The Middle Ages Revisited

Studies in the Archaeology and History of Medieval Southern England Presented to Professor David A. Hinton

edited by

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How Pious? How Wealthy? The Status of Eynsham and St Albans Abbeys Between the 8th to the 12th Centuries Re-examined in the Light of their Food Consumption

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with Jacqui Mulville, Kathy Ayres†, Claire Ingrem and Alison Locker

This paper is dedicated to Kathy Ayres who died in 2017. She analysed the mammal bones from Eynsham.

Summary

The link between food consumption and status and power has long been recognised and foodstuffs are a guide to household status where documentary history is lacking or sparse. The remains of the game, domestic animals and fish eaten in the abbeys of Eynsham in Wessex and St Albans in Mercia reveal how the status of these two abbeys fluctuated between the 7th and 12th centuries as they attempted to follow Benedictine food ordinances and also meet their obligations of hospitality.

Keywords: Food, Faunal Remains, Early Medieval, St Albans Abbey, Eynsham Abbey, Piety, Benedictine Rule

Introduction

The link between food consumption and the society within which it takes place has been recognised for many years. The relationship has been discussed by archaeologists since it became a respectable subject for study from the 1980s onwards (e.g. Crabtree 1990a; Serjeantson 2017). Foodstuffs reveal the wealth and status of an establishment and are also a marker of cultural distinctions between groups. Naomi Sykes (2007) and others have identified some of the specific changes in food consumption in England between the Saxon and Norman periods (see Jervis *et al.* 2017 for an overview) and general changes in dietary habits during the later medieval period have been examined by many historians as well as archaeologists over the past 20 years (e.g. Woolgar *et al.* 2006). As well as tracking wider societal changes, foodstuffs also reveal the extent to which establishments followed particular religious food practices, for example, as discussed here, the Benedictine Rule. Environment, as well as culture, played a part in food consumption: the local environment from which food was drawn also had an influence on the animals that were eaten in different areas.

In this contribution we analyse the foods of animal origin eaten at the abbeys of Eynsham (Oxfordshire) and St Albans (Hertfordshire) between the 7th and the 12th centuries. Excavations at these abbeys exposed some deposits with large, well preserved assemblages of animal bones that present a sequence from the mid-Saxon to the Norman period (Table 1). For the Saxon period in particular, there is little documentary evidence for the status of the two establishments so the foodstuffs consumed are a guide to their wealth and ecclesiastical status. When the animal bone assemblages from the two abbeys were first analysed there were few assemblages with which to compare them, but surveys carried out since then allow us to put them in context and compare these abbeys with other religious houses and with general trends in meat consumption. At both sites deposits were excavated from earlier and later centuries that are not discussed here.

Each of the authors of this paper contributed to the identification and analysis of the material: their various contributions are shown in Table 1. All worked at Southampton at different times and each of us while there benefited from discussions with David Hinton on the economic life and material culture of Anglo-Saxon England.

Abbey	Phase	Analysts	Date	Status
Eynsham	EA 2b	JAM/AL	Late 7th - early 8th	Pre-minster occupation (including Pit 394)
Eynsham	EA 2c	JAM/AL	Mid 8th - end of 9th	Minster: buildings and pits
St Albans	SAA 3	PJC	Late 7th - 9th	Abbey/minster: lower ditch fill
St Albans	SAA 4	PJC	8th - 9th	Abbey/minster: lower ditch fill
Eynsham	EA 2d	JAM/AL	10th	Minster: timber building, pits
Eynsham	EA 2e	JAM/AL	Very early 11th	Minster: structures, cess pit
Eynsham	EA 2f	KA/AL/DS	1005-1066	Aelfrician abbey
Eynsham	EA 3a	KA/AL/DS	Late 11th	Uncertain: kitchen structure and floor
St Albans	SAA 13	DS/CYI	11th - 12th	Rebuilt abbey: midden material
Eynsham	EA 3b	KA/AL/DS	12th	Reformed abbey: structures, pits

Table 1. Date and status of deposits from each phase discussed; initials of analyst are also shown.

Early history of the abbeys

Eynsham lies on the floodplain of the River Thames near its confluence with the Windrush. The site is located in a wide area of fertile agricultural and grazing land. It is thought to have been an important centre from the early Saxon period onwards. During the occupation phase dated to the late 7th/early 8th century (EA 2b) the absence of structures led to the conclusion that it was a secular household, though the find of a stylus 'raises the question of an ecclesiastical presence' (Hardy *et al.* 2003: 472). If it was not yet minster at this time, it was so by the mid-8th century (Phase EA 2c) and remained a minster into late Saxon times (EA 2d and EA 2e). In 1005 the minster was reformed and the clergy were replaced by monks following the Benedictine rule (EA 2f). The first abbot was Aelfric (*c.*955–*c.*1010), one of the most influential scholars and teachers of the time, whose homilies urged the church in England to follow the teachings of St Benedict of Nursia, Gregory the Great and other continental Christian fathers. After 1066, Eynsham ceased to be an independent abbey; during this occupation phase (EA 3a) it was either a secular household or, more likely, a dependent house of the abbey of Stow in Lincolnshire. The abbey was refounded (again) as an independent Benedictine abbey in 1109 (phase EA 3b) (Hardy and Blair 2003: 10–11).

St Albans is situated on the much smaller River Ver in Hertfordshire. The surroundings are chalk downland covered with mixed soils and the area was more heavily wooded (Marshall 1968; Hunn 1994: Figure 71) St Albans was known to early Christians as the place where St Alban was martyred and there is archaeological evidence for occupation on the site from late Roman times onwards. The abbey was reputed to have been founded by Offa in 793 but the details are 'notoriously obscure' (Biddle 1977; Biddle and Kjølbye-Biddle 1984). Most minsters in Wessex and Mercia were founded in the late 8th century (Hardy and Blair 2003: 7; Blair 2005) so St Albans, like Eynsham, was probably also a minster by the late 7th century. It was refounded as a Benedictine abbey in 1077 when Paul of Caen, a nephew of Lanfranc, Archbishop of Canterbury and friend of William the Conqueror, was appointed as abbot.

Both abbeys would have been endowed with local manors and others at a distance from which they drew most of their foodstuffs. Eynsham initially had a large endowment of land extending as far east as the Cherwell and as far north as Woodstock, but its lands diminished over the next three centuries (Hardy 2003: 9). In 1086 it had a forest for pannage with a value of 5 shillings as well as manors as far afield as Droitwich and Sussex. At the time of Domesday the abbey had fishing rights in the Thames (Hardy 2003: 509). The endowments and lands of Saxon St Albans are poorly known. At the time of Domesday it had several local manors. Those at Cashio and Rickmansworth had *piscaria* (fishery rights) and the abbey had its own *vivarium* (fishpond) (Morris 1976). In mid-Saxon times it is likely that most food was obtained locally but the amount purchased increased with the development of markets. Some game was no doubt obtained locally: the abbots, as members of the thegnly class, may themselves have hunted as Matthew Paris, the abbeys 12th century chronicler, alleges. After the 11th century more food, especially marine fish, would have been purchased.

Excavations

The excavations at Eynsham were carried out by Oxford Archaeology between 1989 and 1992. The account of the excavations (Hardy *et al.* 2003) includes detailed reports on the animal bones (Ayres *et al.* 2003; Mulville 2003). The earliest assemblage discussed here includes the bones from a pit (Pit 394, phase EA 2b) that was dated to the first quarter of the 8th century. The pit held rich deposits of bones and it was sampled and sieved using 2mm and 4mm meshes. The bone remains were interpreted as including both table and kitchen waste. The following phase (EA 2c) is ascribed to the first minster as there is evidence for the first time for the formal arrangement of space on the site. The small bone assemblage is from pits. The 10th century occupation (EA 2d) was marked with structures that may include a guest hall. Finds such as wall plaster and metalworking debris suggest it was a wealthy establishment. The next phase (EA 2e) was a short-lived structural phase for the newly built abbey dating from the very early years of the 11th century. The small assemblage of bones is mostly waste from consumption. The excavations of the reformed Benedictine abbey of Aelfric and his successors (Phase EA 2f) exposed new stone buildings, and there were associated deposits containing animal bones and other material (Dodd and Hardy 2003).

Substantial structures were found in the post-Conquest phase (EA 3a) including a large, square kitchen. The animal bone assemblage from this period is from two large rubbish pits, further pits and the kitchen. A hearth deposit within the kitchen survived to a thickness of 0.25m, and a 1 m^2 block of the sediment, rich in small bones, was retrieved and sampled. In 1109 Eynsham was refounded for a second time and rebuilt. The excavations of this phase (EA 3b) exposed the cloister, a lavatorium and the refectory. There were substantial rubbish deposits with a large bone assemblage from from pits and ditches but no kitchen floor were associated with this phase.

St Albans Abbey was excavated by Martin Biddle and Birthe Kjølbye-Biddle in two campaigns: the area of the former Chapter House in 1978 and part of the former Cloister area in the 1980s (Biddle and Kjølbye-Biddle 1980; Biddle and Kjølbye-Biddle 1984). The bones from the Chapter House were recorded in 1983; the report written was later revised (Crabtree nd.). The Anglo-Saxon bone assemblage is from the lower and upper fills of a ditch running N-S at right angles to the axis of the Norman church (SAA Final Phases 3 and 4). All material was recovered by hand. The remains are mostly waste from the consumption of meals.

A later assemblage dates from the time of the first Norman abbot, Paul of Caen. He embarked on rebuilding the abbey at the end of the 11th century. The western cloister range of Paul of Caen was demolished by his successor and the south part of the range was filled with what looked like midden material from the time of the building works of Paul of Caen (SAA Final Phase 13). This deposit contained pottery of late 10th, 11th and early 12th century date as well as shell, metal working residue, fragments of stone and animal bones. During excavation the midden deposit was noted to be densely packed with fish and bird as well as mammal bones and a substantial whole earth bulk sample was taken. All bones from the sample were carefully picked from trays by volunteers. The fish remains were initially examined by Dale Serjeantson and later re-analysed by Claire Ingrem who, in addition to re-identifying some of the assemblage, sieved a subsample of two litres of sediment from the deposit using 2mm and 1mm mesh sieves. A popular account of food at St Albans Abbey has been published (Serjeantson 1991) and a full report on the animal remains has been submitted (Serjeantson and Ingrem nd.). This deposit was very clearly remains of food preparation and consumption: there are no bones of animals such as cats and dogs.

