New animals, new landscapes and new worldviews

THE IRON AGE TO ROMAN TRANSITION AT FISHBOURNE

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Anthropologists and cultural geographers have long accepted that animals play an important role in the creation of human cultures. However, such beliefs are yet to be embraced by archaeologists, who seldom give zooarchaeological data much consideration beyond the occasional economic or environmental reconstruction. In an attempt to highlight animal remains as a source of cultural information, this paper examines the evidence for the changing relationship between people and wild animals in Iron Age and Roman southern England. Special attention is given to 'exotic' species — in particular fallow deer, domestic fowl and the hare — whose management increased around AD *43. In Iron Age Britain the concept of wild game reserves was seemingly absent, but the post-Conquest appearance of new landscape features such as* vivaria, leporaria *and* piscinae *indicates a change in worldview from a situation where people seemingly negotiated with the 'wilderness' and 'wild things' to one where people felt they had the right or the responsibility to bring them to order. Using Fishbourne Roman Palace as a case study, we argue that wild and exotic animals represented far more than gastronomic treats or symbols of Roman identity, instead influencing the way in which people engaged with, traversed and experienced their surroundings.*

INTRODUCTION

The Iron Age to Roman transition is one of the most pivotal but also poorly understood periods of British history. Its study has generated a substantial literature examining how the archaeological record might reflect the circumstances and impact of AD 43. Traditionally, variations in material culture have been discussed in terms of 'Romanisation', sites being labelled either 'Roman' or 'native' depending on the artefacts derived from them. Increasingly, however, it has been recognised that such coarse interpretations fail to account for the complexities of human nature; people cannot be classified simply by the objects in their possession. In an attempt to move away from the concept of Romanisation, the last decade has seen a proliferation of studies concerning 'identity' (Carr 2005; Hamshaw-Thomas 2000; Hill 2001; Leach *et al*. 2009; Mattingley 2004; Pitts 2007; Webster 2001) in which material culture has been discussed in terms of ethnicity, social status and gender, for example perceptions of sex (Baker 2003; Leach *et al*. 2010) and age (Harlow and Laurence 2007). Whilst these studies have produced more nuanced interpretations of the period, Pitts (2007) has argued that, in theoretical terms, they have advanced little beyond Romanisation and involve the same, fixed, one-to-one relationship between material culture and social groups. Rather than focusing on the typology and date of artefacts, we need to consider what they represent in terms of social practice, for example where and how they were used, and for what purpose. Pitts (2007, 700) suggests that such an approach would help to highlight daily practice and, given that identity is based largely on the way that people do things, it might bring us closer to understanding the societies that we study.

The idea that material culture should be viewed as an 'active participant' in social practice is becoming increasingly popular within archaeology, the theory being that pots and other objects have their own characters and play individual roles in the creation of culture (Appadurai 1986; Moore 2007). There is ample anthropological evidence to indicate that objects have 'agency' in their own right; we would argue, however, that the same case can be made, perhaps even more strongly, for animals — living things which 'act back' in a way that artefacts do not. Social anthropologists and cultural geographers accept that animals play a central role in the creation of human culture, helping to shape and give meaning to our worlds

(Mullin 1999; Philo and Wilbert 2000; Wolch and Emel 1998). Traditionally, archaeologists have tended to consider animals solely in terms of dietary patterns, economy and environmental reconstruction, or as 'symbols'. Iron Age and Roman archaeology is particularly devoid of integrated social analyses of zooarchaeological evidence, most studies existing in isolation from general period-based discussion (Albarella *et al*. 2008; Hambleton 1999; 2008; Hamshaw-Thomas 2000). This is a problem which has previously been voiced by Haselgrove *et al*. (2001), who stated that studies which articulate biological remains with settlement and material culture are rather limited.

