his Christian family that he had become a Saracen. Unperturbed by this, his family accepted him back, until he insisted upon eating meat on a Friday, at which point they promptly turned him out (Walker-Bynum, 1997:139). This story not only demonstrates the fluidity of cultural identity but also supports Goody's (1982) argument that dietary choices are not fixed and that socially-controlled surface dynamics are more significant than the 'deep structure' (examined by structuralist anthropologists, such as Lévi-Strauss; 1966, 1969, and Douglas; 1975)

In this chapter, data from the previous seven chapters are drawn together to examine whether the Norman Conquest influenced what and how food was eaten; whether dietary studies can provide evidence for changes in social structure (in particular the emergence of social hierarchy); and to investigate the possibility that the Normans incorporated consumption practices into the construction and reproduction of their cultural identity. Due to the limitations of the data, this study has concentrated more on the changes that affected the upper echelons of society.

The use of food remains to assist with archaeological detection of ethnic groups has been shown to be profitable on a number of occasions. Ijzereef (1989) for example, in his study of post-medieval Holland, used the presence/absence of pig remains as a criterion for distinguishing between Christian and Jewish household. In medieval England, however, by 1066 the Normans and Saxons were socially, politically and religiously very similar, and difference between their cuisine may not have been dramatic as those observed by Ijzreef. Indeed, it is often cited that in medieval Europe dietary variation was greater between the rich and poor than between nations (Goody, 1982: 139; Mennell, 1985:40). The impact of social status on diet is well documented, with many sociologists (for example, Elias, 1978) recognising that the upper echelons of society use cuisine to differentiate themselves from the lower classes. In turn, the lower classes have often been observed to emulate the diet of the elite, forcing the upper classes to change their tastes in order to maintain status differences (Caplan, 1997:11). However, Mennell (1985:16) has argued that in any situation where social groups (be they defined territorially, socially, religiously or on any other basis) are interdependent, power imbalances will occur that shape the way the groups think and act. The arrival of the Normans, who took positions of power, would certainly have created such an imbalance. Changes in social stratification, combined with those relating to the economy (Chapter 3) and resource availability (Chapter 4), could feasibly have prompted internal shifts in diet. External influence, such as the introduction of ingredients or dining customs found within the Norman Empire, may also have occurred.

An indication that the Normans did influence cuisine, at least that of the aristocracy, is provided by the earliest English cookery book; attributed to the twelfth-century monk

Alexander Neckham. This document used little English terminology and most of the text was written in Norman-French and Latin (Goody, 1982). A more famous example of French influence is the post-conquest renaming of food animals. Whilst livestock retained their Saxon names (cow, calf, sheep and pig), once prepared for the table they were called by their French names: beef - boeuf, veal - veau, mutton - moutton, pork - porc (Davidson, 1999). It is difficult to know, however, whether these changes were purely semantic or if they related to actual shifts in the cooking or consumption of meat.

Differences between Saxon and Norman dining customs are indicated by William of Malmesbury in his description of Wulfstan, Bishop of Worcester's dining hall (see above quote, page, 230). Yet, despite these historical references, little work concerning Norman diet has actually been undertaken; the exception being Grant (1988b). This contrasts markedly with the corpus of information that has been developed for Saxon and late medieval cuisine. Most of this research has been achieved by historians working on texts dating from the fourteenth century onwards (for example, Dyer, 1994; Hammond, 1995; Mennell, 1985; Woolgar, 1999). An exceptional multi-disciplinary study of Anglo-Saxon diet has, however, been undertaken by Hagen (1998a and b). The historical and archaeological work she synthesised has provided an important data-set against which Norman diet can be viewed.

Although Hagen makes reference to some aspects of post-conquest food, she does not examine the impact of the Normans on Saxon cuisine. This must largely be due to the comparative lack of documentary evidence: in the earlier medieval period the social significance of feasting encouraged literature concerning diet but Christian fear of gluttony gradually curbed writings on food and banqueting (Brown, 1998). In the absence of historical evidence, any discussion about Norman diet has usually been based on later medieval data. Whilst in some cases such comparisons are valid, historical studies by Dyer (1988), Mennell (1985) and Woolgar (1999) have demonstrated that diet changed considerably between the thirteenth and sixteenth centuries. The dynamic nature of cuisine questions the applicability of this later evidence to the earlier period. As a result, studies of the food-remains themselves, may offer the best opportunity for determining whether the Normans influenced the pre-Conquest diet.

8.1: Saxon-Norman Changes in Meat Processing and Cooking

As is the case with many sayings, the phrase 'you are what you eat' is not without a grain of truth and in medieval thought it had more than a proverbial significance. Dietary philosophy of the Middle Ages drew heavily on the work of Greek physicians, such as Galen, who believed that every living species was composed, in varying proportions, of two pairs of elements: warmth and coldness, and dryness and moistness (Scully, 1995). The degree to which an animal was composed of these four elements was deemed to determined its 'humour', which could be transferred to any person who consumed its flesh (Salisbury, 1994:44). It is for such reasons that Yvinec (1993:498) argued the consumption of wild boar, the violent 'bête noir', was forbidden for ecclesiastics.

Because it was believed that the humour of a foodstuff could influence the behaviour of the consumer, medieval cooks were required to know how to amend a food's natural temperament (Scully, 1995). For example, if a meat was perceived as excessively cold and moist, it had to be corrected by the drying and heating process of roasting. Baking was a method of moderately drying and heating food, whereas boiling warmed moderately but also added moisture to dangerously dry foods. Salt was considered to be very dry and warm, and could, therefore, be used to counteract problems of decay, which were associated with all things moist. Since this philosophy seemingly encompassed all Christian cookery in medieval Europe, it is debatable whether the Normans could have introduced novel cooking techniques to post-conquest England.

Methods of cooking are difficult to detect zooarchaeologically. Taphonomic studies have demonstrated that boiling and baking leave few perceptible traces on bones. Although Speth (2000) claims that these techniques can be identified on the basis of element frequencies, such a study is beyond the scope of this thesis. Roasting has greater potential for leaving archaeological traces and osteological assemblages often contain charred, burnt and calcined specimens. Quantification of burning can, however be problematic: both Kent (1993) and Jones (1993) have noted that bone surface charring can vary from nil to more than 50% depending upon the method of roasting. Furthermore, burning need not reflect cooking: the greasy nature of bones makes them a potential source of fuel and there is some evidence to suggest that they were purposefully thrown into fires (Lyman, 1994:388). In other instances, bones may have been burnt in order to dispose of them.

Potentially, butchery marks are a better, or at least more accessible, source of evidence concerning meat processing and cooking. Pre-and post-conquest butchery patterns have already been considered in terms of craft development and provisioning systems (Section 3.4i) but here the evidence relating to food preparation is examined.

The synthesised data (Appendix Vc, table E1) indicate that bones were more heavily utilised in the Saxon period, with a large number (41%) having been split, presumably for marrow extraction (Figure 92). This butchery pattern is ubiquitous for Saxon assemblages (for example, Higgs and Jarman, 1977; O'Connor, 1984; Crabtree, 1983). Table C4 (Appendix Vc) shows that even the bones of deer were utilised for their marrow. Both Grant (1975b:272) and Hagen (1998a: 58) have argued that incidence of bone splitting reflects a reliance upon stews and soups. Stewing is both a practical and economic method of cooking because all of the juices are retained within the pot. Historical evidence supports the idea that stewing was the principle cooking method: for example Bede mentions that St Cuthbert offered boiled goose to visiting brothers (Hagen, 1998b:127).

Figure 92: Butchery pattern characteristic of pre-Conquest assemblages

This story can be contrasted with William the Conqueror's documented penchant for roast heron (Groundes-Peace, 1971:12) and it seems possible that roasting became more common in the post-Conquest period. In comparison to stewing, roasting is not only expensive in terms of fuel and labour but the valuable fat from the carcass is also lost. Woolgar (1999:137) mentions that, by the later medieval period, consumption of roast meat was a sign of status and it seems likely that this was also the case in the earlier medieval period. The assemblage from Vatteville-la-Rue yielded a number of burnt and charred bird bones, perhaps evidence that birds were spit-roasted in the fashion depicted on the Bayeux Tapestry (Thorpe, 1973).

Brief re-analysis of the assemblage from Boltophs, Bramber (originally studied by Stevens, 1990) revealed a high frequency of burnt bone in the 'Saxo-Norman' than Saxon layers. The idea of a move towards roasting is also supported by the butchery evidence: a much lower percentage (6%) of the butchered post-Conquest bones showed signs of marrow extraction (Table E2 Appendix Vc). Furthermore, Figure 93 shows that techniques of marrow extraction also changed, with bones being chopped through at the mid-shaft rather than axially. The Vatteville assemblage demonstrated similar butchery patterns, and the incidence of bone splitting was similarly low (see Chapter 2). This may suggest that Norman influence was responsible for the pre-to post-Conquest shift. Alternatively, rather than inferring that stews were less important, the change in techniques may simply represent different methods of carcass division, perhaps associated with the rise of specialist butchers: modern butchers commonly cut through the diaphysis when separating the different cuts of meat (Mettler, 1986).

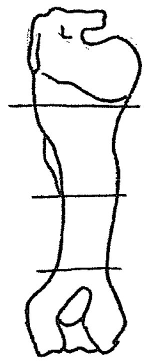


Figure 93: Butchery pattern characteristic of post-Conquest assemblages

It is unlikely that stews became obsolete in Norman England, especially since post-Conquest cattle and sheep were, on average, older than those eaten by the pre-Conquest population (see Chapter 3). The tough meat from these old animals may have required considerable boiling before consumption; this may have been achieved with the use of large cooking pots like that shown on the Bayeux Tapestry (Thorpe, 1973). Indeed, studies of medieval ceramics suggest a twelfth-century proliferation of sagging-based cook-pots, perhaps indicating a rise in the consumption of stews (Hinton, 1990:130).

One food group that was probably not stewed is aquatic animals. Some fish, in particular eels and lampreys, were believed to be 'dangerously' moist and so could not be cooked with the use of liquid. According to Scully (1995) fish were often prepared using warm and dry spices, which were believed to counteract the fish's wet and cold temperament. Norman cuisine is often assumed to have incorporated a greater range of foreign spices than that of the Saxon period (Hartley, 1954:28; Black, 1998:20). The Pipe Roll of 1130 does mentions that quantities of oils, nuts, pepper, cumin and ginger were procured for the royal court in London (Barlow, 1955:267). On the basis of thirteenth-century French and Anglo-Norman recipes, however, Hieatt (1986:860) has argued that the use of herbs and spices was more a Saxon than Norman tradition. This is perhaps supported by the fact that Aelfric's merchant was already importing 'mixtures of herbs and spices' (Garmonsway, 1978:33).