Recording methods were mostly consistent between the different assemblages and analysts – the individual reports give details. The only significant exception was the recording of tooth eruption and wear where different methods were used. For this reason bone fusion has been used here for estimating the age at which the main domestic animals were killed. The elements included in the analyses of bone fusion differ slightly between analysts but this does not significantly bias the results. Analysts separated a restricted set of elements between sheep and goats. In the tables goat remains are shown separately but otherwise the figures for sheep include bones identified as sheep or goat. The original reports show

hand retrieved bones separately from those from samples but here bones recovered by both methods have been combined in the tables and graphs. With these caveats we can examine how the food remains from the abbeys contribute to questions about food regulations and wealth.

Ecclesiastical food rules

The earliest explicit attempt by the Roman church to make distinctions in food consumption between Christians and others was by St Benedict of Nursia in the 6th century (Harvey 1993). He set out regulations for the conduct of the Roman church including many that relate to food. In the 7th century Pope Gregory the Great expressly prohibited the eating of horse flesh because of its association with pagan Saxon religious practices (Poole 2013). While pagan Saxon culture celebrated feasting to excess, St Benedict enjoined Christians to 'abstain from eating the flesh of four-footed animals', so fish, birds, eggs and dairy foods were permissible as well as vegetable foods, but flesh meat was – in theory – forbidden (Harvey 1993: 38–41; Albala 2000). The weak and sick were exempt from the Rule. In the 8th century the *Rule of Chrodegang*, a reworking of the Rule of St Benedict by the Bishop of Metz, a novice monk, when questioned, says that he eats 'vegetables and eggs, fish and cheese, butter and beans' and, because he is still under tutelage, 'I still eat flesh-meat' (Hagen 1992). The *Rule of Chrodegang* is one of the first to set out how food and fasting rules were modified of suit environmental conditions in northern Europe. Over the course of the Middle Ages, these regulations were constantly debated and re-interpreted (Harvey 1996).

The early Saxon minsters in England were established by the kings and their relatives. They did not necessarily follow St Benedict or any other central authority for guidance on diet, but followed the custom of the individual who founded the house (Blair 2005). As abbots and bishops were drawn from ruling families, their food regimes mirrored that of elite secular households of the time. However Anglo-Saxon law codes make it clear that fast days were followed from the 7th century onwards (Hagen 1992). When King William and the later Norman kings took control of the major institutions in England, they distanced themselves from their predecessors by professing abstemiousness, described by Sykes (2007: 86) as a kind of 'dietary piety'. Once reformed as Benedictine abbeys, establishments such as Eynsham and St Albans would have aimed to follow the Rule so far as food was concerned. The church calendar included many feast days. Those held on important days were as important as the fasts that preceded them so there were many occasions when flesh meat might be eaten. Excavated contexts on archaeological excavations only very rarely provide evidence for single occasions, so the food remains tend to amalgamate the evidence for feasts as well as fasts.

We might expect to see greater consumption of flesh meat in the Saxon houses and an increased emphasis on fish and birds as the Norman abbeys as increasingly followed church teachings on diet as on other matters. However, minsters and abbeys were not solely devoted to religious observance; they also had a secular role in their obligation of hospitality to the rich and poor and charity to the latter. For instance, it is on record that both abbeys played host to the king and his entourage in the 12th century.

Results: the animal foods eaten at Eynsham and St Albans

In considering how pious and how wealthy the abbeys were, we will discuss first those foods that suggest observance or otherwise of food regulations. Secondly, we will consider the foods that suggest the wealth and status of the two abbeys or the converse. Food remains recovered from archaeological sites do not lend themselves happily to estimates of absolute quantities of flesh meat or other foodstuffs but they can be a guide to relative quantities. Here we first make a crude comparison of the number of identified bones (NISP) of mammals, birds and fish (Figure 1), but the discussions take into account that different types of deposit were excavated in different periods.

Following the Rule?

Several features of the assemblages from both abbeys indicate the extent to which the fasting regulations of the church were followed: here we discuss the consumption of fish and birds, the avoidance of horse flesh and consumption of tongue and eggs.

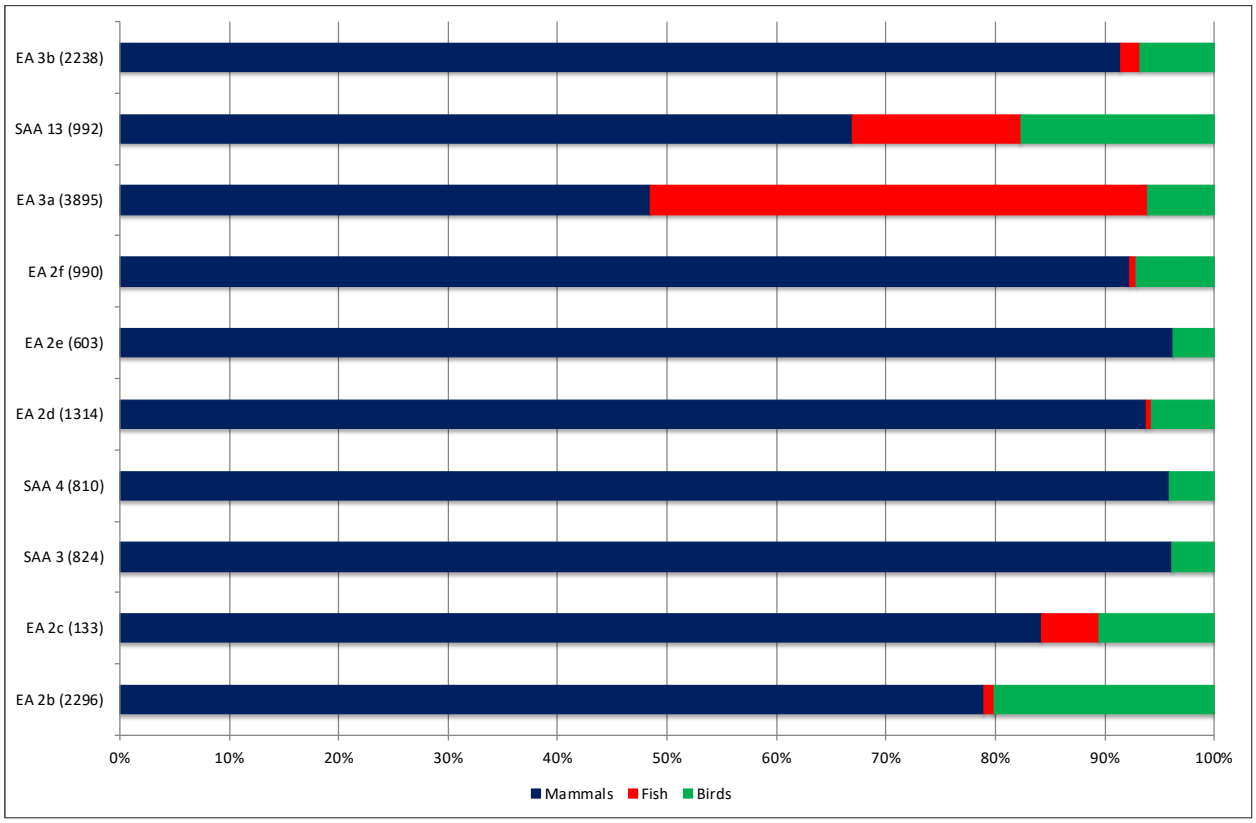

Figure 1. Identified mammal, fish and bird bones, per cent NISP: sample size in brackets.

Fish

Fish is the strongest marker for the observance of the Rule of St Benedict. It was recognised as part of a fasting diet from the time of St Wilfrid in the 7th century, who brought back the practice from Rome. Late Saxon illustrations show that the Anglo-Saxon noble and religious communities sought out fish to eat at feasts (Hagen 1992). The fish most often referred to in Saxon charters is the eel; they were caught in traps and weirs in the rivers and sometimes formed part of food rents. Whilst archaeological evidence increases our knowledge of the other fish species that were caught and eaten, estimating quantities is open to greater biases than mammals and even bird remains as retrieving fish bones depends on encountering the types of deposit such as pits and kitchen floors in which fish bones are likely to survive and also on the recovery of their remains via sampling and sieving.

At both abbeys there is a contrast between the Saxon and Norman periods (Figure 1). In mid- and late Saxon Eynsham few fish bones were recovered (Table 2). Pit 394 (EA 2b), of which a large volume was sieved, contained more than 600 bird bones (including some of small thrushes) but only 19 fish bones. If more fish had been present their remains would have been recovered so we have to conclude that the establishment at the time ate little fish. Later in the Saxon period there is equally scant evidence for fish eating. Even in the Aelfrician deposits of the refounded abbey (EA 2f) few fish bones were recovered. This may, of course, be partly because the excavated deposits did not contain dense, well preserved, dumps of food remains. Eels are the most frequent species, as records suggest, and as they are in most sites of the period (Holmes 2014; Reynolds 2015; Serjeantson and Woolgar 2006: Table 8.1). Nearly all the other fish species eaten in the mid- and late Saxon period were freshwater fish that would have been obtained locally from the Thames, such as the pike and perch. No fish bones were recovered from the Saxon deposits at St Albans (SAA 3 and SAA 4). This suggests that little or no fish was eaten there, since a few bones would have been expected even in unsieved deposits.