Our paper joins a growing body of animal bone studies which have aimed to redress the balance and highlight the socio-cultural significance of animals in Iron Age and Romano-British society (Crabtree *et al*. 2010; Hawkes 1999; Madgwick 2010; Morris 2010; Wilson 1999). We seek to provide a new zooarchaeological perspective on the social changes that occurred during the Late Iron Age and Roman periods. Our intention is to largely by-pass the issue of Iron Age and Roman 'identities' by simply considering the animal bone evidence in terms of social practice. Our argument is founded on the belief that, whilst animal remains may be retrieved from their final resting place, each has a back history representing human relationships of varying duration and purpose that would have been of real significance to the people involved. Traditionally, animal bone studies have tended to focus on dead animals and in particular on their role as suppliers of meat and other primary products. However, even where animals were raised for only short periods of time — a few weeks or months — the majority of their associations with humans would have been played out whilst they were alive, the act of being processed and eaten representing only a small, albeit intense, fraction of the total relationship. In situations where animals were maintained for years, it has to be expected that, as is found amongst most modern pastoral societies, bonds would have developed between them and the people with whom they dwelt (Ingold 2000). It is important to recognise that whether as living organisms or as 'products' — meat, fat, skins, bones, artefacts — the behaviour and properties of animals, how they look, sound, smell and feel, would have been key ingredients of human experience. Animal bones thus offer a direct link to the way in which people did things in the past, telling us about how people chose to behave in their surroundings. In turn this provides information about how people might have thought about their surroundings, a subject that can be developed further if the animal bone data are integrated with evidence from other sources, such as artefacts, documents, iconography and landscape studies.

Pitts (2007, 698) has suggested that landscape evidence is 'able to provide only a low-resolution approach to change in everyday practice'. We do not subscribe to this view, and this paper will argue that animal-based studies of landscape can provide vital insights into shifting patterns of human behaviour and ideology (Sykes 2010a). The relationship between people, animals, landscape and culture was acknowledged in the past and is even intimated by classical texts. According to Roman origin myths, for instance, the boundaries of the city state of Rome were laid out by cattle, and the position of the city's walls and gates were marked out by a bull. Indeed, Italy was said by Varro (*De Re Rustica* II, V.3) to have been bestowed its name 'because of the number and beauty of its cattle', the word 'Italy' coming from the ancient Greek for bulls, '*itali*' (Varro was quoting the, now lost, works of the Greek historian Timaeus of the 3rd century BC; *see* also Schwabe 1994, 46). In these few lines are articulated the idea that culture is created through the interaction of people, animals and the land in which they dwell; it is difficult to study one of these aspects in isolation from the others. If this inter-connectivity is accepted, the study of Iron Age and Roman animals becomes a work too large for consideration in a single article (for more detailed discussion *see* Allen 2011). In order to streamline this paper into a manageable form, it will focus on two separate but inter-linked topics: the relationship between people and wild animals, and the role of exotic animals as reflections, and even instigators, of changing worldviews.

Wild animals are a particularly interesting subject for investigation. This is especially true when considering their role in farming societies where hunting, fishing and fowling are not necessary for survival and so the decision to undertake or avoid these activities is a cultural choice, often speaking volumes about the people in question (Cartmill 1993). The study of exotic

animals can also tell us about ideology, because the motivation for, and response to, the introduction of new species are shaped by cultural perceptions; indeed these are often accompanied by dramatic changes in landscape and environment (Hobbs 2000). The study of exotic animals is made all the more significant in the context of the Iron Age to Roman transition by the fact that Roman society is well known for its consumption of biodiversity. Exotic species were transported across the Empire, ecologically impoverishing the regions where the biota was sourced; the desire to watch impressive beasts in the amphitheatres of Europe is said to have denuded North Africa of its populations of rhinoceros, zebra, hippopotamus, elephant and large cats (Coates 1998, 25, 38; Hughes 2003; Whatmore and Thorne 1998). The zooarchaeological record provides tangible evidence for these animal translocations (Gardeisen 2002; Lepetz and Yvinec 2002) and, importantly for this study, both exotic and native wild animals are well represented at the site which is the focus of this article: Fishbourne Roman Palace in Sussex.

ZOOARCHAEOLOGICAL EVIDENCE FROM FISHBOURNE AND BEYOND

Barry Cunliffe's 1960s excavations at Fishbourne yielded a large and well-preserved assemblage of animal remains (Fig. 1; Cunliffe 1971). A number of other assemblages have since been added. Between 1969 and 1995 a variety of smaller excavations were carried out, each producing faunal collections of varying size. The southern part of the west wing in 1987–88 (FB87/88) was excavated by Rudkin (Cunliffe *et al*. 1996, 69–87) and a small assemblage was recovered which had subsequently lain unanalysed, in 1992 Southern Archaeology excavated a large area at Westward House (FB92) east of the Palace producing a further faunal assemblage (Kenny 1992, 32–7) and, due southwest of the Palace on the western bank of the estuary, a large 'aisled hall' villa was excavated in 1982–83 (FBH82–83) which was found to overlay an earlier timber-framed structure (Rudkin 1986). Each of these assemblages, including the initial 1960s material, was (re)analysed by Martyn Allen as part of his PhD research on the settlement at Fishbourne (Allen 2011 in prep.).