In addition to the use of spices, the humour of fish seem to have been modified by grilling. Medieval illustrations of fish, such as those on the Bayeux Tapestry, suggest that they were cooked whole (Thorpe, 1973). Alternatively, fish may have been depicted in this way because their form is easily recognisable. Whilst fresh fish could not be stewed, sea fish that had been dried as part of the preserving process were deemed safe for cooking in liquid (Scully, 1995:54; Hagen, 1998a:58). It was seen in Chapter 4 that fish consumption increased from the late Saxon period due to the intensification of the fishing industry. The need to preserve fish for transport inland would have encouraged the development of smoking and salting techniques, historical references to which increase from the mid-eleventh century (Serjeantson and Locker, 1997).

As with fish, pigs were also considered to be 'moist' and thus susceptible to decay (Scully, 1995). Butchery data indicate that methods of meat preservation may have altered between the pre- and post-Conquest period. This is best demonstrated by the patterns for scapulae. A considerable number of cattle scapulae from the pre-conquest assemblages showed signs that their spines to had been chopped or sliced off (butchery codes 1, 2, 3, 7 and 8) and their glenoid cavity trimmed (Figure 94). Similar patterns

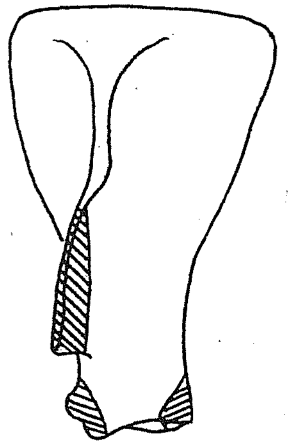


Figure 94: Butchery pattern typical of scapulae from pre-Conquest deposits

have been noted for Roman assemblages, in particular those from Lincoln (Dobney *et al.*, 1995) where it was suggested that they resulted from preserving meat in brine. Dobney *et al.*, argued that by chopping through the scapula at these points the salt water would permeate the meat better than through simple immersion.

The Norman data provided less evidence for this practice (see Table 18). Instead, a greater number of scapulae, belonging to cattle and pig, were found to exhibit cut and shaving marks on their medial surface (Figure 95a). Lauwerier (1988) interpreted these marks as produced when meat, which had become firmly attached to the bone as a result of the smoking process, was cut away. That meat was smoked is suggested by the scapulae which displayed meat-hook holes in their blades (see Figure 95b). Only one example of a meat-hook hole was found in the Saxon period deposits and the cut marks of the type shown in Figure 95a were also poorly represented. This would suggest that techniques of meat preservation shifted from the Saxon to Norman period, with smoking rather than brining becoming the preferred method.

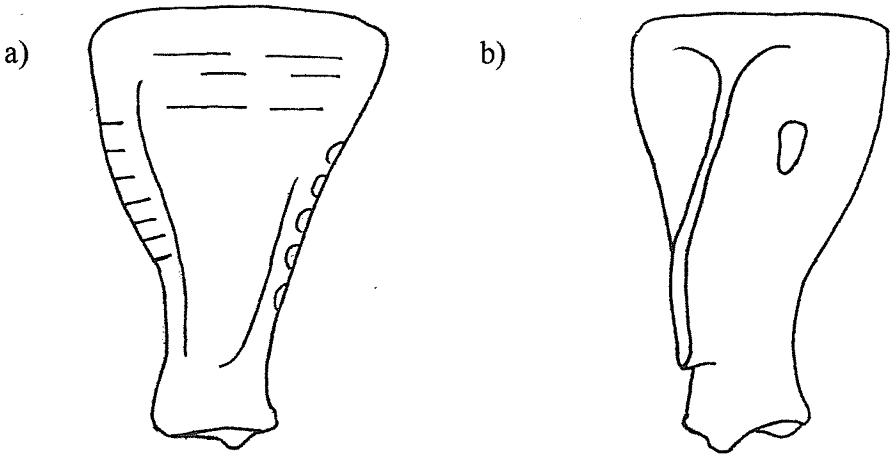


Figure 95: Butchery patterns characteristic of scapulae from post-Conquest deposits

Table 18: Frequency of butchered scapulae (cattle, sheep and pig) showing marks indicative of brining and smoking.

	Total Number Butchered	Brining Indicators		Smoking Indicators	
		n	%	n	%
Pre-Conquest	98	20	20	12	12
Post-Conquest	129	5	4	20	16
Vatteville	28	2	7	6	21

Butchery data for the Vatteville assemblage (Table 18) showed that, of the butchered scapulae, 21% displayed signs of having been smoked but just 7% showed marks suggestive of brining. The butchery patterns for other elements also suggest post-Conquest move towards brining, with assemblages exhibiting a higher percentage of ‘consumption’ marks, again indicative of cutting to remove adhered flesh (see Table E, Appendix Vc). Smoking may, therefore, have been a traditional French method of meat preservation, which became popularised in England during the post-Conquest period. Alternatively, the fact that butchery analysis was undertaken predominantly for high status sites allows the possibility that the patterns are site-type specific, perhaps suggesting that the meat-joints received by the elite had been smoked. This would fit with the provisioning changes suggested in Chapter 3 but without further research it is difficult to prove.

If pork was cooked fresh, its moist temperament meant that, like fish, it had to be cooked using drying/warming methods. The Bayeux Tapestry shows a man carrying a partially butchered pig carcass to the Norman camp in Hastings. The fact that its feet were already removed suggests that butchery had already taken place and that the carcass was to be roasted whole. The practice of spit-roasting pork was probably common throughout the medieval period. Body part patterns for late Saxon pigs from high-status sites (Figure 46e, page 98) demonstrate a low frequency of foot bones and an over-representation of cranial elements. In Section 3.3iii, it was argued that this pattern is the product of bone density and preservation, but it would also fit with the idea of spit-roasting partially-butchered carcasses.

The abundance of pig heads on high-status sites is interesting as this pattern is paralleled by the body part distribution for late Saxon cattle and sheep. It seems possible that, during this period, heads were considered a delicacy and selectively imported to high-status sites, perhaps to be roasted whole or to make brawn. Certainly, in the later medieval period brawn was considered to be a delicacy; seventy pork brawns were prepared for Henry III's Christmas dinner (Rackham, 1997: 119). In Chapter 3 it was seen that the cranial to post-cranial ratio for the Norman animals was more balanced and reflects the patterns observed for the Vatteville assemblage. The shift in high-status body part patterns may represent the introduction of Norman tastes and dietary preferences.

Perhaps the most dramatic pre- to post-Conquest change in body part patterns is that observed for deer (see Chapter 5). Data for the Saxon period suggest that deer were caught, brought back to the settlement whole, and butchery patterns indicate that venison was processed in the same way as beef and mutton. By contrast, butchery patterns for Norman deer are distinct from those of cattle and sheep whilst their skeletal representations are generally characterised by a dearth of shoulder elements and a preponderance of foot bones, in particular those of the hind limb. In Chapter 5, I proposed that these shifts in element frequency directly reflect the introduction of fallow deer and hunting traditions from Norman Sicily. They may, however, also represent the new status in which venison was held. William I requisitioned venison as a royal commodity that could be given to favoured subjects. In order that the venison might be preserved for transportation the meat was salted down and put in barrels (Merrik-Burrel, 1850): the change in butchery and body part patterns may represent the introduction of this practice.

Since preservation was of the utmost importance, it is uncertain whether game would have been hung. According to Bede, the goose consumed by St Cuthbert had been hung on a wall for a week but it seems likely that this bird was salted: according to the Leechdoms, the flesh of web-footed birds could not be eaten fresh, presumably because of its wet humour, and was allowed only when salted (Hagen, 1998b: 127). St Augustine, in his *City of God*, wrote about the 'incorruptibility' of peacock flesh and by the fourteenth century it was widely known that a peacock could be left hanging for a month and still be consumed, even if the skin had gone mouldy (Scully 1995:57). It was seen in Chapters 2 and 4 that peacock was more a feature of the medieval French diet but whether its storage qualities were first discovered on the continent is uncertain.

The assemblage from Vatteville-la-Rue, Normandy provided some interesting evidence concerning the treatment of game. Body part patterns for hare (Figure 24, page 49) demonstrated an over-representation of bones from the hind left foot. In Section 2.4I, it was argued that these elements represented the paws of individuals that had been severed when the animal was cut down from being hung. Unfortunately, the deposit from which the hare feet were recovered is loosely dated (eleventh-fifteenth century) and therefore the information it provides concerning Norman influences is limited. It seems unlikely that the Normans introduced to England the concept of hanging game but it is noteworthy that no Anglo-Saxon examples suggestive of this practice have, as yet, been found. By contrast, the post-Conquest assemblage from Castle Rising, Norfolk, produced an articulated lower limb bone and a general body part distribution which Jones *et al* (1997) argued was evidence for the removal of the feet. Furthermore, calcanea showing cut marks consistent with foot removal have been recovered both from a twelfth-century deposit from Clay Hill Castle, Sussex (Sykes, forthcoming) and a fourteenth-century assemblage from Battle Abbey, Sussex (Locker, 1985). Whilst the removal of the feet need not equate to the practice of hanging game, it provides the only available evidence in the absence of deposits akin to that from Vatteville.

8.1i: Summary

In many respects, Saxon methods of food processing and cooking endured into the Norman period. This is perhaps unsurprising since, from at least the middle Saxon period, diet had been influenced by Galen's theories of 'humour'. As such, cooking techniques were strictly set and observed across Christian Europe. There does, however, appear to have been some variation between Saxon and Norman cooking techniques. Studies of bone taphonomy, in particular butchery and burning, indicate a reduction in the amount of stews consumed with an increase in roast meats. Methods of beef, pork, and mutton preservation also appear to have changed; moving from brining towards curing. More obvious are the shifts in deer element-frequency, which indicate a dramatic pre- to post-Conquest change in techniques of deer-butchery. This change in venison preparation may also have been accompanied by the concept of hanging game but evidence to support this is currently weak.

The extent to which the Normans can be held responsible for all these changes is not clear. Many of the variations, such as those relating to butchery and meat preservation, could feasibly have occurred in response to economic changes. However, the fact that some of the patterns observed for post-Conquest England are also recognisable in French assemblages, in particular that from Vatteville, is suggestive of some Norman influence. Whilst the most dramatic changes (those relating to venison) do not appear to derive from pre-Conquest Normandy, they can be tied to the links with Norman Sicily.

8.2: Social and Ethnic Identity

In post-Conquest England, ethnicity and social class became enmeshed, with Norman identity being associated with the social elite, whereas the term 'English' was used to denote people of lesser rank (Williams 1997:5). Certainly, Henry of Huntingdon, in his *Historia Anglorum*, mentions that during the reign of William I it was an insult to be called English (Gillingham, 1995:78). Because cultural identity and social status became mutually linked, it seems possible that expressions of both may have become more overt after 1066, at least in the case of the Norman elite. By studying pre- and post-Conquest consumption practices, evidence for the Norman impact on social hierarchy may, therefore, become apparent.