The apparent failure to adopt fish eating at Eynsham and St Albans at this time contrasts with some other Saxon ecclesiastical and secular sites (Reynolds 2015). In addition to the sites listed in the survey

Common name	Scientific name	EA 2b H+S	EA 2c H	EA 2d H	EA 2f	EA 3a H+S	SAA 13 H+S	EA 3b	Total
Ray	*Raja spp.*	1				8	1		10
Herring	*Clupea harengus*					1087	15	3	1105
Sprat	*Sprattus sprattus*						1		1
Herring family	*cf. clupeid*						2		2
Salmon	*Salmo salar*						1		1
Salmon/trout	*Salmonid spp*					8	2		10
Pike	*Esox lucius*	8		2	2	145	13	12	182
Tench	*Tinca tinca*				1		2		3
Roach	*Rutilus rutilus*					4	1		5
Cyprinid	*Cyprinid*					39	3		42
Dace	*Leuciscus leuciscus*					25			25
Chub	*Leuciscus ceohalus*					2		1	3
Bullrout	*Myoxocephalus scorpius*	2							2
Eel	*Anguilla anguilla*	8		4		243	9	3	267
Conger eel	*Conger conger*					7	1	3	11
Sturgeon	*Accipenser sturio*					1		1	2
Cod	*Gadus morhua*		1			10	37	9	57
Haddock	*Melanogrammus aeglefinus*						1	4	5
Ling	*Molva molva*					2	1		3
Whiting	*Merlangius merlangius*					8			8
Large gadid	*Large gadid*					4	22	1	27
Small gadid	*Small gadid*				2		1		3
Rockling	*Gaidropsaurus sp.*					7			7
Stickleback*	*Gasterosteus aculeatus*					128			128
Bass	*Dicentrarchus labrax*					3			3
Perch	*Perca fluviatilis*	1			1	11		1	14
Sea bream	*Sparidae*					7			7
Wrasse	*Labridae*					2			2
Gurnard	*Triglidae*							1	1
Mackerel	*Scomber scombrus*					5	1		6
Turbot	*Scopthalmus maximus*						1		1
Plaice	*Pleuronectes platessa*						2		2
Flounder	*Platichthys flesus*						11		11
Flatfish nfi	Flatfish nfi					14	25	2	41
Total identifiable		**19**	**1**	**6**	**6**	**1770**	**153**	**41**	**1997**

Table 2. Identified fish bones (NISP). The floors of the late 11th century kitchen at Eynsham (EA 3a) also included 109 stickleback scales. As sampling was inconsistent between assemblages, hand retrieved and samples are counted together: NFI Not further identified; H hand; S sieve/sample.

of Serjeantson and Woolgar (2006: Table 8.1), many fish bones were recovered from 8th to 9th century deposits at Christchurch Canterbury (Kent). Most of the more than 9000 bones were of eels but others were of flatfish and other marine fish (Nicholson 2017). In the very large bone assemblage from Saxon Flixborough (Lincolnshire) more than 900 identified fish bones were recovered by hand and more than 5000 from the sieved samples (Dobney *et al.* 2007). Of these, over half were eels and, as at Eynsham, pike and perch were the main freshwater fish. These assemblages have exceptional quantities of fish. One reason why neither Eynsham nor St Albans had adopted the practice of fish eating will reflect the fact that both are inland sites while those with large quantities of fish that are on estuaries or otherwise near the sea but it may also show the lesser influence of the Benedictine Rule.

In Norman times fish eating increased at both abbeys. The hearth floors of the 11th century kitchen at Eynsham (EA 3a) contained a large quantity of fish bones, of which herring made up much the greatest proportion overall. Eels are the second most frequent fish (Figure 2). There were few fish bones recovered

from deposits associated with the refounded 12th century abbey (EA 3b), which must partly be because no floor deposits were associated with this phase.

The Norman midden material at St Albans also contained many fish bones. As well as the identified fraction there were many unidentified fragments in the 2mm and 1mm samples. The proportion of fish bones from the everyday – as opposed to feasting – food, herrings and eels, is less than at Eynsham and the range of species is greater, as discussed later. The cod trade started at the beginning of the 11th century (Barrett *et al.* 2004; Orton *et al.* 2016) and this is evident at St Albans where there is a relatively large number of bones of cod and the cod family. Most of the cod would have been salted or dried.

This evidence for consumption of fish in quantity at both abbeys shows that by the 11th century the Benedictine Rule had been fully adopted so far as it concerns fish. Fish eating was of course greatly facilitated by the development of the trade in cheap herring (Barrett 2016). Hagen's (1992: 80) claim that dried cod was widely available in Saxon times, is now known not to be the case. The trade in preserved herring, cod and other marine fish certainly facilitated the increase in the consumption of fish, with its connotations of piety; conversely the observance of dietary rules triggered the development of the fish trade.

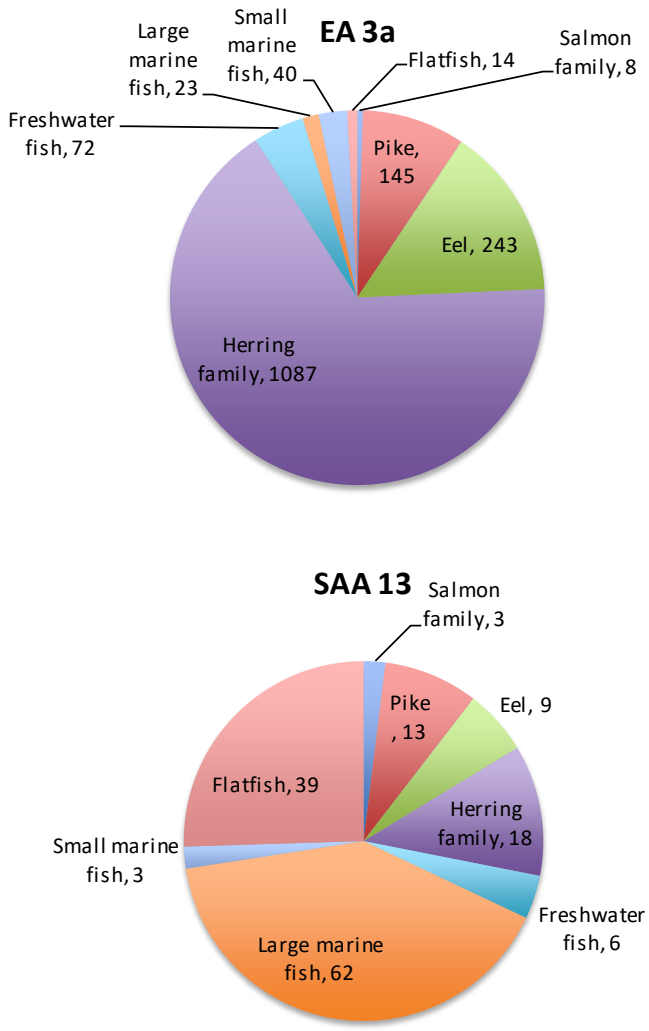

Figure 2. Types of fish species in 11th to 12th century St Albans (SAA 13) and late 11th century Eynsham (EA 3a).

Birds

Fishes were not the only animals that were permissible. The aim of avoiding the consumption of flesh meat and thereby showing adherence to the Rule was also met by the consumption of birds. The importance of birds at different times, shown as a percentage relative to mammals and fish in Figure 1, can be seen more clearly using the alternative calculation (Figure 3) of the relative number of bird to mammal bones, as in the survey by (Sykes 2004a) because, as discussed, numbers of fish bone vary according to type of deposit and recovery.

The earliest assemblage discussed from Eynsham, from the pre-minster occupation (EA 2b), has an exceptionally high percentage of bird bones for the period: they make up 20 per cent of all identified bones. This is high compared with the other Saxon assemblages discussed here and also compared with other sites of the period (Sykes 2007: Figure 28). It is, for instance, higher than at contemporary Wicken Bonhunt (Crabtree 2012), another high status site, with 15 per cent bird bones. In late Saxon times at both Eynsham and St Albans birds make up a more modest percentage.

Most remains are of domestic chickens, as would be expected (Table 3). At Eynsham the percentage of goose bones is relatively high in the mid- and late Saxon period (Figure 4), which is typical for the time. The percentage of ducks is also high in the Saxon period at both abbeys compared with other sites

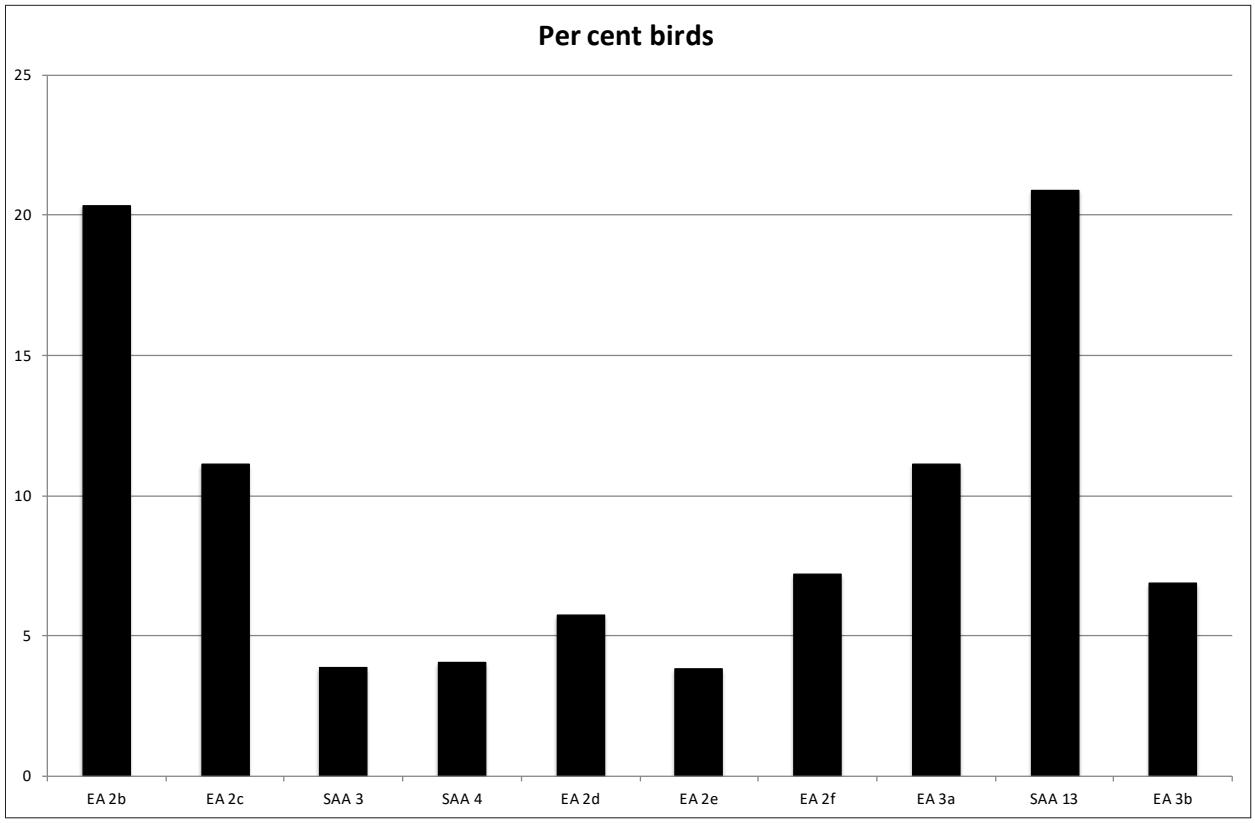

Figure 3. Per cent birds of mammals and birds.