However, this re-analysis was less than straightforward. The 1960s assemblage was boxed not by context but by 'period', so the relationship of the material to its specific place of excavation was unknown. To re-discover this information it was necessary to sort through the entire assemblage and reconstitute it by context, made possible by the survival of context labelling on the bones. This was then complemented by considerable archive work and examination of the original paper records — notes, plans and sections — to re-establish where the animal bones had been excavated from the site in the 1960s.

Between 1995 and 2002 a final phase of excavation took place immediately to the east of the Palace (Fig. 1). This excavation revealed the first definitive evidence of Iron Age occupation at the site, with the discovery of a substantial linear ditch which contained considerable amounts of charred animal bone together with a quantity of imported pottery dating to the period 10 BC to AD 25 (Manley and Rudkin 2005). A large faunal assemblage was recovered from these excavations and these have been variously published in different reports (Sibun 2003; Sykes 2005) with the entire assemblage re-analysed and detailed in Sykes *et al*. (2006a). The dataset for the entire 1995–2002 assemblage was thus available in formats compatible with the analyses carried out by Allen (2011) and together these were incorporated as such. These datasets were systematically created and focused on gaining as much information as possible from the assemblages rather than targeting particular aspects, such as biometrics. Recognising the need to view the assemblage in its entirety, the Arts and Humanities Research Board (AHRC) funded a three-year project to re-investigate the Fishbourne collections and place the resulting data in their wider cultural setting.

A further problem involved with reconstituting the various datasets was the inconsistent sets of criteria by which features and materials from the different excavations were dated. Clearly the animal bone data needed to be arranged within a phasing system so that each assemblage could be made comparable and together they could show temporal changes which occurred across the settlement. To re-thread the different dating schemes, the samian ware catalogue from the 1960s excavations was re-examined, by context, to systematically arrange the dating of the material closer to that used in later excavations. Overall the dataset is arranged into four phases, as detailed