The schoolbook image of Anglo-Saxon cuisine is one dominated by egalitarian feasting in great halls (Brown, 1988; Thompson, 1995). Communal consumption does appear to have been a feature of early medieval European society, and Salisbury (1985; 1994:59) argues that eating together would have served to reinforce group unity. The sense of belonging provided by the Anglo-Saxon hall is clearly demonstrated by the tenth-century poem *The Wanderer*, which describes the despair of those forced to leave (Leslie, 1966). From the seventh century, increasing emphasis on fasting and dietary restraint conflicted with Saxon feasting and the English gradually gained a reputation as irreligious gluttons (Hagen, 1998:103; Short, 1995). The twelfth-century writer Jordan Fantosme stated that the Saxons were 'better guzzlers than fighters' (Johnston, 1981).

This impression of Saxon consumption practices contrasts with the hierarchical affair suggested for the Norman period (Hartley, 1954:28). Historical evidence suggests that the Normans were also more pious in their dining tradition. According to Potts (1995:149) and Bliese (1991), devoutness was a cultural image that the Normans deliberately cultivated, both at home and abroad.

Contemporary perceptions of Saxon and Norman dining customs are perhaps best illustrated by the Bayeux Tapestry (see Figure 96). It depicts William and his men eating food, notably fish, that had been blessed by the Bishop, whereas Harold's men are shown drinking in their hall at Bosham, reinforcing the image of English gluttony. The degree to which the Bayeux Tapestry reflects the actual dining customs of the two peoples is debatable but it does raise the question of whether the Normans incorporated religious ideology into their diet as a signifier of their moral superiority.

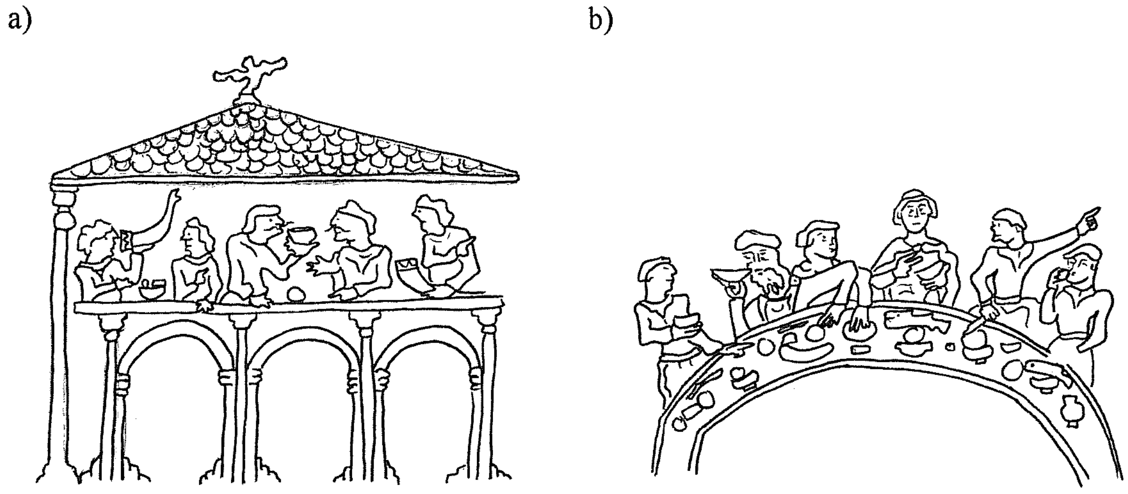


Figure 96: Saxon (a) and Norman (b) dining customs as depicted on the Bayeux Tapestry (redrawn from Thorpe, 1973).

Zooarchaeological analysis does not enable consumption rates to be calculated, thus the degree of 'gluttony' in pre- and post-Conquest England cannot be ascertained. Nevertheless, Christian texts mention the dietary restrictions imposed by the Church and indicate the type of symbolic foods that might be eaten by 'good Christians'. By using monastic assemblages (which can legitimately be viewed as reflecting the diet of the most pious section of society) as a benchmark, it may be possible to determine the degree to which dietary restrictions and periods of fast were observed by the pre- and post-Conquest population.

8.2i: The Pre-Conquest Data

Whilst in previous sections the relative frequencies of each animal category have been examined separately, in this chapter they are considered together. It must be recognised that the taxa frequencies provided in this study do not reflect the actual dietary contribution made by each animal category. Inter-taxa variation in meat-weight, skeletal element numbers, preservation and recovery means that NISP-based quantification provides only a very rough, but nevertheless useful, indication of consumption patterns.

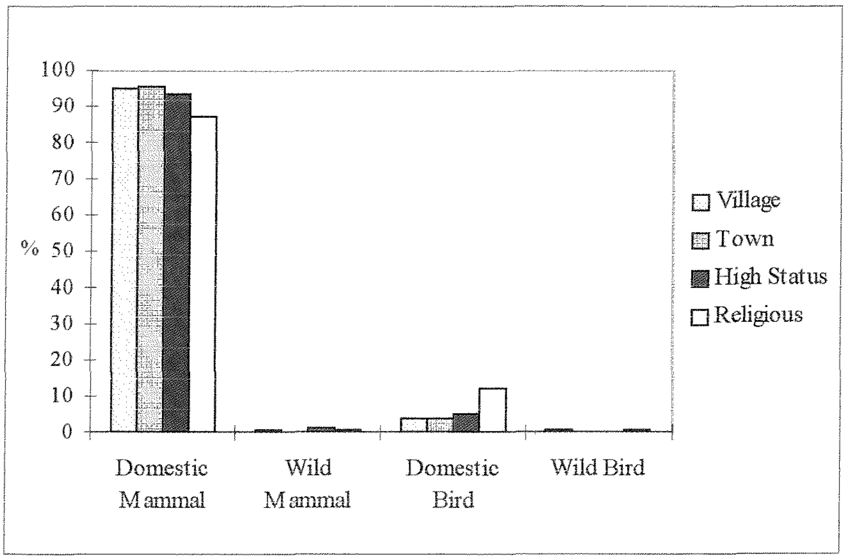
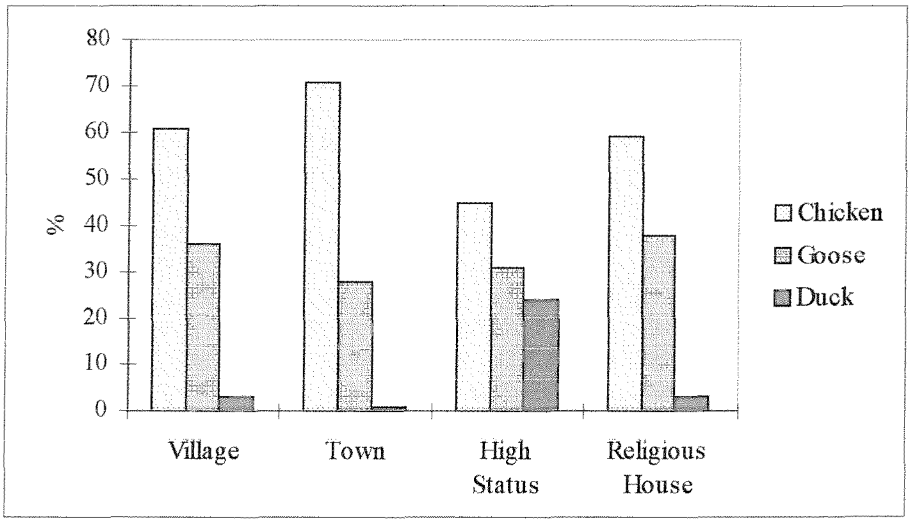


Figure 97: Inter-site variation in the composition of early/middle Saxon assemblages

Figure 97 demonstrates that early/middle Saxon monastic assemblages contained just 87% domestic mammals, with the remainder of the assemblage being composed predominantly of domestic birds. This abundance of bird remains is in accordance with the Benedictine rule: domestic birds were considered to be only moderately warm in their humour and therefore their flesh was suitable for consumption during fasts. Figure 98, which shows domestic bird representation by site-type, indicates that goose was particularly well represented in monastic assemblages, perhaps suggesting that Bede's reference to St Cuthbert's consumption of goose (mentioned in Section 8.1) was more symbolic than would first appear; although goose is also well represented in village assemblages.

Figure 98: Inter-site variation in the relative frequencies of chicken, goose and duck in early/middle Saxon England.



In this period, fasting seems to have been largely restricted to monastics, with variation between the secular and ecclesiastic diet being greater than between high and low status. Early/middle Saxon assemblages from villages, towns and high-status sites are remarkably similar with their inhabitants obtaining the majority of their flesh foods from cattle, sheep and pigs: whose combined percentages range from 93-96% of the total assemblages (see Appendix Ia). On the basis of Goody's (1982) work it could be argued that this general lack of status-based variation reflects an undeveloped social hierarchy. However, in a period when domesticates were central to society, inequality may have been expressed through the distribution and consumption of their flesh.

Some indication that domestic birds may have been incorporated into expressions of status is provided by Figure 98. It is clear that high-status assemblage contain a much greater frequency of ducks that any other site type. To some extent, this pattern is the product of the Brandon assemblage, which was characterised by large quantities of aquatic birds, both domestic and wild. Appendix Ic, however, indicates that ducks were also well represented at other sites, including the Saxon Palaces (Harman, 1985b), Lake End Road and Lots Hole (Powell, 1999). This suggests that ducks did, indeed, have high-status associations but the reasons for this are less certain.

In Chapters 2 and 4 it was recognised that pigs were also much better represented at high-status and ecclesiastical sites than villages and towns. I suggested that this variation may reflect a system of rents, whereby the rural population supplied their lords with food. Whilst such a provisioning system carries connotations of social hierarchy, Welch (1992:45) argued that, in the earlier Saxon periods, these connotations were masked by communal consumption. Feasts, held in halls such as that at Yeavering, Northumbria (Hope-Taylor, 1977), would have given the impression that the food was supplied voluntarily for purposes of hospitality, rather than as an enforced tax. Desire to disguise inequality may have caused the early/middle Saxon elite to have little control over their supplies: a theory which is, perhaps, reinforced by the main domesticates' ageing data.