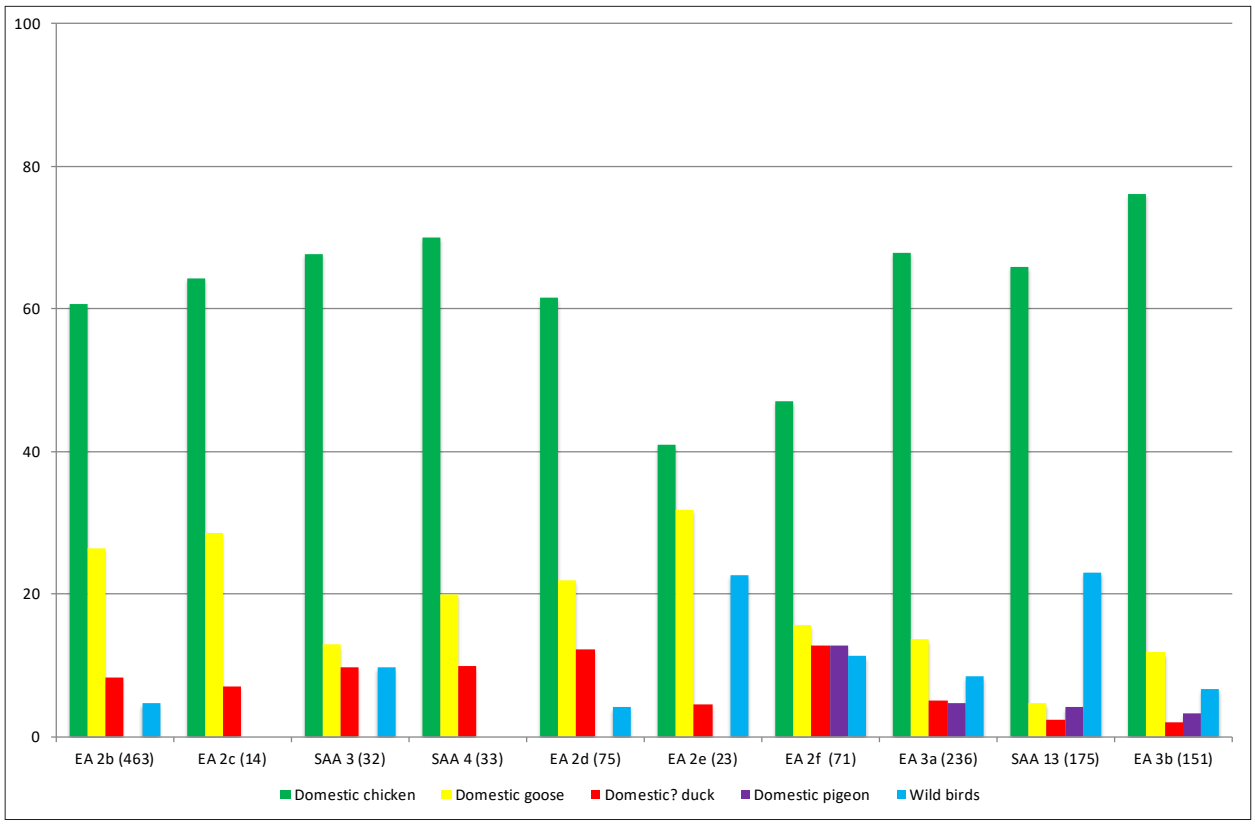

Figure 4. Domestic chicken, domestic goose, domestic (?) duck, domestic (?) pigeon and wild birds: per cent (NISP): Sample size in brackets. All mallard-size duck bones included with domestic ducks; all rock pigeon-size pigeon bones included with domestic pigeons.

(Albarella 2005: Figure 3) though numbers may be over-estimated as we have taken all mallard-size ducks to be domestic. More ducks were eaten at Eynsham than at St Albans, a contrast no doubt reflecting the different environments of the two abbeys. Remains of the domestic pigeon (or its ancestor, the rock dove, *Columba livia*) are absent from Saxon period deposits at both abbeys, confirming the impression that domestic pigeon were rare or unknown before the 11th century. Where their bones have been found in this period, as at Flixborough (Dobney *et al.* 2007), the birds were probably wild.

At Norman St Albans (SAA 13) the percentage of birds is particularly high (20 per cent). The great majority were chickens, of which all parts of the body were found (Table 4). Unusually, few geese and other domestic birds were eaten. At Eynsham at this time the relative number of birds (ten per cent) is

	EA 2b	**EA 2c**	**SAA 3**	**SAA 4**	**EA 2d**	**EA 2e**	**EA 2f**	**EA 3a**	**SAA 13**	**EA 3b**	**Total**
Domestic fowl *Gallus gallus*	271	9	21	21	45	9	33	159	112	115	795
Domestic goose *Anser anser*	118	4	4	6	16	7	11	32	8	18	224
Domestic? mallard *Anas platyrhynchos*	37	1	3	3	9	1	9	12	4	3	82
Domestic? pigeon *Columba livia*							9	11	7	5	32
Goose, wild *Anser sp.*								1	1		2
Wild duck NFI *Anas sp.*								3	3		6
Teal *Anas crecca*								1	2	1	4
Grey partridge *Perdix perdix*	1										1
Quail *Coturnix coturnix*								1			1
Grey heron *Ardea cinerea*									1		1
Kite/sparrowhawk *Milvus/Accipiter*					1						1
Goshawk? *Accipiter/Falco*								1			1
Buzzard *Buteo buteo*	1										1
Water rail *Rallus aquaticus*	1										1
Common crane *Grus grus*	5		1	1		2		1	1	1	12
Plover ?golden *Pluvialis sp.*			2					4		1	7
Lapwing *Vanellus vanellus*	3						1				4
Snipe *Gallinago gallinago*							1	5		1	7
Woodcock *Scolopax rusticola*				2	3	3	5	2	4	5	24
Curlew? *Numenius arquata*?							1				1
Wood pigeon *Columba palumbus*	1								6		7
Tawny owl *Strix aluco*									1		1
Jackdaw *Corvus monedula*								2	1		3
Rook/Crow *Corvus frugilegus/corone*	14		1		1	1	1	1	1		20
Raven *Corvus corax*									3		3
Thrush family *Turdus sp.*	10								19	1	30
Starling *Sturnus vulgaris*	1										1
Small passerine									1		1
	463	14	32	33	75	23	71	236	175	151	1273
Goose size	60	1	6	1			9			6	
Chicken-size	99	1	2				15			20	
Unidentified bird	2		9	7			10		37	36	
Total	**1087**	**30**	**81**	**74**	**150**	**46**	**176**		**387**	**364**	
Per cent unidentified	14.8	6.7	21.0	10.8	0	0	19.3		9.6	17.0	
NFI not further identified											
2f hand and sieve have been combined.											
3a floor sampled rich deposits											

Table 3. Identified bird bones (NISP). All mallard-size duck and all rock dove-size elements are regarded as probably domestic. Bones of the thrush family were not identified to species.

	chicken	goose	duck	pigeon	wild duck	woodcock	thrushes
Scapula	4		1				
Humerus	11		1	1	1	1	
Radius	8	1		3			
Ulna	6			3		2	5
Coracoid	6	1					1
Furcula	4	1					
Pelvis	2						
Femur	6	1					
Tibiotarsus	13	3			1	1	
Fibula	1						
Carpometacarpus	7		2	1	1		2
Tarsometatarsus	18	1		1			8
Mandible	2						2
Phalanx	3				1		
Thoracic vert	1						
Synsacrum	5						
Skull	3						
Rib	9						
Sternum	3						1
Total	**112**	**8**	**4**	**9**	**4**	**4**	**19**

Table 4. St Albans Abbey: 11th–12th century (SAA 13): parts of the skeleton of birds with four or more elements present: 'duck' and 'pigeon' as Table 3.

Site	Site status	Date	Cattle	Sheep/goat	Pig	Horse
St Albans Abbey, SAA 3 (749)	Abbey/Minster	8th-9th	18.4	10.9	70.5	0.1
St Albans Abbey, SAA 4 (732)	Abbey/Minster	8th-9th	14.3	13.7	72.0	0
Wicken Bonhunt (30113)	Rural settlement	8th-9th	17.1	12.8	69.6	0.5
West Stow West (3206)	Rural settlement	Early	43.5	50.0	5.2	1.3
Brandon (47916)	Rural settlement	Mid	28.1	54.1	19.0	1.5
Ipswich (9680)	Emporium (wic)	Mid	44.2	22.8	32.3	0.6

Table 5. Species ratios for the large domestic mammals from Saxon St Albans (SAA 3 and SAA 4) compared with Early and Mid Anglo-Saxon sites in eastern England (sample size in brackets).

	EA 2b	EA 2c	SAA 3	SAA 4	EA 2d	EA 2e	EA 2f	EA 3a	SAA 13	EA 3b
Cattle	350	33	138	105	294	118	260	665	50	767
Sheep/goat	1011	43	82	100	670	299	322	460	191	437
Goat	4				3		4	3	3	11
Pig	407	32	528	527	226	133	261	675	304	650
Red deer	7		2	2	1	4	4	8	13	23
Roe deer	8	4	41	36	22	15	47	41	63	43
Fallow deer										6
Hare	1					1	8	20	40	13
Rabbit								1		
Horse	16		1		12	9	6	12		18
Cat	3			4	2		1	2		6
Dog	3			3	3	1		2		72
Badger	4									
Total	**1814**	**112**	**792**	**777**	**1233**	**580**	**913**	**1889**	**664**	**2046**

Table 6. Identified mammal bones (NISP).

greater than in earlier centuries and more typical. In the reformed 12th century abbey at Eynsham a particularly high percentage of bird remains are of chicken. At this time numbers of the chickens increased generally (Loog *et al.* 2017).

Remains of the rock dove, regarded as domestic pigeons, were found at both abbeys in the eleventh- and 12th century deposits. The most frequent wild bird at both abbeys is the woodcock (Table 3). The woodcock, unlike other game birds, was characteristically not caught by falconers but by trapping on its regular paths in the woods so was not necessarily a prestigious bird. It was eaten more often in ecclesiastical than in high status secular households (Sykes 2004a).

By the criterion of eating birds, both abbeys were conforming to the Rule from mid-Saxon times onwards. However, as discussed later, eating certain domestic birds as well as wild birds can also be a sign of wealth and status.