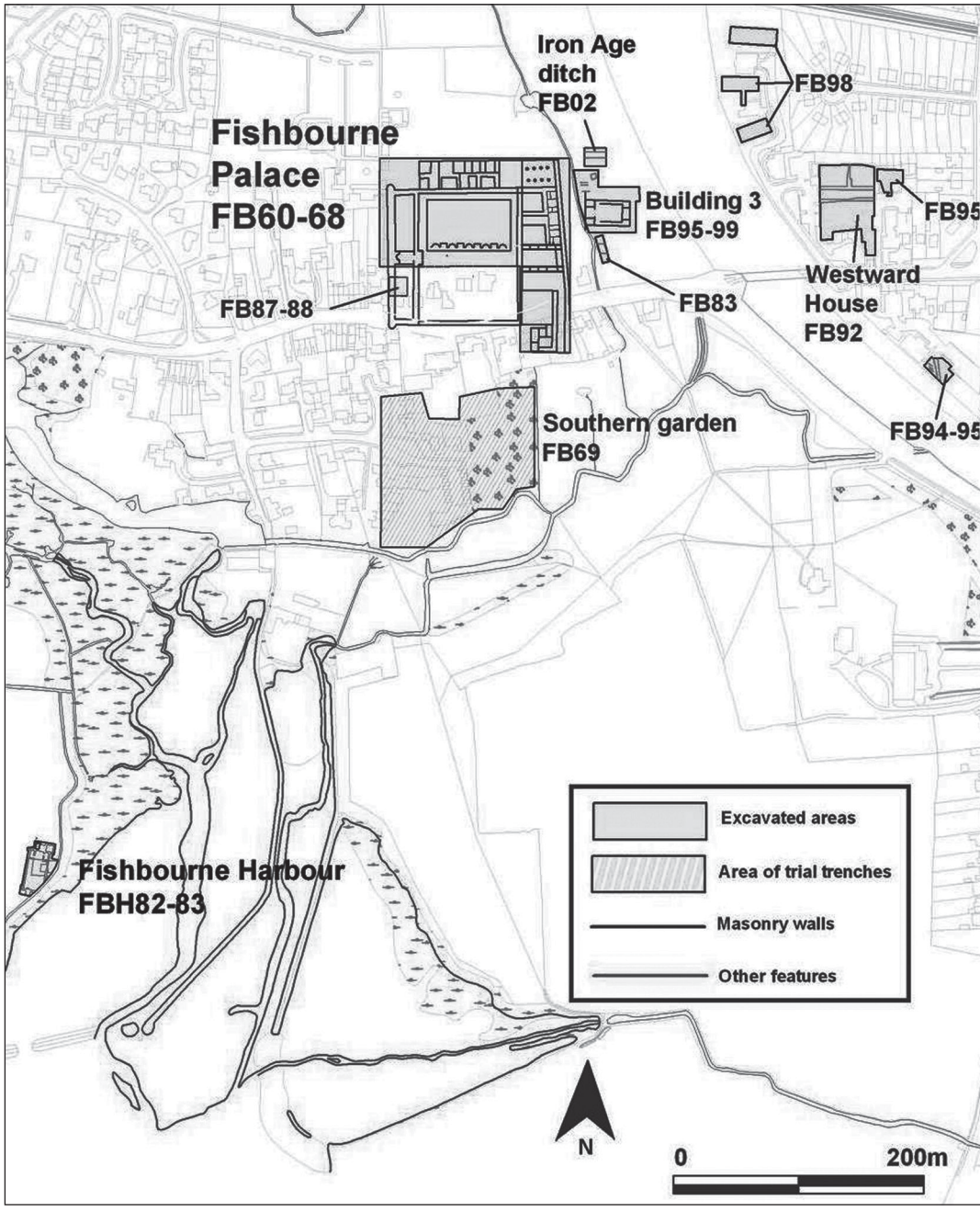

Fig. 1. Plan of the Fishbourne area showing the main excavation from which animal bones were recovered.

in Table 1, which correspond approximately to Cunliffe's (1971) original phases but with an updated chronology to take into account the discoveries made since original publication. For example, the period of activity surrounding the late Iron Age ditch and Cunliffe's 'military phase' are now taken together in Phase 1. This seems to be the most suitable way of arranging the dataset,

though it is accepted that there may have been differences in site activity over time within each phase. The approximate date ranges are given below each phase in Table 1, e.g. Phase 1 = *c.*1stC. BC–AD. 'Date' is referred to in the text rather than 'phase', though this should not be taken as absolute dating and is instead designed to give the reader a relative idea of time and the broader temporal differences between each period. The boundaries between phases should be regarded as fluid, each phase transitional from one to the next. Most important, because of the re-analysed context dating of the 1960s excavations, it remains viable to examine single contexts with tighter dating within this phasing framework — the Iron Age ditch for example (Fig. 1).

The inter-period variations in taxa representation are summarised in Table 1 and Fig. 2. Even at this coarse level it can be seen that there are noticeable differences between the Iron Age material and the assemblages from later phases of the site. It is important to recognise from the outset that the Iron Age material comes from a single feature of uncertain function, whereas later assemblages come from a wide range of context types; the validity of directly comparing the different assemblages is therefore debatable. However, we feel that if the data are viewed against the wider zooarchaeological evidence for Iron Age and Roman Britain, it is possible to draw robust conclusions about changes in human–animal relationships.

To examine this we will consider the Fishbourne evidence against a large body of zooarchaeological data collected from 473 assemblages from 350 individual sites across England and Wales (Table 2). For this study we have not discriminated between different kinds of site-type; instead we have combined the data from all kinds of site (from rural settlements and hillforts to towns, temples and forts) to calculate what we have termed the 'national average'. These have been calculated variously, depending on the type of analysis, but full descriptions are provided in the caption headings of any figures where they are used. The background dataset is too extensive for inclusion in this paper, but the relevant data, full details of the quantification techniques and bibliographic sources can be accessed via the PhD thesis of Allen (2011), at present in the archive at the University of Nottingham and Fishbourne Roman Palace Museum, and also currently being prepared for full publication (Allen 2011, in prep.).

The 'Iron Age ditch' data are given separately here, and are also inclusive with the '1st.BC–AD' data (Allen 2011, in prep.).