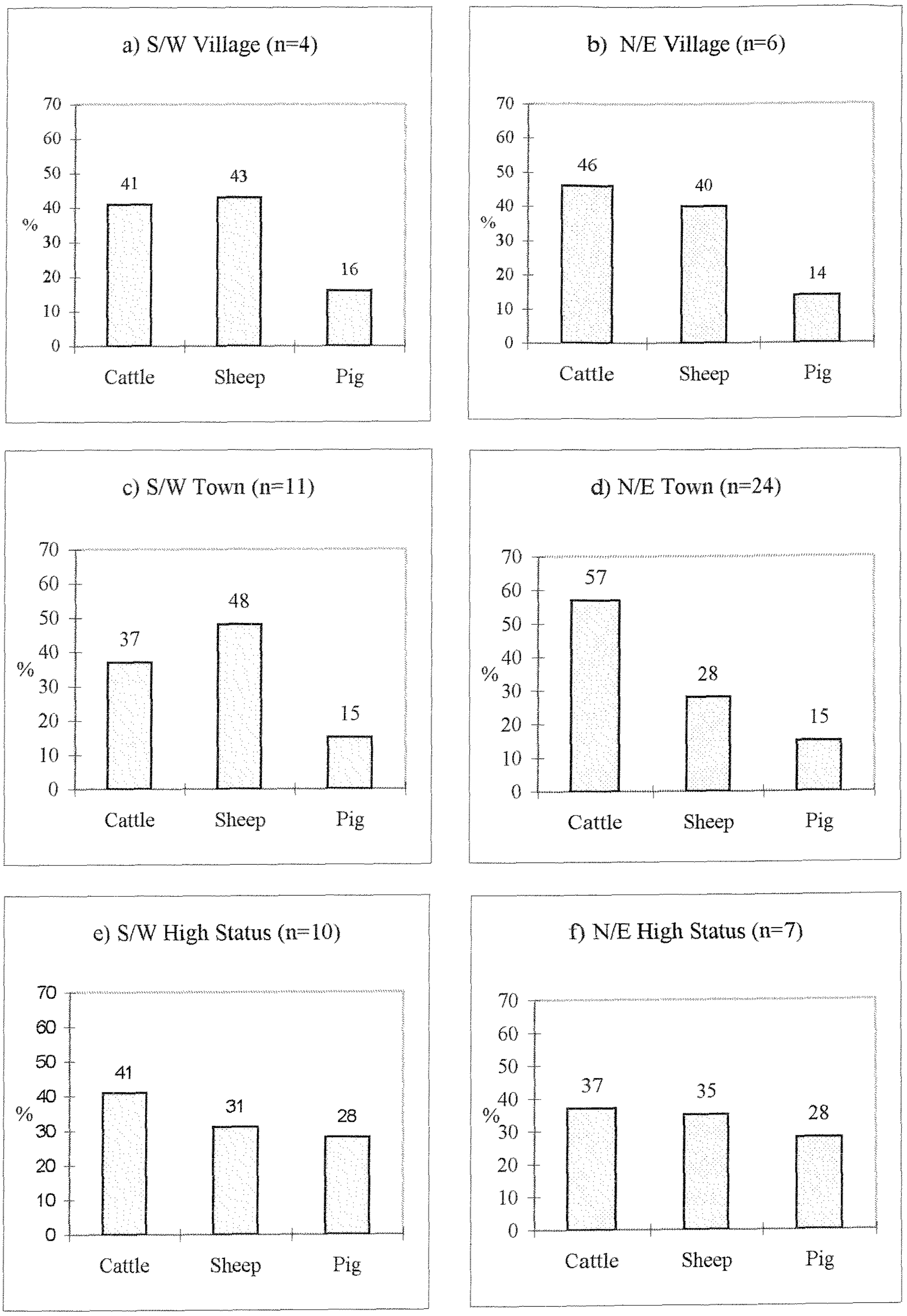
Figure 33 (page 72) demonstrates that whilst villagers and townsfolk consumed young and prime age animals, the occupants of high-status sites were provided with the oldest available individuals. Meat from these animals would have been tough, which may explain why stews were seemingly so popular on the aristocratic menu (see above in Section 8.1). While it is difficult to imagine the early/middle Saxon elite specifically requesting tough old beasts, it is possible that particular significance was attached to the consumption of elderly individuals. Hesse (1986:17), for example, has noted that modern Afghanistani Arabs prize the fatty meat from mature wethers. If the early/middle Saxon age structures reflect the preferences of the elite, they conflict with the idea that an abundance of juvenile animals equals high status.

Another widely-held status equation that does not apply to the early/middle period is that the elite always receive meat-bearing bones: the assemblages from early/middle Saxon high-status sites, such as Portchester Castle (Grant, 1975b) and Yeavering (Higgs and Jarman, 1977) were composed predominantly of cranial elements. Again this could suggest a lack of control over provisions but it is equally possible that the consumption of heads was deemed a symbol of status. Credence is given to the latter possibility when it is recognised that this skeletal patterning continues into the late Saxon period: it was seen above and in Chapter 3 (Figure 3.3iii) that high-status sites have a high cranial to post-cranial ratio. By the late Saxon period food rents had become a legal requirement, rather than one of hospitality (Hagen, 1998b:272). As such, it can be assumed that the late Saxon elite had more control over their provisions, and that the continued supply of old animals, in particular their cranial elements, reflects cultural preferences.

Provisioning of high-status sites with pigs also seems to have continued into the late Saxon period. In addition to this, the zooarchaeological data suggest that regional status-based variation in domestic mammal distribution developed. In Chapter 3 I suggested that agricultural intensification during the ninth and tenth centuries produced regional economies with the south and west of England concentrating on sheep farming whilst the north and east of the country continued to practice cattle husbandry. When the taxa ratios are considered by region (Figures 99a-f) there is a suggestion that whilst the peasant's diet comprised the most common animals, high-status assemblages consistently show opposing trends. For example, in the south and west of the country, where sheep were generally abundant, the elite appear to have consumed more cattle. The converse is true, although less obvious, for the north and east of England. This implies that the Saxon elite were shunning the most abundant, or at least economically important, domestic animals, perhaps as a demonstration of their social standing.

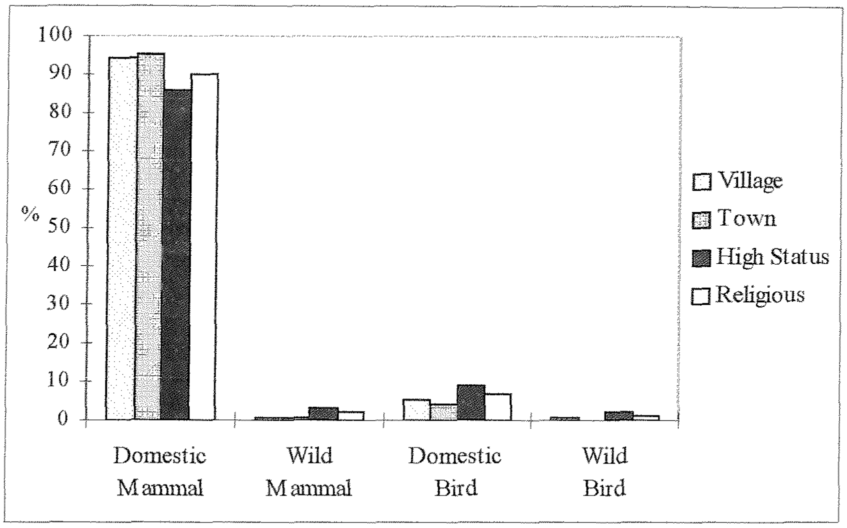
It is noteworthy that this movement in agricultural production and provisioning systems occurred at approximately the same time as the *thegnly* class emerged; bringing with them new types of residences, such as those of Goltho, Lincolnshire (Beresford, 1987) and Portchester Castle, Hampshire (Cunliffe, 1975). According to Goody (1982) processes of production are closely related to social structure and diet, and that a change

Figure 99: Inter-regional variation in the relative frequencies of the main domesticates on Late Saxon sites



in one can lead to shifts in the others. Certainly this theory is appropriate to the late Saxon period which saw the elite begin to supplement their diet through the exploitation of wild resources: Figure 100 shows that while villages and towns show little change in domestic mammal frequencies, high-status sites show a significant drop in their representation and an increase in all other animal groups. In Chapter 4, I argued that the late Saxon period was the point at which game acquired status associations.

Figure 100: Inter-site variation in the composition of late Saxon assemblages



Before it is concluded that the late Saxon period was a watershed in terms of dietary inequality, it should be remembered that food-stuff diversification affected all sections of society. In Chapter 4 it was seen that bird consumption increased in villages and that the urban population began to consume more wild mammals and fish. Whilst this late Saxon shift in resource exploitation may be accounted for by economic intensification, such a shift would not have occurred without impetus. Grant (1988b) had suggested that these changes reflect the influence of the Christian Church, an idea supported by the evidence for monastic fish consumption (Figure 56, page 123)

During the tenth century, reforming ecclesiastics such as Aethelwold and Dunstan successfully introduced a more rigorous regime of dietary restriction (Campbell, 1991). Aethelwold drew up a supplement to the Rule of St Benedict (the *Regularis Concordia*) specifically for use by the English, and soon fasting had become not only a religious requirement but also a legal one: the laws of Edgar (959-63), Aethelred (c. 1008) and Cnut (1020) all mention penalties for breaking a fast (Attenborough, 1922).

The mutually beneficial relationship between Saxon kings and Christianity, whereby the church received protection and land in return for preaching royal authority and preserving law codes in writing, is well known (for example Hinton, 1990: 36; Williams, 1999). According to Hinton 'Royal prestige might be regarded as enhanced by connections with Rome, putting English kings on a par with those on the Continent'. As such, Christianity would have become a mark of distinction, and royal example may have encouraged fasting as a symbol of moral and social superiority.

There does appear to be some zooarchaeological evidence to suggest that the elite attempted to emulate aspects of the ecclesiastical diet. For example, it was noted above that the diet of early/middle Saxon ecclesiastics contained high frequencies of domestic birds; by the late Saxon period high-status assemblages showed birds in higher frequencies than on any other site type. A desire to manage fast-day resources may also explain the tenth-century construction of what Rahtz (1979) has labelled, a 'fowl house' in the Cheddar Palace complex. Interestingly, similar structures have been found on monastic sites, such as that of St Gall, Switzerland, perhaps reinforcing the idea of high-status mimicry of the ecclesiastic diet.

Certainly Figure 100 shows that there was little difference between late Saxon monastic and high-status assemblages. Furthermore, it was noted in Chapter 4 that roe deer, which had previously been characteristic only of ecclesiastical assemblages, also became better represented on late Saxon high-status sites. The symbolic significance that may have been attached to this taxon (see section 4.3) could again suggest that the late Saxon elite were deliberately incorporating religious ideology into their consumption practices.

If this hypothesis is correct, it would contradict the historically documented impression of the Saxons as irreligious gluttons. The idea that Saxon diet, and thus society, was egalitarian is also contradicted by the zooarchaeological evidence. From at least the late Saxon period there is evidence for status-based inequality, both in terms of the provisioning of domestic animals and in the consumption of wild mammals. To determine whether the Norman Conquest caused even greater expressions of social status and religious belief, the post-Conquest data must be viewed against this background.

8.2ii: The Post-Conquest Data

If the late Saxon period was the point at which cuisine began to be used as a marker of status, it was in the Norman period that dietary inequality became particularly defined. Changes to Saxon cuisine and the growth of dietary inequality are detectable at a number of levels.

Although it was seen in Chapter 3 that little Conquest-related change in the relative frequencies of cattle, sheep and pig occurred, Figure 101 indicates that the Norman period saw domesticates making a significantly smaller contribution to the diet of the elite. Whereas low-status sites show minimal variation in domestic mammal frequencies, data for high-status sites indicate a post-Conquest drop of almost 14%. Reasons for this change are multiple (including economic intensification, commercialisation and the Normans' love of hunting) and they have been discussed in the previous chapters. However, the fact that this dramatic shift is specific to high-status sites, occurred at the point of the Conquest, and reflects the situation in France, is suggestive of Norman influence.