	Pig	Cattle	Sheep/Goat	Roe deer
Skull	75	14	8	3
Horn core		1	1	
Antler				2
Maxilla	38	0	8	1
Mandible	79	5	9	8
Hyoid		2	1	
Atlas	3	1	1	1
Axis	1	1	2	
Sacrum		2		
Vertebrae	14	3		
Ribs	6			
Innominate	18	12	2	3
Femur	11	9	2	
Tibia	20	18	12	2
Fibula	18			
Scapula	43	11	4	2
Humerus	17	10	2	1
Radius	7	11	12	2
Ulna	14	9	1	1
Astragalus	2	4		
Calcaneus	6	7		
Carpals		1		
Metatarsus	16	3	7	5
Metacarpus	6	1	5	3
Metapodium	9	1		
1st phalanx	10	2		
2nd phalanx	1			
3rd phalanx		5		
Tooth fragments	5			
Loose teeth	109	5	5	7
Total	**528**	**138**	**82**	**41**

Table 7. St Albans Abbey: Late 7th-8th century (SAA 3): parts of the body of pig, cattle, sheep and roe deer

Horse

As noted, the avoidance of horse flesh became one of the marks of a Christian from the 7th century onwards. St Gregory's letter setting out the prohibition on horse flesh was a response to the fact that the pagan Saxons in Germany sacrificed and ate horses. The custom of hippophagy spread to Britain with the Anglo-Saxons (Fern 2010). One survey found that 15 per cent of mid-Saxon sites have butchered horse bones (Poole 2013: Figure 2.30) and in the earliest Saxon occupation phase at Eynsham (EA 2a, not otherwise discussed here), some of the horse bones had butchery marks suggesting consumption (Mulville 2003: 353). The early and mid-Saxon sites of West Stow, Brandon and Wicken Bonhunt in East Anglia all have a higher percentages of horse bones (Table 5), and some evidence for butchery was found on these (Crabtree 1990b; Crabtree 2012). Horseflesh came to be avoided throughout Britain only after the 9th century (Fern 2010; Poole 2013). Eynsham and St Albans conform to this. Some horse bones were found at Eynsham in the mid-Saxon phases (Table 6): the skull of a young horse found in Pit 394 (EA 2b) which had cuts on the condyles where it had been severed from the neck, but this is evidence for decapitation, not consumption. In the later phases there is no evidence for consumption of horse flesh. Horse remains are also absent from both Saxon and Norman occupation at St Albans. By this criterion too, the establishments at both abbeys were following Christian practice by the 8th century.

Adherence to the avoidance of flesh meat at St Albans Abbey in the 11th–12th century is confirmed by finds of the hyoid bone of cattle. The tongue, where the hyoid bone is found, was not regarded as muscle meat and almost as many of these flimsy elements were found as limb bones (Tables 7 and 8).

Eggs

The many chicken bones remind us that eggs were no doubt eaten in quantity at both abbeys but the consumption of eggs is hard to demonstrate in the absence of surviving eggshell. It can be inferred from the proportion of hen femurs with medullary tissue in the bone, which is found in hens in lay. Few femurs in this condition were found at Saxon Eynsham but by the 12th century (EA 3b) two-thirds of the chicken femurs have medullary bone. Eggshell survived in the floor of the Norman kitchen at Eynsham (EA 3a). There, it made up more than 50 per cent of the material from some of the samples (Ayres *et al.*: Table 10.40). This fits with recent research that has shown that chickens underwent a genetic between the 9th and the 12th centuries which led to the hens laying eggs for longer periods each year (Loog *et al.* 2017).

	Pig	Cattle	Sheep/Goat	Roe Deer
Skull	56	1	8	2
Horn core			1	
Maxilla	29			
Mandible	70	5	11	4
Hyoid				
Atlas	1		1	1
Axis	2	1	1	1
Sacrum	2	1		
Vertebrae	14	3		
Ribs	13			
Innominate	9	13	1	3
Femur	17	10	3	4
Patella			1	
Tibia	15	9	15	3
Fibula	10			
Scapula	38	12	4	1
Humerus	24	10	7	3
Radius	8	9	7	3
Ulna	23	9		2
Astragalus	3	3	2	1
Calcaneus	7	5	1	1
Carpals	3	1		
Metatarsus	18	2	4	
Metacarpus	17			2
Metapodium	29			3
1st phalanx	13	3		
2nd phalanx	6			
3rd phalanx	5	2		
Tooth fragments	5	1		
Loose teeth	90	5	33	2
Total	**527**	**105**	**100**	**36**

Table 8. St Albans Abbey: 8th–9th century (SAA 4): parts of the body, as Table 7

Wealth and status

The evidence for observance of food regulations cannot always be separated from that for wealth and status. In this section we look at the evidence for the consumption of game, pork, marine fish and wild birds with the aim of establishing how they reflect changes in the status and wealth of the two abbeys over time and how each compares with other sites.

Game

It is a truism that the consumption of game reflects the wealth and social connections of a community. In Saxon times any man might hunt, relying on a legal principal of Justinian (533) that states that 'wild beasts, fowl and fish ... as soon as someone captures them, by natural law they immediately belong to him (Marvin 2006: 22). After the Norman Conquest hunting was restricted with only the king and the nobles permitted to hunt (Sykes 2006). Venison was regarded as an appropriate food to serve at feasts throughout the Middle Ages (Birrell 2006). Though abbots themselves sometimes hunted, a minster or abbey would usually procure venison from professional huntsmen on their own estates or via gifts from patrons and others wishing to obtain spiritual or material favour. The numbers of game animals in each period is shown in Figures 5 and 6 in relation to the numbers of mammal bones. Most deposits also had a few bones of species other than the food mammals (Table 6). They have been omitted from the calculations in Figures 5 and 6.

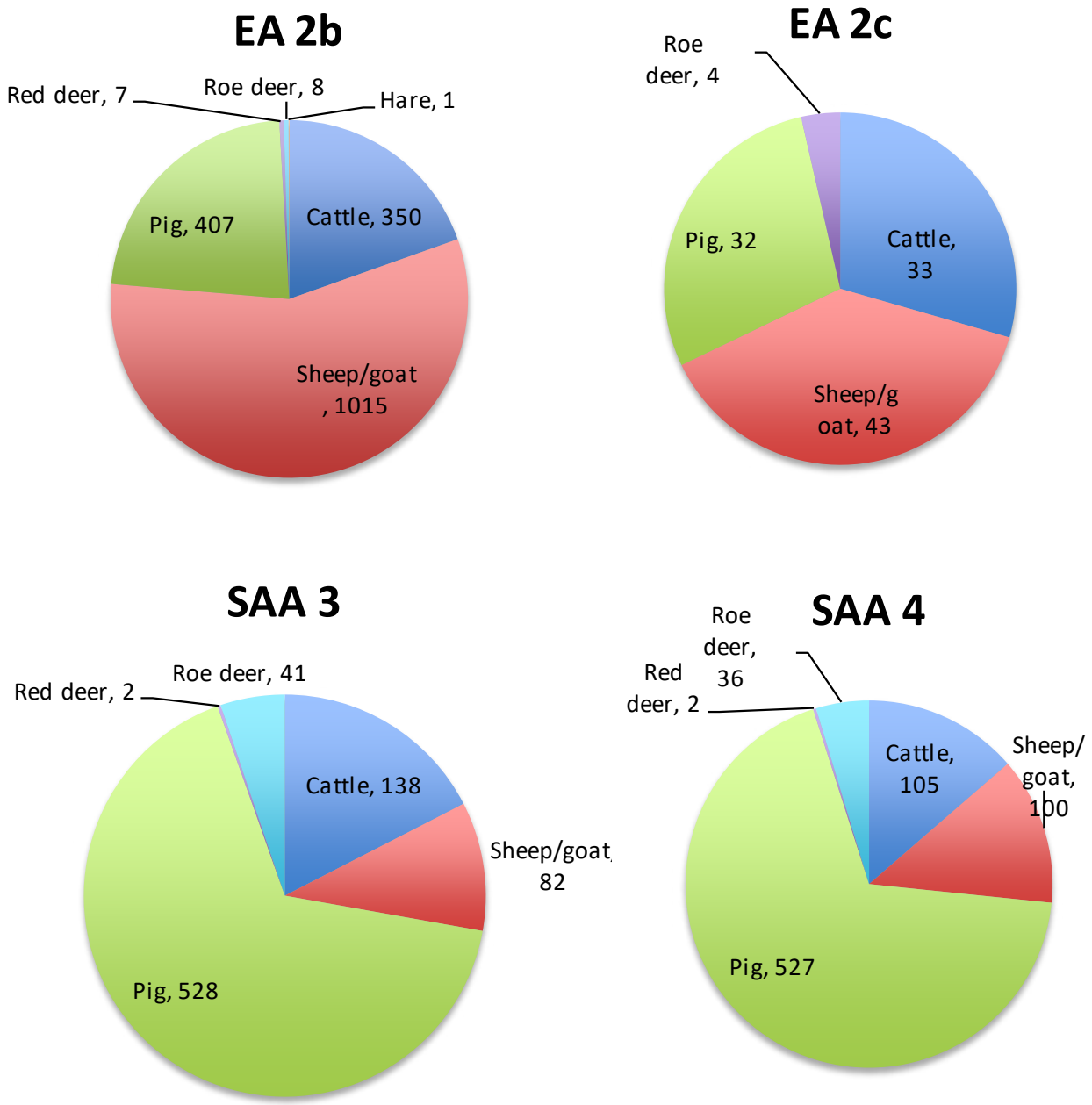

Figure 5. Relative numbers of food mammals, 7th-9th century (EA 2b, EA 2c, SAA 3, SAA 4)

In general, game made little contribution to early and mid-Saxon diet. Before the Conquest, game (red deer, roe deer, hare and rabbit) make up less than three per cent of the mammals present at religious houses, and even in high status households this figure is below five per cent (Sykes 2006: Figure 11.1). In the pre-minster occupation at Eynsham the quantity of game is small, but it increases slightly in the first minster deposits. At the same time at St Albans game was about five per cent of mammals (SAA 3 and SAA 4). In the Aelfrician abbey the percentage was higher (six per cent), a reflection of what must have been its elevated status during the early 11th century.

At Eynsham in the immediate post-Conquest period (EA 3a) game makes up about three per cent of mammals, while the percentage is higher (five per cent) in the reformed abbey (EA 3b). In 11th-12th century St Albans (SAA 13), by contrast, the percentage of all game animals is exceptionally high (17 per cent).