IRON AGE AND ROMAN ATTITUDES TO WILD ANIMALS AND THE WILDERNESS: THE EVIDENCE FROM FISHBOURNE

As is the case with most Iron Age assemblages, the material from Fishbourne's ditch is characterised by 'the domestic', the remains of cattle, sheep/goat and, in particular, pigs accounting for over 90% of the assemblage (Fig. 2). The material is slightly unusual, however, in that most of it was charred and spread carefully along the south side of the ditch (Sykes 2005). The assemblage also contains a number of specimens from wild animals: red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), hare (*Lepus* sp.), wild birds and fish. This is uncharacteristic of Iron Age domestic assemblages, as becomes clear when the evidence from other contemporary sites is examined.

Recently the zooarchaeological evidence for Iron Age England has been reviewed by a number of researchers, and together these studies highlight a widespread dearth of fish, marine molluscs and crustaceans, wildfowl and game mammals in assemblages of this date — interestingly, even wild plants have been shown to be poorly represented in Iron Age deposits (Allen 2011; Dobney and Ervynck 2007; Hambleton 2008; van der Veen 2008; Willis 2007). Of course there are regional differences in the archaeological record (Mulville 2008). For instance, whilst Dobney and Ervynck (2007) showed that fish were rarely exploited by the majority of the Iron Age population, there is evidence for an extensive fishing economy at Iron Age Dun Vulan, South Uist (Parker Pearson and Sharples 1999), and a considerable quantity of marine molluscs were excavated from the settlement at Rookery Hill, East Sussex (Bell 1977). Extensive exploitation of wildfowl and beaver populations has been demonstrated at mid–late Iron Age Haddenham V in the Cambridgeshire fenlands (Serjeantson 2006). Clearly the variety of landscapes and communities in Iron Age Britain contributed to a matrix of different attitudes towards the natural world. Willis (2007, 113) even notes how different resources from the same

Table 1. Fishbourne animal bone assemblage: Number of Identified Specimens (NISP) for all phases. Sites include excavations FB61–68, FB69, FB80, FB81, FBH82–83, FBS83, FBP84, FBN86, FBW87/88, FB92, FB94–95, FBA95, FBB95, FBE95–02, FBH96, FB98, FBS99 and FBC06. See Fig. 1 for the location of the main excavations. Figures in parentheses show data from the Iron Age ditch context, *c.*10 BC–AD 25. These data are inclusive in the total for the phase, 1stC.BC–AD. Source: Allen 2011, in prep.

	Transition	Early Roman	Late Roman		
Taxa	**1stC.BC–AD**	**1st-2ndC.AD**	**2nd–3rdC.AD**	**3rd–4thC.AD**	**Grand total**
Cattle *Bos taurus*	842 (24)	878	468	559	2747
Sheep/Goat	1078 (47)	781	290	364	2513
Sheep *Ovis aries*	8 (2)	10	1	2	21
Goat *Capra hircus*	4	6		6	16
Pig *Sus scrofa*	1857 (197)	1173	349	481	3860
Equid *Equus* sp.	58	131	127	63	379
Dog *Canis familiaris*	38 (2)	27	18	23	106
Fox *Vulpes vulpes*		1			1
Dog/Fox	1	1			2
Cat *Felis silvestris*		4			4
Red deer *Cervus elaphus*	151 (2)	61	52	68	334
Fallow deer *Dama dama*	7	17	5	10	39
Fallow deer/Red deer	7	1		4	12
Roe deer *Capreolus capreolus*	101 (3)	49	12	17	179
Hare *Lepus europaeus*	70 (4)	64	1	7	147
Badger *Meles meles*				2	2
Bear *Ursus arctos*				1	1
Black rat *Rattus rattus*		2			2
Cow-size	1336 (48)	1691	660	837	4524
Sheep-size	2146 (160)	2382	526	864	5918
Small mammal	211	187	29	52	479
Unidentified mammal	1904 (644)	3801	531	656	6892
Subtotal	***9819 (1133)***	***11,267***	***3069***	***4016***	***28,178***
Domestic fowl *Gallus* sp.	565 (8)	238	37	70	910
Duck *Anas/Aythya* sp.	5	6	1	1	13
Mallard *Anas platyrhynchos*	82	32	3	18	135
Teal *Anas crecca*	4	1			5
Wigeon *Anas penelope*		2			2
Pochard *Aythya ferina*			1		1
Tufted duck *Aythya fuligula*		1			1

environments were exploited to varying degrees; for example, whilst fish and seabirds tended to be rare on Iron Age sites, extraction of sea-salt and use of wetland grazing were carried at intensive levels in some regions.