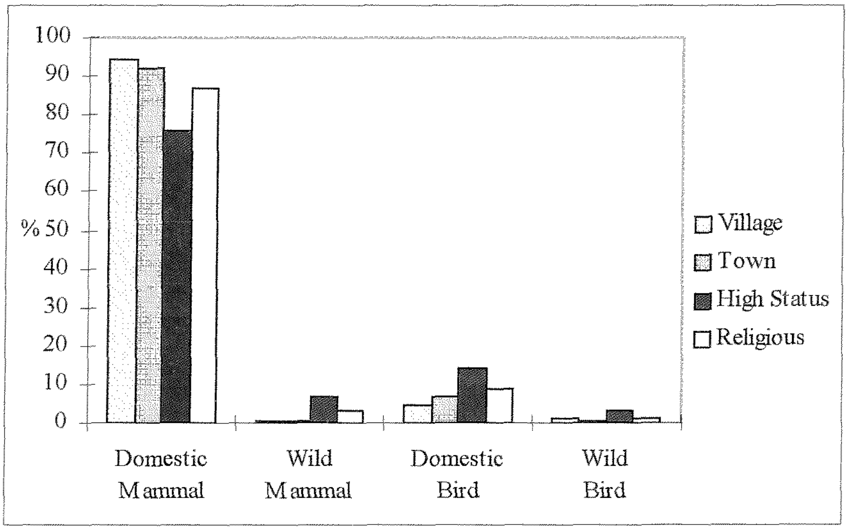


Figure 101: Inter-site variation in the composition of Norman assemblages

In Chapter 2 it was seen that large quantities of domestic fowl are typical of seigneurial sites in France, and it seems possible that the Normans transferred this dietary preference to post-Conquest England. Certainly Figure 102 indicates that the Norman elite were exercising rights of selection over the type of birds they received. For example, whilst both towns and villages show a Saxon-Norman increase in duck representation, on high-status sites their frequency is reduced to just 1% of the total domestic bird assemblage. This suggests that the middle Saxon relationship between duck and high status had reversed by the Norman period, with chickens becoming the preferred species.

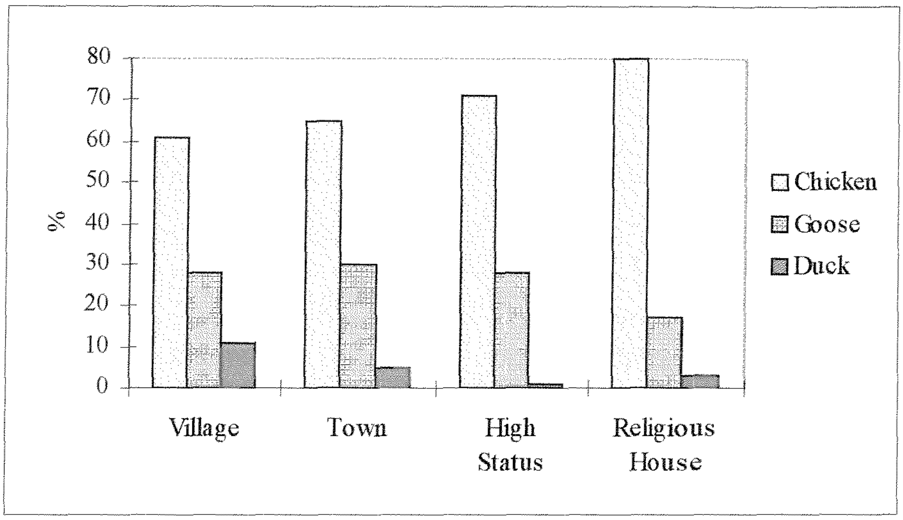


Figure 102: Inter-site variation in the relative frequency of chicken, goose and duck in Norman assemblages

Post-Conquest changes in status-associations are also apparent for wild birds. It was seen in Section 4.2 that not only does their representation become hierarchical, with high-status consumption increasing, but the taxa distributions also change. In part, this is ascribable to the uptake of hawking but other cultural factors may also responsible. Perhaps the most significant shift is that shown by swan, which in the post-Conquest period become well represented only on high-status sites. I have suggested that this shift marks the origins of the swan's status as a royal bird. Considering that William I is known to have adopted deer as a royal resource, it would be unsurprising if he, or his sons, extended their authority over other wild animals.

According to Goody (1982:99), this type of resource allocation represents an extreme form of dietary inequality. That restrictions of this kind were introduced, for the first time, shortly after the Conquest suggests that the Normans were directly responsible for the development of dietary, and thus social, hierarchy.

This theory is strengthened further by evidence which suggests that meat-portions were also distributed according to rank. To some extent this also occurred in the pre-Conquest period, as is demonstrated by the body part patterns of the main domesticates (Figure 46a, c and e, page 98). It is however, only in the post-Conquest period that the acquisition and distribution of animal flesh became ritualised and incorporated within expressions of status and ethnicity.

In Chapter 3, I proposed that the Norman period saw a change in the way the flesh of domestic mammals was supplied to the consumer-populations. By contrast to the late Saxon situation, the Norman elite seem to have received greater numbers of meat-bearing elements. According to Davidson (1999: 67; 604) it was only these meatier body parts that were given the French labels: boeuf (beef), porc (pork) and moutton (mutton). The less desirable cuts of meat retained their Saxon names; for example 'ox' tail. These well-documented changes in language did, therefore, relate to actual shifts in consumption practices, and must have served as a strong symbol of the social and cultural divide that existed in post-Conquest England.

The use of French terminology as a manifestation of status is nowhere better demonstrated than by hunting practices and the consumption of venison. It has long been recognised that the Norman kings restricted hunting to the aristocracy, thus making it socially exclusive. In Chapter 6, however, I argued that the new hunting tradition introduced to England in the late eleventh century were modified to become expressions of Norman identity as well as social superiority. Certainly, by the later medieval period, knowledge of the 'unmaking' and the French terminology surrounding it, marked a person as noble (Rooney, 1993). Social ranking was then reproduced during consumption: whilst lords consumed the prized portions such as the liver and testicles, and the best hunters received the shoulders, lower-ranking members of the party were offered the intestines or 'numbles'. Indeed the saying 'to eat humble [numble] pie' is derived from the low-status and social humiliation associated with the consumption of the intestine (Goody, 1982:142).

The Norman period seems, therefore, to mark a point at which diet became overtly hierarchical, with the elite consuming a disproportionate quantity of meat-animals, in particular those obtained through hunting, which communicated wealth, status and the authority of the new Norman lords. Indeed, the zooarchaeological data would suggest that the Norman period witnessed the emergence of what Goody (1982:134) calls a 'sumptuary cuisine', where conspicuous consumption of rare or restricted foods, such as fallow deer, was used to demonstrate status. At the same time Goody mentions that sumptuary cuisine utilises 'quantity' rather than 'quality'. This may explain why, although the elite obtained the best cuts of beef, mutton and pork, they made little attempt to acquire meat from the youngest, most tender animals.

The idea of a sumptuary cuisine may appear slightly incongruous with the historical evidence for Norman piety but the two are not mutually exclusive. In the medieval period acts of piety were often made in a tangible way and the need to have these acts witnessed, in addition to the moral superiority that could be gained from them, often led to competitive display. This is particularly evident in Norman England where the Penitential Ordinance required all those who partook in, and benefited from, the Battle of Hastings to repent (Cowdery, 1969). According to Bull (1998:168) fasting was the staple of eleventh-century aristocratic penance but 1066 was also followed by a spate of guilt-fuelled monastery foundations (Harper-Bill, 1979:63). For example, whereas before the Conquest there were some 50 monastic houses, by the end of the eleventh century this number had increased to about 130 (Taylor, 1996:126). Furthermore, many Saxon churches were rebuilt and even halls, such as that at Cheddar, seem to have been reconstructed in a new 'respectable' aisled form (Thompson, 1995:26).

Whilst it was the brutality of the Conquest that required the elite to show compensatory godliness, ironically it was also the Conquest which gave the Normans the wealth to make these ostentatious acts of atonement. In dietary terms, the imposition of high taxes and, in particular, the commutation of food rents for cash payments may have enabled the Normans to purchase greater quantities of fast-day foods. Certainly it was seen in Sections 3.1i and 4.1 that the representation of both domestic birds and fish increased (on all site-types except villages) in the post-Conquest period, perhaps indicating that fasting was more regularly observed.

By the end of the twelfth century it was common practice for occupants of the great households to abstain from 'flesh' for three days each week, in addition to the other fast periods (Woolgar, 1999:90). These periods of abstinence did not, however, mean that people ate less, they simply ate other things. As a result, aristocratic fasting usually represented dietary variation rather than deprivation; a fact commented upon by St Thomas Aquinas (Hagen, 1998a:89). In the twelfth century, distortion of the original Benedictine Rule allowed greater quantities of meat to be consumed during periods of fast. For example, offal and intestines were no longer considered to be 'meat' and salted, pre-cooked or chopped flesh could also be eaten without breaking the Rule (Harvey, 1993:40).

By the Angevin period juvenile and foetal animals were consumed as 'fish', on the basis that they came from the watery environment of the uterus (Ervynck, 1997:76). Indeed, it was suggested in Chapter 7 that the impetus for rabbit introduction was the desire to obtain 'laurices' for fast-day meals. Cull-patterns for Angevin cattle and sheep (Appendix IIa4 and b4) indicate that high-status assemblages contain a significant number of individuals under the age of 6 months. The assemblage from Guildford Castle (Sykes, forthcoming) also produced the remains of 15 foetal sheep. On the basis of the body part data and the context in which they were found it was clear that these animals represented food waste, not infant mortalities.

Since many of the dietary laws were altered some time after 1066, the degree to which the Norman Conquest can be held responsible for these changes is debatable. The impact of the monastic influx on the post-Conquest diet should not, however, be underestimated. The Church set the standards for the diet of the layman and it seems to have been the Norman ecclesiastics, drawn from the upper echelons of society, who were largely responsible for the relaxation of the dietary rules. For example, by the 1140s Peter the Venerable was forced to admit that Cluniac monks consumed 'the meat of every kind of quadruped, fowl, game beast and bird' (Harvey 1993:39). His statement is substantiated by the zooarchaeological data.

Whereas in the late Saxon period frequencies of game on monastic sites were low and, when present, were composed predominantly of roe deer and pigeons, the Norman data show that game was more abundant and all manners of wild animals (in particular woodcock, 'small birds', hare and red deer) were represented. In Chapter 4 it was seen that red deer was the favoured quarry of the Norman lords. The post-Conquest increase of this taxon in religious assemblages suggests that, rather than the aristocracy mimicking the monastic fare (as was the case in the Saxon period), the ecclesiastics were adopting aspects of the elite's diet. By the Angevin period monastic assemblages become closer to those of other high-status sites (see Appendix Ia), a trend also noted on the Continent (Ervynck, 1997:73).