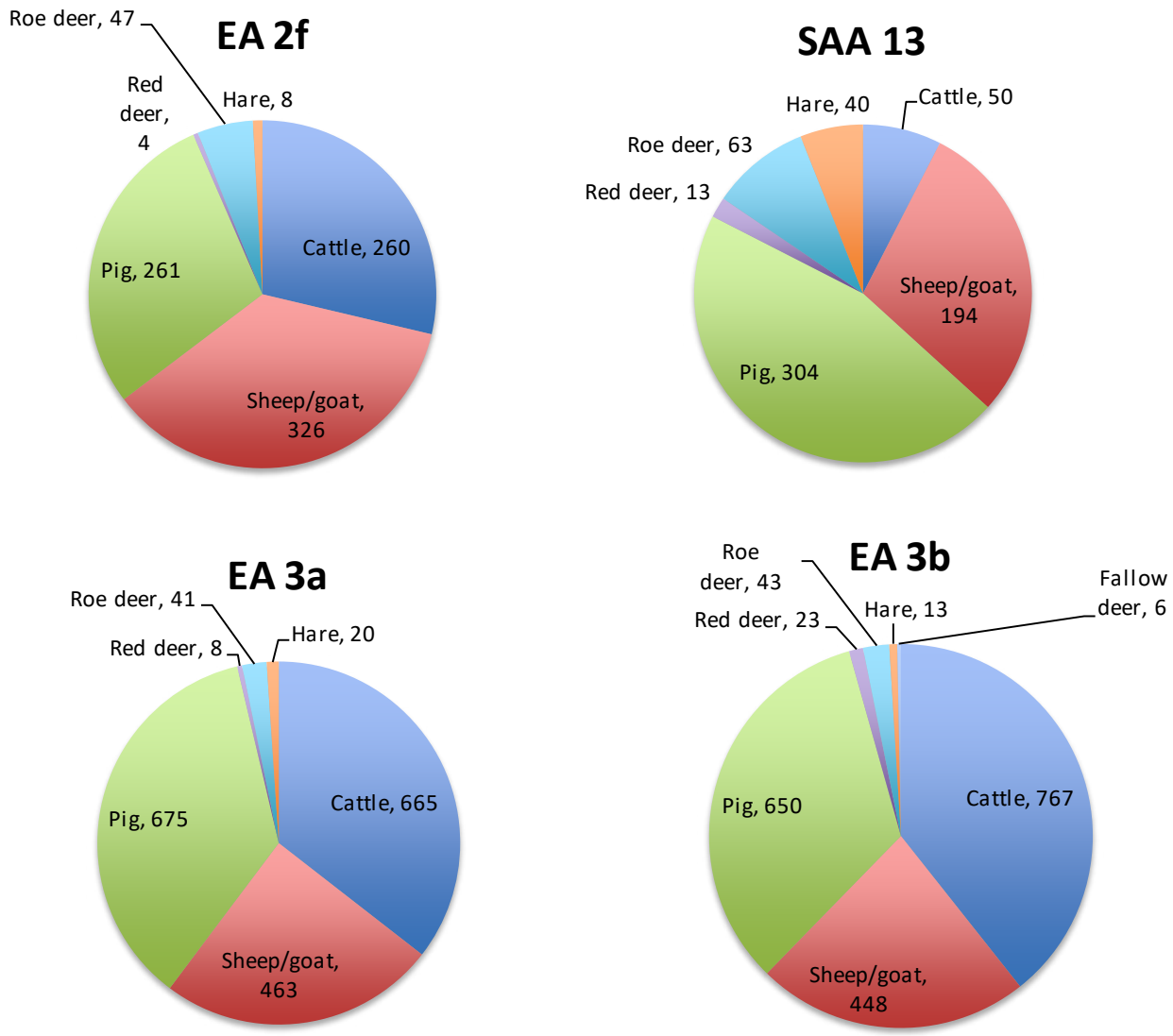

Figure 6. Relative numbers of food mammals, 10th-12th century (EA 2f, SAA 13, EA 3a, EA 3b).

The main game animal in both abbeys and in all periods was roe deer. This is typical for Saxon sites, as the characteristic hunting method of the time favoured roe deer over red deer (Sykes 2006). The predominance of roe over red deer persisted into the 11th–12th century at St Albans (SAA 13) where they form an exceptionally high nine per cent of all mammals. The occasional bone of a hare was found at both abbeys but at St Albans at this time their remains are an unusually high five per cent of mammals. This is no doubt a direct reflection of the taste of the Norman abbot Paul: hare remains are frequent on ecclesiastical sites in France (Sykes 2007). Red deer remains are few at all times, which is untypical, since in general after the Conquest red deer overtook roe (Sykes 2017). Fallow deer were introduced to England by the Normans (Sykes 2004b), but their remains are absent from St Albans and found only from the in the 12th century at Eynsham (EA 3b). No wild boar was identified at either abbey.

The source of the roe deer eaten at St Albans was no doubt the deer park that the abbey owned. According to Matthew Paris, writing two centuries later, Wulsig, one of the Anglo-Saxon abbots, 'loved hunting better than prayer' (Vaughan 1984). While the Saxon abbots may themselves have hunted, Paris implies that the Norman abbots did not, so the deer eaten in the Norman period will have been mostly caught by professional huntsmen.

The relatively high consumption of game suggests that St Albans in the 8th and 9th century and Eynsham in the 11th were both of high status. Sykes (2007) found that in general the percentage of game was higher on sites after the Conquest than in earlier centuries. This was the case at St Albans, but not at Eynsham. The remains of game suggest that St Albans was much wealthier in the 11th–12th century, as might be expected under a well-connected Norman abbot, while the relative paucity of game at Eynsham suggests its status diminished.

Pork and boar's head

Of the three main domestic food animals, only pigs do not provide secondary products so the eating of pork was a luxury and another marker of the wealth and status of an establishment.

In the Saxon period at Eynsham, fewer pigs than sheep were eaten in each phase (Figure 5). Even in the pre-minster occupation (EA 2b), pigs make up less than one quarter of all mammal bones. At St Albans at this time over two-thirds of all mammal bones are from pigs. The percentage at Eynsham is typical for

	Pig	Cattle	Sheep	Goat	Sheep/goat	Roe deer	Red deer	Hare
Skull fragment	27	3			4			
Horn core/antler	-	1	3	1		1		-
Maxilla with teeth	14							1
Maxillary teeth	10	2			4			1
Mandible	17	1			13	1		
Lower tooth	38	5			6			
Hyoid		3			1			
Atlas	2				2			
Axis	2				1			
Scapula	15	5			11	4	3	1
Humerus	8	4			4			1
Radius	5	3			13	5	1	6
Ulna	4	1			9	2	1	11
Pelvis	13	4			19	2	1	1
Femur	7	3		1	10	1		1
Tibia	7	2	2	1	12	2	3	4
Fibula	18							
Sacrum		1			2			
Carpals	1							
Astragalus	10	4			5	5	1	
Calcaneus	6				16	10	1	1
Tarsals	3	1			2			
Lateral metapodial	3					3		1
Metacarpal	21				8	12		4
Metatarsal	29				2	14		4
Phalanx 1	5	2			2			1
Phalanx 2	4				2			
Phalanx 3	4							
Cervical vert	3				4	1		
Thoracic vert	6	1			11			
Lumbar vert	8				10		1	
Caudal vert		1			2			
Rib	14	3			11		1	2
Total	**304**	**50**	**5**	**3**	**186**	**63**	**13**	**40**

Table 9. St Albans Abbey: 11th–12th century (SAA 13): mammals: parts of the body.

the period (Albarella 2006, tab. 6.1) but that at St Albans is exceptionally high. Only one other site of the period, Wicken Bonhunt in East Anglia, has a similarly high percentage (Table 5). However, the body parts differ between St Albans and Wicken Bonhunt. Teeth and skull bones outnumbered post-cranial bones by ten to one at Wicken Bonhunt, showing that meaty elements had been exported, possibly as barrelled pork which was traded to other settlements. At St Albans in the 8th–9th century (SAA 3 and 4) there are only about twice as many pig mandibles as limb elements (Tables 7 and 8), which reflects preservational factors and is what would be expected if all the animal was consumed at the abbey. The large number of head bones of pig are a vivid reminder that boar's head was served as a delicacy.

In the Norman period at Eynsham (EA 3a and EA 3b) the percentage of pigs is higher than earlier: they make up one third of mammal bones. At contemporary St Albans the percentage (46%) is yet higher. As in the 8th-9th century, all parts of the body are present (Table 9). Though the percentage of pigs is lower than in the Saxon period, it is nevertheless very high, indeed higher than in any of the the sites included in the surveys by Albarella (2006) and Serjeantson (2009: Figure 7.4). In England only Carisbrooke Castle and Launceston Castle have comparable numbers (Albarella and Davis 2000; Smith 2000). The percentage is similar to that found in high status 11th- and 12th-century assemblages in France (Sykes 2007: Figure 6). The English sites with large numbers of pigs seem to be those where Norman influence was most direct. As pigs were fattened in woodland throughout the Middle Ages, the greater amount of pannage available, the more pigs could be raised. Domesday book records that the six parishes immediately around St Albans had pannage for 3700 pigs and that the abbey itself owned forests that provided pannage for 7000 pigs (Hunn 1994; Toms 1962: 20). These will have no doubt fattened the many pigs consumed at the abbey in both Saxon and Norman times. The very high percentage of pig remains at St Albans confirms the evidence of the game that the establishment was a wealthy one in the 8th and 9th centuries and also in the 11th–12th century. The pigs suggest less wealth at Eynsham.

Wild birds

The consumption of wild birds, like the consumption of game, pork and young animals, was a sign of social status (Serjeantson 2006). This was partly because they were often hunted with hawks, itself a highly prestigious activity. After the Conquest, access to wild birds was restricted which further enhanced their prestige. Like game, wild birds were appropriate to serve at feasts.

The percentage of wild birds compared with domestic is surprisingly low (five per cent) in the pre-minster levels at Eynsham (EA 2b), though their presence confirms that hawking took place. The other Saxon assemblages have just a handful of bones of wild birds. (The apparently high percentage in the early 11th century (EA 2e) should be regarded with reserve as the sample size is small.) After crow or rook, the most frequent wild bird is crane. Bones of this large bird were found in both abbeys and in seven of the ten assemblages. Crane remains have also been found on many other Anglo-Saxon sites, including West Stow, Brandon and Wicken Bonhunt and it was particularly common on ecclesiastical sites dating from before the 12th century. It may have been favoured by the religious for the symbolism which linked its annual return in spring to the Resurrection (Sykes 2004a). The crane could be hunted by the largest hawks and was also trapped and netted. Remains of thrushes, also caught by falconers and eaten just as were larger game birds, were only recovered from the pre-minster pit at Eynsham and from the Norman deposits at St Albans. Like herring, they are mostly found when careful sampling takes place (Serjeantson 2001).