Despite the regional differences, the overall picture indicates a lack of evidence for exploitation of wild resources during the Iron Age, suggesting that the environments in which fish, birds and game mammals dwelt were being engaged with and comprehended in very particular ways; whilst people may have moved through woodland, fenland and marshland, they were, in general, choosing not to hunt or trap animals from these areas. These findings provide support for the suggestion that the 'wilderness' was viewed as sacred in the Iron Age and its exploitation was subject to taboos. Certainly, votive offerings of coins and metalwork were frequently placed at the boundaries to wilderness areas — the edges of bogs, lakes, rivers, estuaries and the sea shore — where settlement and day-to-day activities appear to have been limited during the period (Creighton 1995, 298; Rogers 2008; Willis 2007, 115).

That such a situation may have existed in the past should come as no surprise, given that

Table 1. *(cont.)*

	Transition	Early Roman	Late Roman		
Taxa	**1stC.BC–AD**	**1st-2ndC.AD**	**2nd–3rdC.AD**	**3rd–4thC.AD**	**Grand total**
Velvet scoter *Melanitta fusca*		1			1
Greylag goose *Anser anser*	25 (4)	10	2	7	44
Pink-footed goose *Anser brachyrhynchus*	2				2
Barnacle goose *Branta leucopsis*	2				2
Moorhen *Gallinula chloropus*		3			3
Woodcock *Scolopax rusticola*	2	10			12
Godwit *Limosa* sp.	1				1
Spoonbill *Platalea leucorodia*	1				1
Common crane *Grus grus*	7	3			10
Gull *Larus argentatus*	11 (1)	4			15
Raven *Corvus corax*	1				1
Corvid *Corvus* sp.				1	1
Redwing *Turdus iliacus*		1			1
Thrush *Turdus* sp.	6				6
Woodpigeon *Columba palumbus*	11	3		5	19
White-tailed eagle *Haliaeetus albicilla*		1			1
Unidentified bird	57 (2)	102	5	23	187
Subtotal	***782 (15)***	***418***	***49***	***125***	***1374***
Bass *Dicentrarchus labrax*		15			15
Eel *Anguilla anguilla*		17			17
Cod *Gadus morhua*		4			4
Grey mullet *Mugil cephalus*		5			5
Herring *Clupea harengus*		4			4
Pouting *Trisopterus luscus*		1			1
Seabream *Sparidae* sp.		2			2
Thick-lipped mullet *Chelon labrosus*		13			13
Whiting *Merlangius merlangus*		4			4
Ballan wrasse *Labrus bergylta*	1				1
Flatfish Pleuronectiformes	1 (1)	55			56
Unidentified fish	3 (2)	38			41
Subtotal	5 (3)	158	0	0	163
Grand total	**10,606**	**11,828**	**3118**	**4141**	**29,700**

Table 2. Number of assemblages used to calculate the national averages, shown by period and date. Source: Allen 2011, in prep.

Period (national averages)	Date	Number of assemblages
Middle Iron Age	4th to 2nd century BC	41
Late Iron Age	2nd century BC to mid 1st century AD	71
Transition	mid 1st century BC to 1st century AD	53
Early Roman	mid 1st to 2nd century AD	151
Late Roman	2nd to 4th century AD	157

comparable beliefs are found in a wide variety of modern and recent groups (Helms 1993). Many traditional societies see the wilderness as a different realm from the domestic world, where the social rhythms of the everyday do not apply (Hamilakis 2003, 240). To venture into the wilderness is therefore to move within an unfamiliar, dangerous and usually sacred geography, where past and present, and life and death, are merged (Ingold 2000, 84).

Ability to travel between the boundaries of these different worlds is often regarded as a sign of power, and shamanic status or supernatural authority is frequently conferred on those who do so (Helms 1993, 153–7, 211). For instance, the Dogon of Mali and the Yukaghirs of northeast Siberia believe that, whilst in the wilderness, humans may take the form of animals, exchanging body parts or souls with the spirits who dwell there (Ingold 2000, 84; Willerslev 2004). Whilst these examples clearly come from societies removed in time and space, such worldviews resonate with the evidence for Iron Age England, such as Creighton's (1995, 298) suggestion that Druids lived in boundary areas, where they served as mediators between humans and the gods. Indeed, human–animal hybrids were frequently depicted in Iron Age iconography (Aldhouse-Green 2004, 150). The mingling of human–horse identities on Iron Age coinage is apparent in some regional depictions from Britain and Northern Gaul, where many of the horses began to be depicted with human heads around the 2nd–1st century BC (Creighton 2000, 26–7).