8.2iii: Summary

On the basis of the commonly applied status criteria, the Norman diet does, indeed, appear to have been more hierarchical than that of the preceding periods. Whilst the diet of the Saxon population, especially that of the early/middle period, seems to have been broadly homogeneous, the Norman period is typified by status-based variation. Most obviously, the elite appear to have consumed a much higher percentage of animals, such as game, that were obtained purely for their meat. Although the late Saxon data also demonstrate a status-based divide, particularly in the representation of wild animals, the Norman period represents a fundamental change where, for the first time, legal restrictions were placed on wild resources.

In addition to status, the post-Conquest consumption of wild animals also served to reproduce ethnic identity. This was achieved largely by the application of French terminology to hunting and, indeed, the meat obtained by it. Similar changes in vocabulary accompanied the shift in provisioning, where the best parts of the cattle, sheep and pig carcasses were appropriated by the elite and re-labelled as 'beef', 'mutton' and 'pork'.

Emphasis on the consumption of meat seems to contradict the idea of the Normans' dietary piety. However, high-status assemblages demonstrate a post-Conquest increase in both fish and fowl, which may be evidence for expressions of faith. Certainly the brutality of the Conquest gave the new Norman lords cause to repent, and the inordinate number of monastic foundations suggests that this was something they undertook overtly.

8.3: Conclusion

Diet is a complex phenomenon representing much more than the fulfilment of biological needs. Social structure, religious beliefs and cultural choices all influence what and how food is eaten. In this chapter, medieval diet was examined to ascertain whether the Norman Conquest impacted upon Saxon cuisine.

By considering diet from the early/middle Saxon to Angevin period it was possible to discern the influences of economic change, social hierarchy and ideology. It became apparent that, perhaps above all other factors, religious doctrine had a strong dietary impact.

The first English monasteries were founded in the seventh century and from this point Benedictine Rules were observed by their occupants, who consumed a higher frequency of birds than any other site type. At this point the impact of religious dietary restrictions on secular consumption practices appears to have been minimal and the divide between religious and non-religious diet was greater than that between social classes. Indeed, in the early/middle Saxon period there is little evidence for overt statements of dietary hierarchy: the type and proportion of animals eaten by each social class were approximately the same and the small amount of status-based variation would, most probably, have been masked by communal production or consumption.

The socio-economic changes that occurred between the eighth and tenth centuries, in particular agricultural intensification and the emergence of a new elite, saw dietary inequality become more defined. In particular, the aristocracy were increasingly obtaining their supplies outside the rural regime (notably through hunting and hawking) whilst the peasants diet remained based in the agricultural process. A widening of resource exploitation is, however, recognised at all levels of society with increased consumption of fish and fowl. These dietary shifts must reflect changes in production processes, such as the introduction of new fishing technology, but technological changes do not occur without reason. It seems likely that these shifts can be related to the tenth-century monastic reforms and the greater strictness with which fasting laws were applied to the secular population.

Whilst the whole population of Late Saxon England appears to have observed periods of fast, members of the aristocracy seem to have gone to greater lengths to emulate the monastic diet. For example, not only did they begin to consume more birds but they also seem to have adopted the monastic practices of pigeon and dove management. It has been suggested that these animals had more than a dietary significance and may have been consumed to communicate piety. This may also be the reason why the aristocracy began to hunt higher frequencies of roe deer, which were also a characteristic component of the monastic diet. It would, therefore, appear that by the late Saxon period piety and status had become entangled and were beginning to be expressed through diet.

The relationship between Christianity and secular power continued into the post-Conquest period. Dietary associations between religion and status are demonstrated by the fact that many foodstuffs which later came to be perceived as 'high status' (for example rabbits, doves, fish and foetal animals) were originally aspects of the monastic diet. Fasting seems to have remained important, perhaps becoming more so, in the Norman period, since the frequency of birds and fish seems to increase across the board. Although this shift could be explained in terms of increased resource availability, the demand for these dietary components can, most probably, be related to the Conquest itself.

In order to obtain absolution for the 'sins' they committed during, and after, the Battle of Hastings, the Norman lords were required, by the Church, to make visible acts of atonement. Monastery foundation or church re-construction was undertaken by some but regular fasting would have been an easier way to avoid God's wrath. Fasting could also have been undertaken with little hardship, due to the Norman ecclesiastics' willingness to manipulate dietary laws. Therefore, although the Saxons also consumed quantities of fast-day foods, the post-Conquest emphasis on fasting may have created the impression that the Normans were more devout, thus accounting for the contemporary accounts of Norman piety and moral superiority.

Whilst the diet of the Norman elite appears to have included a greater number of fast-day foods, wild animals also become better represented. The social inequality in their representation is highly apparent and can be viewed as a Norman construct, brought about by the introduction of forest law. The restriction of wild resources to the elite was a fundamental change from the Saxon situation. As a result it can be concluded confidently that the Norman Conquest did, indeed, result in increased dietary, and thus social, hierarchy.

That dietary inequality became enmeshed with ethnic identity can be inferred from the application of French terminology to the acquisition of venison. Norman emphasis on flesh consumption is also demonstrated by their selection of the meat-bearing portions of cattle, sheep and pig carcasses, which were duly renamed following the French vocabulary.

The introduction of hunting rituals and the changes concerning the provisioning of domestic mammal flesh indicate that methods of food preparation were affected by the Normans. Due to the limited bone taphonomy data-set, additional evidence for Conquest-related changes in carcass processing are less apparent. Saxon-Norman shifts in meat preservation and cooking techniques can be inferred but it is not clear that they result from Norman influence. Nevertheless, the apparent increase in 'expensive' roast meat would conform to the theory that the post-Conquest period witnessed the emergence of a sumptuary cuisine.

Chapter 9: The Invisible Conquest?

> 'The century of Norman rule in England has left no distinctive artefactual record, which would demonstrate that a significant change had taken place in the lives of the majority of people' (Rowley, 1984:21).

Debates concerning the Norman Conquest have generally centred on the issues of continuity versus change and, if change did occur, whether this was ephemeral or archaeologically tangible. This thesis has sought to tackle this subject from a novel perspective, that of zooarchaeology. The thesis has necessarily been wide-ranging in its approach, seeking to examine the economic, social and cultural impact of the Conquest on all strata of society.

Through my work in France and, in particular, my synthesis of seventh to thirteenth-century zooarchaeological data from both sides of the channel, I have found that 1066 did not result in the wholesale imposition of a pre-packaged Norman system on post-Conquest England. To this extent my findings support current perceptions of Saxon to Norman continuity. At the same time, I have noted too many pre- to post-Conquest changes to suggest that the events surrounding 1066 had no effect at all. What is more difficult to discern, however, is whether these changes resulted from direct Norman importation, from Norman facilitation, or simply as a result of coincidence.

Without doubt, a considerable proportion of the Saxon-Norman variation can be attributed to the last category. The Norman Conquest occurred during a period of complex socio-economic transformation. As my thesis has shown, many of the shifts observed for post-Conquest England had begun by at least the ninth century. Indeed, it might be argued that the changes made between the middle and late Saxon period were even more dramatic than those which accompanied the Conquest. It was seen in chapter 3, for example, that the late Saxon period witnessed a reorganisation of the rural economy: chickens became the dominant domestic bird, suggesting an emphasis on egg production; whereas the cattle frequencies declined relative to sheep. The latter shift can, perhaps, be attributed to the adoption of open field agriculture, which would have required increasing numbers of sheep to manure the growing area of land under arable production. Reduction in the availability of quality pasture may equally explain the concurrent diminution in cattle and sheep size.

These zooarchaeologically visible changes in the rural economy may, in part, have been instigated by the thegnly class, whose emergence during the late ninth century can also be detected in the animal bone record by an increased status-based divide in assemblage composition. In particular, high-status sites demonstrate an unequal rise in the frequency of wild animals suggesting that the *thegns* had more time to engage in hunting and hawking. Indeed it is clear that the late Saxon aristocracy possessed private woods where they took all manner of wild birds and mammals, in particular roe deer. Whilst this class may have been personally engaged in the procurement of wild resources, their involvement in domestic agriculture is more difficult to discern. Distanced socially and spatially from producers and production centres, the elite may not have been responsible for the daily organisation of farms, but it is probable that it was under their direct authority that agricultural regimes were directed towards the production of marketable surplus.

Once again, however, the origins of this shift are likely to be multi-causal rather than based on a single factor. As such, the move towards surplus production must be viewed against a more general background of economic and urban development. Certainly the zooarchaeological evidence suggests that the late Saxon period saw animal-based crafts become both more commercialised and urbanised. Butchery data from the late Saxon town of Steyning, for example, demonstrated the use of techniques (vertebra splitting and calcaneum/astragalus cleaving) suggestive of professional butchery. Other eleventh-century deposits from sites such as Thetford (Davidson, 1967) and Chester (McPeake *et al.*, 1980; Mason, 1985) indicate a move towards the centralisation of the bone-working and tanning industries. The precise reason for these changes is unclear but it seems possible that as the late Saxon population increased, the carrying capacity of the rural context was exceeded, thus encouraging an exodus to the emerging towns. In turn, towns became the natural homes of specialist craft-workers, able to service the demands of this growing rural population, whilst at the same time entering into regional and even international trade.

The proliferation of people employed in craft, rather than food, production would have created a sector of society reliant upon the rural population for food supplies. That provisioning mechanisms changed from the middle to late Saxon period can be detected in the animal bone record. Whilst the study of this transition has not been central to my thesis, it is clear that the late Saxon period saw a general widening of the resource base, with a growth in the exploitation of wild resources. Towns, in particular, demonstrate a significant increase in both the frequency and range of wild animals. Whereas early/middle Saxon assemblages are characterised by taxa that would have been available within the urban environment (eels, flatfish, ducks and pigeons) those for the later period demonstrate a greater abundance of taxa obtained from 'outside'. The majority of these animals, such as hare, deer, plover, grouse and cyprininds, could have been imported to towns by rural hunters, fowlers and fishers. By contrast, herring, wild boar, pheasant and peafowl may have been transported some distance before arriving at market. O'Connor (1994) observed this gradual taxa diversification in the assemblages from York. He argued that it reflected the emergence of a commercialised market, influenced by consumer demand. My study supports O'Connor's conclusions and demonstrates that the changes observed for York are not region-specific but typical of the whole of late Saxon England, with all site types (except villages) showing an increase in the representation of wild mammals and, in particular fish.

If consumer demand was the impetus for wild resource exploitation, it is worth considering the cultural rationale behind these demands. In Chapters 4 and 8, I argued that, in all probability, Christian dietary laws were the prime motivators for increased fish harvesting. Their effect on consumption practices is shown clearly by monastic assemblages which show a preponderance of birds and fish, reflecting observance of the Benedictine Rule. By the late Saxon period, however, fasting had also become a requirement for laity, thus encouraging the move towards regular fish consumption. This move was given legal weight by the contemporary monarchs. Royal example may have created an association between status and pious behaviour. It is possible that the elite incorporated fasting into their social display, perhaps even mimicking the monastic diet with increased consumption of fish, domestic birds and roe deer. Construction of a 'fowl house' at the Cheddar Palaces may also represent an attempt to copy the monastic set-up and manage fast-day resources. In general, however, any changes to the diet of the elite must be viewed more as an expression of their social elevation and their ability to obtain regularly more expensive dietary components.