The wild birds at Eynsham in the late 7th/early 8th century (EA 2b) were regarded as possible evidence for falconry. Recently Wallis (2017) has demonstrated that falconry was known from early Anglo-Saxon times. Hawking is therefore the most likely source of the wild birds other than woodcock from both abbeys. A few raptor bones from falconers' birds were found at Eynsham: a possible sparrowhawk in the Aelfrician deposits (EA 2d) and a large hawk, possibly a goshawk, in the late 11th century (EA 3a). At St Albans the skeleton of a hawk was found in the mid-Saxon ditch; it was too heavily concreted to be identified to species.

In the Norman period at St Albans nearly a quarter of bird remains were from wild birds (Figure 4). This is many more than at Eynsham with only nine and seven per cent respectively of wild birds in the Norman occupation phases (EA 3a and EA 3b). The finds from both abbeys are from a range of waterfowl, game birds and thrushes. The diversity of species is confirmation that most were caught by hawking.

Remains of corvids - jackdaw, raven, crow and/or rook - were also quite common at both abbeys. The corvids were regarded as unclean and so were avoided as food. Like the horse, ravens and crows were associated with the pagan European gods (Green 1992). However, they were caught by hawking, as they were regarded as good sport. The fact that corvid bones are found with domestic rubbish was once thought to be because they were killed as unwelcome scavengers (Serjeantson 2006) but it is equally likely that they were present because they had been caught by hawking.

The wild birds are evidence of the wealth and status of the two abbeys. While some wild birds were eaten at both abbeys, Norman St Albans stands out as having more than most other sites.

Marine and high status fish

As well as being a mark of piety, the consumption of marine fish, especially fresh marine fish such as flatfish, was the mark of a wealthy establishment (Serjeantson and Woolgar 2006).

The only luxury fish eaten at mid- and late Saxon Eynsham was the pike already referred to. It is the second most numerous fish after eels. Pike would have been served at feasts. In the Aelfrician abbey of the 11th century (EA 2f), just two bones of marine fish were recovered, all of the cod family, showing the abbey's participation in the fish trade.

After the Conquest, there is a strong contrast between Eynsham and St Albans in the species eaten (Figure 2). At Eynsham the range of fish increased but less than the numbers suggest, as it is likely that species

	Anguilla anguilla	Clupea harengus	Esox lucius	Gadus morhua	Pleuronectidae
Vomer	2				
Parasphenoid				1	
Articular					2
Dentary	2	1	4	3	2
Ectopterygoid				1	
Maxilla		1		3	1
Premaxilla				2	
Quadrate			1		
Ceratohyal		1			1
Epihyal		1			
Hyomandibular					4
Interopercular					2
Opercular				1	
Preopercular					2
Urohyal			1		1
Lower pharyngeal			1		
Cleithra			3	3	2
Anterior abdominal vert				5	
Posterior abdominal vert		1		10	1
Caudal vert	5			8	6
Anal pterygoid					4
Scale		10	1		
Total	**9**	**5**	**10**	**37**	**28**

Table 10. St Albans Abbey, 11th–12th century (SAA 13): parts of the body of eel, herring, pike, cod and flatfish.

such as the stickleback were not eaten but were gut contents of the pike that the cook disposed of on the kitchen floor. Pike, the third most frequent fish after herring and eel, was again the main luxury fish; there was also evidence for sturgeon. A dump of shells from nearly 900 oysters was recovered from deposits associated with the reformed 12th century abbey (EA 3b). Like the marine fish, they show an increase in purchased food (Light 2003).

At the same time at St Albans most of the fish consumed were from the sea. Cod was most frequent. Though most would have been preserved, the presence of some head bones (Table 10) show that some were eaten fresh. Flatfish, including turbot, were also eaten in quantity. East coast ports such as Great Yarmouth, where in later centuries St Albans had a fish house, probably supplied the marine fish. While the variety and apparent quantity of the larger fish eaten reflects wealth, it also no doubt reflects the taste of the abbot Paul who, having lived in from Caen, would be accustomed to eating marine fish.

Sucking pig, veal, lamb, capons and pullets

The age at which the domestic animals were slaughtered to provision the abbeys provides further clues to their status. Consumption of pigs below the age of a year, before that at which they were normally killed for bacon was a luxury, as was the consumption of veal and lamb, since cattle were also needed for milk and traction and sheep for wool and milk. Eating pullets rather than hens is also a luxury. Even the sex of the animals is telling: the selections of boars rather than sows and of capons (cocks fattened for the pot) rather than hens suggest wealth.

The age at death of pigs, sheep and cattle at Eynsham and St Albans is shown in Figure 7. The pigs from both abbeys seem to have been killed at similar ages, which are broadly similar to the trend for the period (Albarella 2006, Sykes 2007, fig. 35). At Eynsham a few pigs below one year were eaten in the Saxon period. However, young pigs make up as many as a third of those eaten at the reformed abbey (EA 2f). At St Albans, for both Saxon phases combined (SAA 3 + SAA 4), the data suggest just over 10 per cent of pigs were slaughtered during the first year of life, while about 70 per cent were slaughtered by two and a half years. Only about ten per cent of the pigs eaten were of breeding age (Table 11).

Few young pigs were eaten in the Norman abbeys at St Albans (Table 12) but contemporary Eynsham (EA 3a) has a high percentage of pigs killed in the first year. As the other features of the occupation do not denote wealth at the time, this is counter to what might be expected. The first abbey phase (EA 3b) has fewer young pigs.

It is in quantity rather than age that cattle contrast between the two abbeys. Fewer cattle were eaten at St Albans than at Eynsham, especially in the Norman period: at Eynsham cattle are 35–40 per cent, but at St Albans a paltry eight per cent of the mammal bones. While boars' heads were a luxury, the heads of cattle and sheep were poor men's food. It is notable that few teeth and skull fragments of either were present among the food remains from St Albans in either the Saxon and Norman periods (Tables 7, 8 and 9). At Eynsham too there were many more teeth and head fragments of pigs than of cattle and sheep.

The age at death of the cattle suggests that at both abbeys in the Saxon period most meat was eaten as beef rather than veal (Figure 7). The ages of slaughter are a little younger in later centuries than earlier. This is against the overall trend, which is for cattle to be culled at an older age after the Conquest (Sykes 2007: Figure 37). However, as many as one-fifth of cattle bones are from veal calves at St Albans in the 11th–12th century, further evidence that it was a wealthy abbey.

The age at which the sheep were killed (Figure 7) is also similar between sites and phases except that again 11th-12th century St Albans (SAA 13) is an exception. There, a high percentage of the sheep were eaten as lamb rather than as mutton. These are further sign of the luxurious eating at the table of the Norman abbots.

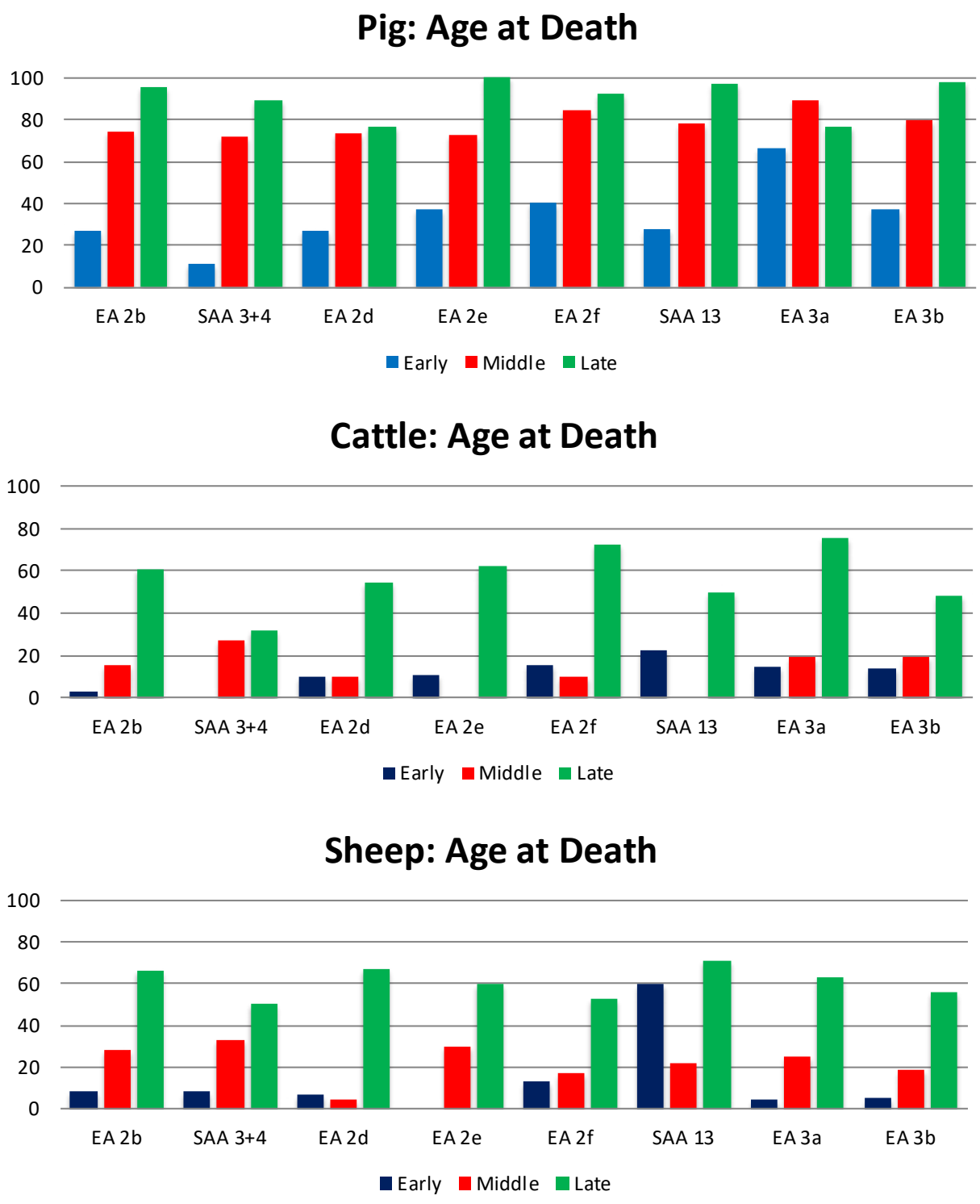

Figure 7. Age at death of pig, cattle and sheep, based on epiphyseal fusion (per cent). Data from Mulville (2003, tab. 10.3, 10.4 and 10.5), Ayres, Locker et al. (2003, 10.28, 10.31 and 10.34), tables 11 and 12. Eynsham phase EA 2e is omitted as sample size is very small.