The human–horse relationship is an important one because it represents a particular mode of voyaging, one very different from walking. When in ride, the horse and rider 'flow together, they are in tune with each other, rather like an orchestra… what matters here [are] individuals, human and horse, and species, are forgotten' (Game 2001, 4). Undoubtedly horses were being ridden in the Iron Age, as is indicated by riding gear (Creighton 2000, 62–3), and the presence of bitting wear on horse teeth from Danebury and Bury Hill, hillforts in Hampshire, demonstrates the use of riding bits (Bendrey 2007, 1045–9). Hillfort excavations have commonly produced remains of wild mammals in pits and other features (Grant 1991; Jarman *et al.* 1968; Jones 1977; Kenyon 1954; Westley 1969). Alongside the iconographic and horse evidence, the associations are suggestive of a link between riding and hunting — travel between the 'domestic sphere' and the wilderness.

Helms (1993, 7) has argued that supernatural power is conferred not only on people from remote realms but also on 'things' derived from the outside, which are often seen as carrying associations with ancestors and cultural heroes. The possibility that wild animals were viewed in this way has been intimated by several authors (Grant 1984; Green 1992; King 1991). In his detailed analysis of Iron Age disposal practices Hill (1995, 64, 104) demonstrated that wild animals are significantly better represented in so-called 'special deposits' or Associated Bone Groups (ABGs) than they are in other contexts. ABGs are deposits of articulating skeletal remains that are found on Iron Age settlements across southern England, and are sometimes interpreted and referred to as 'special deposits' (Grant 1984; Hill 1995; Morris 2008; 2010). An example of these types of deposit was excavated at the Middle Iron Age hillfort at Winklebury Camp, Hampshire, where large pits within the site were found to contain complete skeletons of a red deer, 12 foxes, a minimum of 8 badgers and a relatively high frequency of hare and raven bones (Jones 1977). It should be noted that wild animals are still rare in ABG deposits compared to domestic animals (Morris 2008). However, based on the disparity between domestic and 'special' deposits, Hill (1995, 104) proposed that the hunting and consumption of wild animals were proscribed, being undertaken only on rare occasions of feasting and sacrifice. Certainly this would account for the comments made by Caesar about Iron Age customs, when he stated with incredulity that 'hare, fowl and geese they think it unlawful to eat' (*De Gall. Bel.* [*The Conquest of Gaul*] V.12).

Against this background we may come closer to understanding the nature of Fishbourne's Iron Age ditch, which bears many of the hallmarks of a ritual feasting deposit. The argument for this is presented in Sykes (2005) but, in brief, not only does the assemblage contain an unusually high frequency of wild animals, but also several of the specimens were found articulated, for example the complete foot of a red deer and another of a hare, and so could legitimately be labelled as ABGs. The fact that all the material had been charred also seems significant, given that conflagration is a cross-culturally recognised method of allowing the gods to participate in feasts, the food being carried to them via the smoke (Ekroth 2008; Heesterman 1993). That the charred material was then spread along the length of the ditch also suggests a level of care beyond that employed in 'normal' disposal practices. The case for a feasting deposit is strengthened further when the animal bone data are combined with the ceramic evidence (Manley and Rudkin 2005, 64–76), which demonstrated an

exceptionally high level of imported continental pots, many of which were largely complete and were presumably discarded at the end of the consumption event — again, this is characteristic of a feasting deposit (Dietler and Hayden 2001). Finally, the contextual evidence indicates that the ditch was not dug simply as a functional barrier; instead it seems to have been cut and then deliberately backfilled shortly after the material was deposited. Hill (1995, 76–83) has identified similar ditch sequences at sites such as Winnall Down in Hampshire and Gussage All Saints in Dorset, and we might envisage a situation in which people came together to define their physical and spiritual community by engaging in hunting, consuming the animals from the wilderness, and then sharing the feast with the gods through the burning and deposition of the remains in the ditch that they had dug together.