Dietary emulation appears to influenced all sectors of society: just as royal consumption practices seem to have mimicked those of ecclesiastics, and the elite followed royal example, it would appear that the lower classes follow the elite. For example, the increased representation of wild mammals in town assemblages may be explained by the urban population's desire to emulate the comparatively game-rich diet of the aristocracy. Since the townsfolk of late Saxon England were engaged predominantly in non-food producing activities, demand for wild mammals must have been satisfied by the rural population. Such a situation may, in turn, explain the observed reduction in game on village sites, whose inhabitants may feasibly have been exporting the majority of the animals they caught to urban centres.

Despite the evolution of the socio-economic system, and despite the evidence that consumer demands had become a factor in urban provisioning, the late Saxon diet of both the upper and lower classes remained largely unchanged. As in the middle Saxon period, the majority of flesh-foods were obtained from animals left over from the agricultural process. It was seen in Chapter 3 that most cattle and sheep served several years as suppliers of secondary products before being slaughtered. Whilst all sectors of society were reliant on meat from domestic animals, the way in which high- and low-status consumer groups were provisioned with these food-stuffs was slightly different. On urban sites some home-production may have taken place but, in the main, townsfolk received animals on-the-hoof from rural producers. Once in the towns, animals seem to have been slaughtered and butchered by specialists. Although few urban assemblages show anatomical frequencies typical of centralised commercial butchery, the incidence and patterning of chop and cut marks on the animal bones indicates that specialised butchers were responsible for primary disarticulation. By contrast, the butchery patterns for high-status sites have been shown to be less standardised, with little evidence for professional techniques. It seems unlikely, therefore, that the elite obtained their foodstuffs via market distribution. Anatomical representation data, however, indicate that the majority of animals did arrive on high-status sites in a pre-butchered state, rather than on-the-hoof. Since butchery patterns do not conform to those for urban assemblages, it must be assumed that the elite acquired meat from a different source, most probably direct from the rural population in the form of food rents. Certainly historical evidence supports this idea and I have argued that a food-rent system would also explain the association between high-status assemblages and the abundance of pigs, an animal raised for meat rather than secondary products.

In many respects, food rents typify the Saxon situation, for although coinage had been circulating widely in England since the seventh century, the majority of goods were obtained through services, redistribution and barter. This is not, however, to suggest that the Anglo-Saxon set-up was primitive but simply less developed than that which was to succeed it. As has already been seen, the zooarchaeological record reflects a complex pre-Conquest society based on rural foundations where the peasantry, both rural and urban, was involved in the production of goods for local and international trade. These social groups supplied, but were also overseen by, the thegnly class. This social elite governed and benefited from the production process but, at the same time, their lack of direct participation in production enabled them to engage in aristocratic pursuits, such as hunting and hawking. Whilst the majority of this socio-economic development occurred between the middle and late Saxon period, the process of change was not terminated at the point of 1066, and continuation of pre-existing trends can be detected in the post-Conquest zooarchaeological record.

For example, further moves towards a wool- and grain-based economy are apparent, with sheep becoming increasingly dominant. At the same time, sheep size continued to decline during the Norman period. Disruption following the Conquest or, alternatively, selective breeding for wool quality may have contributed to the observed size change. However, my analysis of modern and archaeological sheep horn-cores has yielded no evidence that the shift in skeletal size was accompanied by any genotypic change suggestive of the improvement, degeneration or importation of livestock. Continuity in animal forms must, therefore, be assumed. Zooarchaeological data certainly provide little indication that continental production systems were imposed on post-Conquest England. Instead, cross-channel comparisons demonstrate that the rural economies of France and England were very different. Whereas Saxon farmers concentrated on the production of specific commodities, no doubt for export, the animal economy of medieval France was mixed, seemingly geared more towards local manufacture and food supply than international trade.

This lack of obvious pre- to post-Conquest change conforms to the widely accepted theory that the effects of 1066 impacted little upon Saxon systems of agricultural production. In this thesis I have, however, attempted to look beyond the superficial situation, in order to detect any underlying subtle variations. Although sample sizes are currently small, site-type based examination of ageing data, anatomical representation and, where possible, butchery patterns has hinted that, while the wider economy endured, the way in which it was organised may have shifted in response to Norman influence.

One example of this type of change is provided by the cull-patterns for sheep and cattle. In Chapter 3 it was seen that the Norman period witnessed a significant increase in the average slaughter age of animals consumed by village populations. It could be argued that this rise in age was part of the ongoing trend towards the creation of a specilaised grain and wool economy, a second wave of agricultural intensification whereby cattle and sheep were exploited for little other than traction and wool. As in the late Saxon period, it seems likely that the move towards this economic specialisation was multi-causal; however, concentration on cash crops suggests that desire for money was a motivating force. I have argued that the heavy taxes imposed by the Norman kings may have influenced these economic changes.

Attempts by the peasantry to obtain cash may also account for the fact that, by contrast to other site-types, towns demonstrate a post-Conquest decline in the average age of cattle and sheep slaughter. It seems possible that this change in age structure may reflect a situation where the rural population was sending a greater proportion of their prime meat animals to market. The urban increase, and village decrease, in domestic birds may equally be explained in these terms. For the farming population to have reduced their dietary variation in order to supply towns with meat animals not only suggests a lack of choice on the part of the rural peasants but also indicates that consumer demand, and the money or services they were willing to pay, was sufficient to encourage the peasants to part with their livestock.

It seems likely that as labour became increasingly divided and traders migrated from the countryside to towns, their services would have been more keenly sought and valued. This may have made the rural community more compliant in their provisioning of the urban population. At the same time, urban craftworkers, especially those who worked in animal-based production, would have become increasingly reliant upon farming communities for their supplies of raw materials. Evidence that artisans became both more urbanised and dependent in the post-Conquest period is readily available in the zooarchaeological record. For instance, whereas in the late Saxon period cattle horn-cores were found in relatively equal frequencies on all site-types, by the Norman period they are well represented only in town assemblages, confirming the idea that raw materials were being imported into urban centres from the rural hinterland.

In general it would appear that the role played by towns and markets became defined in the post-Conquest period. Not only do urban bone assemblages provide more evidence for the presence of specialised craft deposits but it would seem that a higher percentage of goods were being channeled and redistributed through the market environment. This is perhaps most clearly demonstrated by my study of butchery data. It has already been noted that there is evidence for specialised butchers in late Saxon towns such as Steyning and Flaxengate (O'Connor, 1982a) but no patterning indicative of professional techniques was observed for high-status sites. This situation appears to have altered by the Norman period, with high-status assemblages exhibiting butchery traits akin to those noted for towns. Synchronous shifts in skeletal frequencies, in particular the over-representation of meat-bearing bones, suggests that the post-Conquest elite were receiving greater quantities of pre-butchered, most probably smoked, beef, mutton and pork.

Whilst it is most probable that these changes in craft organisation and resource distribution occurred at approximately the point of the Conquest, the level of Norman involvement in the shifts has been more difficult to ascertain. Considering the background of ongoing economic development, the move towards trade centralisation and market distribution could be explained as a natural evolution in the commercialising process. However, it is known that the new Norman lords were instrumental in the foundation of new towns which can only have assisted the development of centralised market exchange.

Of even greater significance was the post-Conquest abolition of food rents. By replacing payment in kind with cash rents, not only was the peasant's need for money increased further but it also meant that the great households obtained a larger percentage of their supplies via the market system. I have suggested that it was this shift which was primarily responsible for the observed pre- to post-Conquest shifts in high-status body part and butchery patterns. Rather than being Conquest-related, this move towards a cash-based economy could again be cited as a natural progression, reflecting the impracticalities of extracting, storing and redistributing food-rents in a complex society with a growing population. Nevertheless, imposition of cash rents does appear to have been a trait of Norman government. In Chapter 2, I proposed that this type of system may already have been in operation in pre-Conquest Normandy. Certainly, there are definite similarities between the butchery patterns and skeletal frequencies of high-status assemblages in post-Conquest England and France. Significantly more zooarchaeological research, on better dated French assemblages, will be required before it can be established whether the post-Conquest changes resulted from imposition of a Norman system or internal evolution instigated by Norman control. It is noteworthy, however, that McCormick (1991) demonstrated that native supply mechanisms were also restructured following the Anglo-Norman Conquest of Ireland.

Although all of these post-Conquest changes were put in place within the pre-existing Saxon set-up and followed a natural line of progression, it would seem that the Normans can be attributed with reorganising the provisioning system, a move which had wider repercussions, in particular causing an acceleration in the commercialising process. The zooarchaeological record appears, therefore, to have preserved evidence which contradicts the idea that the Saxon economy endured into the Norman period unaltered. This information was accessible only through detailed study of synthesised data and, as such, demonstrates the benefits of inter-site and inter-period comparison. While my study of domestic animals has provided useful information, I have found that the data are more profitable when considered in conjunction with those relating to wild animals. By analysing patterns of taxa distribution it has been possible to gain an understanding into the way in which animals were incorporated into cultural and social display. Furthermore, because I was able to consider data from French sites, it has been possible to highlight potential areas of Norman influence.

One of the more accessible methods of detecting culturally associated trends is through the examination of diet, which is inextricably tied to ideology. Matters are somewhat complicated by factors of economy and environment but these are, themselves, tied to cultural preferences. For example, the French data demonstrated a clear emphasis on pig husbandry which can, to a great extent be explained by the ease with which pigs could be raised within the wooded landscape of France. However, since human populations are seldom modelled by their environment, cultural preference must also have influenced this reliance on pigs. If pork consumption was culturally important to the Normans this may explain the changes observed for post-Conquest England. I found that all site-types demonstrated a short-lived shift towards Continental husbandry practices, with an increase in pig frequencies and a reduction in the average slaughter age. Because this patterning was particularly evident on high-status sites, it is feasible that Norman influence may, indeed, be responsible. Alternatively, as the pre- to post-Conquest variation is noted across the board, the changes may reflect a change from open landscape to sty management, in which case Norman involvement would be more difficult to ascertain.

Another change that may be related to Norman influence is the post-Conquest increase in heron representation. Whilst this taxon was commonly hunted by the elite of medieval France, it is scarce in assemblages from Saxon England. By the late eleventh and twelfth century, however, heron had become a relatively common component of the high-status diet. This may be viewed as the introduction of Norman dietary preferences but again it could equally reflect other factors, in this case the apparent post-Conquest rise in hawking.