The proportion of pullets (evidenced by immature bones) increased at Eynsham from ten per cent in the mid-Saxon deposits to 30 per cent in the late Saxon. In Norman St Albans nearly about half of all chickens killed were immature (Table 13). Some immature bones show that young 'green' geese were eaten there.

At mid-Saxon St Albans, the ratio of boars to sows, calculated from the canine teeth and alveoli, show that two to three times as many boars were eaten. At Eynsham the ratio was more equal between male and

PIG	Fused	Unfused	Age of Fusion
Humerus distal	6	0	1 yr.
Radius proximal	11	3	1 yr.
Phalanx 2 Proximal	7	0	1 yr.
Total Early Fusing	24	3	
Phalanx 1 proximal	12	7	2 yrs.
Metacarpus distal	3	15	2 yrs.
Tibia distal	8	8	2 yrs.
Metatarsus distal	7	23	2.5 yrs.
Metapodium distal	6	29	2-2.5 yrs.
Calcaneus tuber	1	8	2-2.5 yrs.
Fibula distal	0	5	2.5 yrs.
Total Middle Fusing	37	95	
Ulna proximal	1	9	3-3.5 yrs.
Ulna distal	1	5	3-3.5 yrs.
Humerus proximal	0	5	3.5 yrs.
Radius distal	0	1	3.5 yrs.
Femur proximal	1	10	3.5 yrs.
Femur distal	1	3	3.5 yrs.
Tibia proximal	1	6	3.5 yrs.
Fibula proximal		1	3.5 yrs.
Total Late Fusing	5	40	
CATTLE	**Fused**	**Unfused**	**Age of Fusion**
Humerus distal	5	1	10 mo.
Radius proximal	7	0	10 mo.
Total Early Fusing	12	1	
Tibia distal	8	4	1.5-2 yrs.
Total Middle Fusing	8	4	
Calcaneus tuber	1	0	2.5-3 yrs.
Radius distal	0	1	3 yrs.
Humerus proximal	1	0	3-3.5 yrs.
Femur distal	1	3	3-3.5 yrs.
Tibia proximal	1	0	3-3.5 yrs.
Total Late Fusing	4	4	
SHEEP/GOAT	**Fused**	**Unfused**	**Age of Fusion**
Humerus distal	7	0	1-1.5 yrs.
Radius proximal	15	0	1-1.5 yrs.
First Phalanx proximal	3	0	1.5 yrs
Total Early Fusing	25	0	
Tibia distal	7	1	2-2.5 yrs.
Metatarsus distal	1	1	2.5-3 yrs.
Metapodium distal	0	1	2-3 yrs.
Total Middle Fusing	8	3	
Femur proximal	4	4	3.5 yrs.
Humerus proximal	2	0	3.5-4 yrs.
Radius distal	3	0	3.5-4 yrs.
Ulna proximal	1	0	3.5-4 yrs.
Ulna distal	1	0	3.5-4 yrs.
Femur distal	0	1	3.5-4 yrs.
Tibia proximal	2	1	3.5-4 yrs.
Total Late Fusing	13	6	

Table 11. St Albans Abbey, late 7th–9th century (SAA 3 + 4): fusion of pig, cattle and sheep/goat bones.

PIG	Fused	Fusing	Unfused	Very juvenile
Scapula	2		2	1
Humerus D			2	1
Radius P	2		2	
Tibia D			2	
MC III	1		6	
Humerus P	1		1	
Radius D	2		1	
Ulna P			1	
Femur P		1	2	
Femur D				
Tibia P			2	
Fibula D	1		6	
Total	9	1	27	2
CATTLE	**Fused**	**Fusing**	**Unfused**	**Very juvenile**
Pelvis	1			
Scapula	5			
Humerus D		1		
Radius P			1	
Phalanx 1	1			
Tibia D			1	
MP D			1	
Humerus P	1		1	
Ulna P	1			
Femur P		1		
Femur D	1		1	
Total	10	2	5	
SHEEP/GOAT	**Fused**	**Fusing**	**Unfused**	**Very juvenile**
Scapula	2		2	1
Humerus D	3	1		
Radius P	7			
Tibia D	5	4	3	
Metacarpal D	3		2	
Metatarsal D				
Humerus P		1	1	
Radius D	1		2	
Ulna P			3	
Femur P	3		2	1
Femur D	1		3	1
Tibia P			3	
Calcaneus	6		10	
Total	31	6	31	3

Table 12. St Albans Abbey, 11th–12th century (SAA 13): fusion of pig, cattle and sheep/goat bones.

	Fused	Fusing	Unfused	Total	% immature
EA 2b		2	3	5	100.0
EA 3a	12	1	23	36	67.6
SAA 13	6		7	13	53.8
EA 3b	6	1	15	22	73.9

Table 13. Pre-minster phase at Eynsham (EA 2b), post-Conquest phase at Eynsham (EA 3a), Norman St Albans (SAA 13) and the refounded Norman abbey at Eynsham (EA 3b): age at death of domestic chickens, based on the tarsometatarsus.

female pigs in earlier phases but more boars were eaten was in the Aelfrician period (Mulville 2003: Table 10.7).

Capons, which were sought after for banquets, can be identified from the tarsometatarsus, which

shows a spur in mature cocks and a spur scar in young ones. Of the adult birds at Saxon Eynsham, two of four tarsometatarsi are spurred. At St Albans in the Norman period, four of nine tarsometatarsi are from capons, while at Eynsham in the Norman period only two of 13 tarsometatarsi are spurred in the immediate post-Conquest occupation (EA 3a) but two of five in the reformed abbey (EA 3b) (Ayres *et al.* 2003: Table 10.37). Even the chickens distinguish the wealth of St Albans when compared to Eynsham.

The various markers of wealth vary at both abbeys at different times, and they are though sometimes contradictory. St Albans in Norman times stands out as having most of the marks of wealth discussed here.

Discussion and conclusions

It is clear from the various aspects of food consumption discussed that the individual assemblages from Eynsham and St Albans do not reveal a consistent transition from the Saxon to the Norman period. While some features such as increased consumption of fish and birds, especially chickens, and the first evidence for fallow deer are typical of the changes following the Conquest, other features are untypical. Rather, each occupation phase has its own characteristics, reflecting the wealth, piety and also the environment.

The interpretation of the 'pre-minster' settlement at Eynsham (EA 2b) as wealthy was based to a large degree on the animal bones, especially the deer and the birds. This re-analysis suggests that it might already have been a minster because of the absence of evidence for the consumption of horse flesh and the unusually large number of chickens eaten. It is tempting to see the birds as marking a move by the inhabitants away from the meat feasts beloved of the Anglo-Saxons and an early adoption of the church's dietary rules.

The animal foods consumed at the minster at Eynsham throughout the Saxon period show a degree of wealth, based on the deer and also the remains of crane. The predominance of roe over red deer characterizes it as an ecclesiastical household but the absence of fish and the moderate quantities of chickens and other birds suggest the Benedictine observance seen in some other abbeys had not yet been fully adopted. The influence of the local environment is seen in the freshwater fish and waterfowl that would have been common at this riverine site.

Though the buildings of the 8th to 9th century at St Albans are unknown, the animal bone assemblage from the ditch suggests that the establishment there was wealthy and substantial, probably more so than Eynsham. It has signs of being wealthier than some other contemporary religious houses, as might be expected if it was founded by the Mercian king. The percentages of pigs and roe deer are uniquely high – even taking into account that the abundance of animals that lived in or fed in woodlands must have been due partly to the large woodland holdings of the abbey and its local manors. The visitors to the site – or perhaps the abbot – engaged in falconry. However, as at Eynsham, the evidence for dietary piety is not strong with only a modest percentage of birds, and no evidence for fish.

The early 11th century Aelfrician abbey at Eynsham (EA 2f) shows some changes from the earlier minster that denote wealth: as well as an increase in the quantity of game, the cook was selecting boars rather than sows and capons rather than old hens. Piety – together with a requirement for their wing feathers as quills – may account for the relatively large numbers of geese, but as far as we can tell, it did not extend to eating fish in quantity. Rather, the diet reflects the abbey's high status during its brief 11th century flowering.

In the Norman period the contrast between the two abbeys is much greater. The bone remains from Eynsham in the late 11th century help to resolve the contradictory documentary records. The establishment seems to have been observant, to judge by the quantities of fish and eggs consumed, confirming that it probably had an ecclesiastical function. The diet in the refounded 12th century

abbey was typical monastic fare for the time. The fish included preserved cod and herring, a lot of chickens and eggs, and moderate quantities of game, showing both observance and relative wealth.

By contrast the food remains from Norman St Albans reveal a household that was clearly very wealthy. Exceptional quantities of game, pigs and freshwater fish consumed, and with more than a fifth of all birds eaten being those caught in the wild. The continuity from the 8th–9th to the 11th century at St Albans in the consumption of roe deer and pigs suggests that the wooded character of Hertfordshire continued to influence diet. Particularly intriguing is the fact that the food regime mirrors contemporary French wealthy households. The large numbers of pig remains and the relatively large quantity of hare can be seen as Abbot Paul stamping his influence on the foods served, following the habits of his young life as a monk at Caen under Lanfranc (Biddle 1977). He was also meeting his obligation of hospitality to visitors, which, in view of his contacts, are likely to have included the king and the archbishop. The fish – and the large percentage of birds overall – mark St Albans out as an observant as well as a wealthy household at the time.

Despite the pious intention of St Benedict of Nursia, ecclesiastical establishments in England in the Middle Ages always included flesh meat in the diet. It may have been fed more regularly to visitors and to the the young and the sick than to the religious members of the household and it may have been avoided on fast days but the animal remains from all medieval religious houses show that flesh meat was eaten regularly and apparently not in lesser quantity than in secular households.

Food remains have often been analysed with the aim of interpreting food production but here we have been examining households where food was consumed rather than produced. The minsters and abbeys could select from the animal raised and caught on their estates and could purchase food in the market. The assemblages from each abbey at different times showed different influences on their food choices and different capacities to obtain luxury foods by which they could exhibit their piety or wealth.

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