Perhaps the most interesting patterning in taxa representations was that relating to deer. I found that in late Saxon England roe deer were the dominant deer species on high-status and ecclesiastical sites, whereas red deer were better represented in villages and towns, perhaps due to factors of antler working. In Norman England, however, this patterning had reversed with roe deer becoming more common in town assemblages whilst on high-status sites red deer greatly outnumbered all other wild taxa. Such a dramatic shift can be attributed convincingly to Norman influence. Zooarchaeological data from France, in particular that from Vatteville-la-Rue, clearly demonstrate that, with the exception of wild boar, red deer were the favoured quarry of the Norman elite. After the Conquest it would seem that this preference was imported to England, along with a new concepts of hunting. It is unclear whether *par force* hunting was practiced in pre-Conquest England but it seem most likely that this technique was introduced from the Continent with the forest concept. Hunting reserves of the late Saxon period would have been far better suited to taking roe deer through the 'bow and staple' method, hence the dominance of this species in high-status assemblages.

Forests were as much a legal as a spatial concept and it was this which made post-Conquest situation fundamentally different from the Saxon period. For the first time the peasant's access to wild resources was denied by law rather than simple restrictions of time or money. That these legal restrictions were generally observed is indicated by the fact that the increase of game on lower-status sites is not in line with that observed for sites of higher status. Some game does seem to have percolated into urban markets but the taxa representation indicates a move towards smaller quarry such as roe deer and hares, animals that were, perhaps, easier to poach and smuggle than red deer.

The significant drop in red deer representation on urban sites may equally be ascribable to the transition from antler to bone working. In Chapter 3 I suggested that bone and horn may have become favoured when levels of artefact manufacture increased to the point where antler was no longer considered a reliable or sufficiently plentiful source of raw material. There exists, however, the possibility that the Norman restrictions on forest resources may have inadvertently, or perhaps even purposefully, dictated the move away from antler working.

Since forest law appears to have been established in Normandy from the early eleventh century, the hunting restrictions imposed on post-Conquest England can be viewed as part of a pre-existing Norman package. It was seen in Chapter 4, however, that game distribution was significantly more unequal in post-Conquest England than it was in medieval France. Indeed, the levels of hunting in France appear somewhat similar to those in Saxon England. This infers that the social hierarchy and 'passion for hunting' which are so commonly cited as Norman traits were not imported entirely from the Continent but evolved partially in post-Conquest England. It seems likely that these changes would have occurred eventually regardless of the Conquest but the fact that they happened so swiftly after 1066 suggests Norman instigation. Certainly, the Conquest elevated a small number of people, mostly French aristocrats, to positions of wealth and power beyond those they held in France, thus, permitting the new Anglo-Norman elite to act in a way they could not have previously afforded. I have argued that by making wild animals a resource of the elite, hunting was one device by which the Norman lords displayed their superiority over the conquered population.

Perhaps above all other pre- to post-Conquest changes, the over-riding impression provided by the zooarchaeological data is of increased social hierarchy. Whilst this is most clearly demonstrated by the unequal distribution of game, status-based variation has also been noted in other areas of my research, in particular through the study of diet. In Chapter 8 it was seen that, although moves resulting in dietary inequality had begun by the late Saxon period, it was only in the Norman period that high and low cuisine began to emerge. Indeed, even cooking methods appear to have altered in the post-Conquest period, with high-status sites showing more evidence for 'expensive' roast, rather than economic, stewed meats.

The Norman elite appear to have consumed a much wider range of food-stuffs than their Saxon predecessors. In part this must have been facilitated by the rise of commercialism, allowing greater access to exotic goods. Reorganisation of the provisioning system, however, must also have enabled the elite more control over their supplies. Certainly, this seems to have enabled them to obtain the best portions, in particular the shoulders, of animal carcasses. Whilst it may seem surprising that they continued to receive the oldest available animals, this patterning fits Goody's (1982) theory of a sumptuary cuisine, where the quality of meat is less important than the quantity. He argues that the consumption of large quantities of meat was used as a signifier of social status. During the Norman period, ethnic superiority seems to have been added to this equation, as cuts of meat began to be classified in French or English terms depending on their status association. The hunting rituals (the unmaking) that arrived in post-Conquest England were also rapidly 'Francocised' and knowledge of which was considered a mark of nobility; another example of how status and ethnicity became enmeshed in the years immediately following the Conquest.

In Chapter 5 it was discovered that, whilst unmaking rituals were introduced to England shortly after 1066, they had no roots in Normandy, where they were adopted only after the thirteenth century. These customs were, therefore, as novel to the Normans as they were to the Saxon population. It would appear that the same is true of the traditions concerning swan consumption. My study of taxa representations demonstrated that, from the Norman period onwards, swan was well represented only on high-status sites. I suggested that it was under Norman rule that this bird first became associated with the aristocracy. No similar variation in swan distribution is apparent for eleventh or twelfth-century France and it was seems that, as with the hunting rituals, traditions of swan consumption were created by the Normans in post-Conquest England. According to Eisenstadt (1969), traditions are seldom fabricated without reason and he suggests that one motive for their creation is to legitimise change. On this basis it seems possible that through establishment of new customs the Normans were actively attempting to demonstrate their superiority and, thus, their right to govern the native population.

Justification of the Conquest was also achieved via Christian ideology. Since the tenth century, the Normans had cultivated a pious image and 1066 actually assisted this characterisation. Through their victory at the Battle of Hastings the Normans were perceived as God's army, which demonstrated their moral superiority over the defeated Saxons. Impressions of Norman piety were reinforced further by the spate of church rebuilding and religious house foundation that followed Erminfrid's Penitential Ordinance. One of the easiest and, thus, commonest ways of expressing repentance and faith was through fasting. In a period when diet was highly influenced by the Church, it is unsurprising to find evidence for this. It was seen above that the late Saxon diet contained considerable quantities of fast-day foods but the zooarchaeological evidence demonstrates that the percentage of birds and fish increased further during the Norman period, especially on high-status sites. Again, there is little evidence to suggest that the consumption of fast-day foods was a tradition brought from pre-Conquest Normandy. The French elite do seem to have consumed considerable numbers of domestic birds but fish are poorly represented in high-status assemblages, although a different picture may emerge as sample sizes increase. At present, however, it would appear that the post-Conquest increase in birds and fish consumption stemmed from the Conquest itself, in particular the need to atone for crimes of war.

It seems, therefore, that whilst the majority of post-Conquest changes did not stem from pre-Conquest Normandy, they would not have not have occurred if the Normans had never invaded. The aftermath of 1066 provided the conquerors with both the opportunity and the wealth to parade themselves as a super-race. At the same time the devastation caused by the Battle of Hastings required the Norman lords to make gestures of penitence, and these too were incorporated as part of the Norman identity. In this way R.C.H. Davis (1975) was, perhaps, correct in his opinion that proclamation of the Normans '*Gens*' began only in the twelfth century. However, the reason for this is not, as Davis suggests, that prior to this date the Normans had no feeling of identity but rather that it was only after their conquest of England that the Normans had the power to make such an assertion. As Loud (1981), Potts (1995) and Shopkow (1997) have argued, evidence for feelings of a Norman *Gens* can be found from at least the eleventh century but the need for political success meant that emphasis had to be placed on their

'Frenchness'. Shopkow (1997) suggested that 1066 gave the Normans the opportunity to reinvent themselves and I would argue that the introduction of new traditions, such as those relating to hunting and swan consumption, is clear evidence of this.

Through the course of this research, I have found that whilst the majority of post-Conquest changes developed out of the Saxon set-up, a number of shifts which had no roots in Saxon England also occurred. One area of potential change that I set out to investigate was whether the Normans had been correctly attributed with the introduction of rabbits and fallow deer. Re-examination of the historical and archaeological evidence for these species demonstrated the susceptibility of zooarchaeological interpretations to problems of misidentification and poor dating. Furthermore, my research has highlighted both the potential hazard of accepting theories uncritically, and also the benefits of re-examining original material, which has been made possible only by the policy of archiving bone assemblages. Ability to return to assemblages allowed specimens to be reanalysed using new techniques, such as my biometrical comparison for rabbits, which, in turn, enabled existing theories to be tested. As a result I was able to conjecture that whilst rabbits did not become established in England until the Angevin period, fallow deer were introduced during Norman rule. Similar conclusions were also drawn concerning several birds, with pheasant being suggested as a post-thirteenth-century introduction whilst peacock and partridge were linked tentatively to Norman influence.

Basic evidence pertaining to rabbit and fallow deer importation was obtained through the study of British assemblages but a clearer understanding was achieved when the data was viewed from a wider geographic perspective. Examination of the situation in France made it apparent that neither animal could have comprised part of a 'Norman Package', since neither animal was established in pre-Conquest Normandy. The zooarchaeological data suggest that rabbits arrived in northern France at approximately the same time they did in England, the late twelfth century. In the case of fallow deer, however, it would seem that this species was present in England for at least a century before it became established in France. Indeed, in the late eleventh century (the date I have proposed for their introduction) Sicily is the only other area of Europe where I have found evidence for fallow deer populations. Admittedly, little zooarchaeological research has been undertaken for medieval southern Europe. However, the fact that Sicily has produced evidence of the unmaking rituals, as well as being suggested (Moffat, personal communication) as a source for the wheat variety *Triticum turgidum/durum* (another element present in England but absent across the rest of northern Europe), leads me to conclude that this area of the Norman Empire was the source of many of the novel elements introduce to post-Conquest England.

In the past, historical interpretations of the Norman Conquest have swung from catastrophic change to total continuity. My findings fall at the mid-point of this continuum: change is highly apparent but in most cases it developed from the existing situation in Anglo-Saxon England. Whilst this conclusion is in line with the view of modern historians, I suggest more Conquest-related change than most archaeologists acknowledge. Indeed, as I mentioned in Chapter 1, many archaeologists believe that the Norman Conquest is archaeologically invisible. The reason for this must surely be that, to date, archaeological research has barely scratched the surface of Norman studies. Certainly I agree that, without historical evidence, the impact of 1066 would have been difficult, if not impossible, to detect. However, there is historical evidence, and by using this as a guide I have found it possible to highlight areas of potential Norman influence. As a result, my research has detected trends that may not have been recognisable through purely historical investigation. In this way I hope that my thesis serves as an example of how history and archaeology can be used to common advantage.

Whilst I have attempted to examine a range of zooarchaeological evidence pertaining to the Conquest, the study is far from complete. In this thesis I have noted holes in the data-set: sample sizes for animal ageing, body part distribution and butchery patterns are still woefully small. Furthermore, although my work in France, in particular the Vatteville assemblage, produced useful information, much more research on the continent will be required before the Norman Conquest can be understood fully from a zooarchaeological perspective. Future investigations should also concentrate on the Norman connections with southern Europe, in particular Sicily. In this thesis I originally had little intention to analyse information from southern Europe; indeed, data from this region is scarce. However, from the small amount of evidence that I did examine, the emerging picture appears to be one where influence from Norman Sicily may have been as strong, if not stronger, than that from Normandy. Until more research is carried out in these two regions of Norman activity, this thesis begs as many questions as it answers. It is my hope, however, that in this thesis I have highlighted a number of rich research avenues for further zooarchaeological work and that the conclusions drawn here may act as a hypothesis against which other studies can be tested.