Willis (2007, 118) has suggested that hunting and ritual deposition of wild animals may have been attempts to manage and control nature at a time when agricultural production was becoming increasingly socially and politically important. Whilst this is an attractive idea, in most non-western cosmologies the idea that 'nature' is separate from culture does not exist, and it seems more likely that, rather than trying to impose order on the wilderness, the deposits reflect a desire to come to terms with it (Aldhouse-Green 2004; Bell 1995, 145; Ingold 2000, 83). We suggest that the zooarchaeological evidence indicates an Iron Age cosmology composed of different spheres of influence, some (the 'domestic') under human care, others (the 'wild') more closely aligned with the divine, but all part of the same inter-connected world. In many respects the situation in the Roman period appears to have been very similar to that of the Iron Age; culture, nature and the divine were not seen as separate entities but as intertwined parts of the whole (Beagon 1992, 32).

For Roman Britain there is some evidence of continuity in social practice; ritual deposition of wild animals endured into the post-Conquest period (King 2005, 363; Morris 2008), and votive offerings were still made at boundary locations such as in the fenlands (Rogers 2007), even though the area was undergoing considerable economic transformations (Evans and Hodder 2006, 428–9; Mattingley 2006, 384–6; Millett 1990, 120–21). Watery places and the animals derived from them seemingly continued to hold religious significance (Rogers 2008; Willis 2007). This last point is exemplified well at Fishbourne, where one first/second century deposit, the so-called 'oyster gully', was found to contain exceptionally large quantities of shellfish and fish remains, and also wild bird and game mammal bones. This deposit is discussed in both Somerville and Bonell (2006) and Sykes *et al*. (2006a) and, although interpretations vary between the authors, both reports highlight the unusual character of the assemblage and argue that the deposit may reflect a special, and potentially ritual, feast. This idea is supported by the fact that the entire vertebrate assemblage was burnt and deposited with quantities of largely complete ceramics, a situation that shows affinities with the Iron Age ditch assemblage and other known sacrificial feasting deposits (for instance Hamilakis and Konsolaki 2004; Powell 1995–6).

The oyster gully assemblage appears to add credence to Willis' (2007, 114) suggestion that wild species continued to be viewed as 'special' but, even if they continued to be perceived as sacred, the zooarchaeological record demonstrates that people were interacting with their surroundings in ways that they previously had not. Regional reviews of the animal bone evidence have demonstrated that the post-Conquest period saw a dramatic increase in the use of fish, wildfowl, game mammals and wild plants (Locker 2007; van der Veen 2008; Willis 2007). This rise in wild resource exploitation is charted by the Fishbourne assemblage, Table 1 and Fig. 2 showing that wild birds and mammals are far better represented in the Roman period deposits than they are in the Iron Age ditch (and it must be remembered that the ditch has itself an unusually high frequency of wild animals). Fish are also better represented in the post-Conquest material, although it should be noted that the majority of fish remains come from the oyster gully. Overall, the shifts apparent in the zooarchaeological record suggest that worldviews were altering and that procurement and consumption of species taken from the wilderness were no longer prohibited. The possibility that attitudes to the wilderness were changing is also indicated by settlement patterns. These show that inhabitation of fenland and coastal areas increased substantially in the Roman period, suggesting that it was now deemed acceptable for humans to dwell in these spaces, as well as being physically possible due

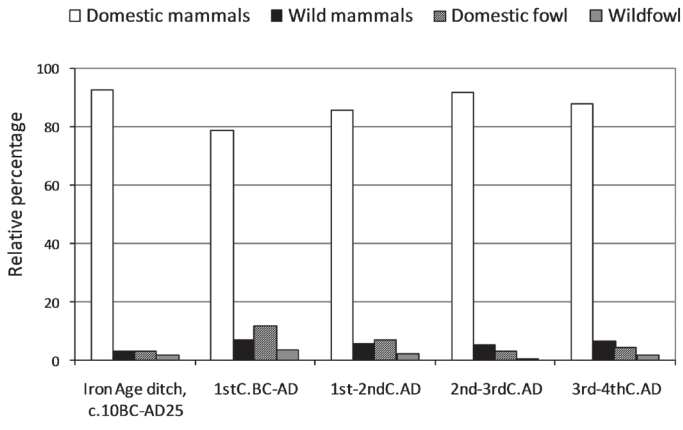

Fig. 2. Inter-period variation in the composition of the Fishbourne assemblage, shown as relative percentage of the total number of identified specimens (NISP). The 'Iron Age ditch' data are given separately here and are also inclusive within the '1st$_{BC–AD}$' data. Source: Allen 2011 in prep.

to a combination of marine regression and the construction of drainage networks (Taylor 2007, 65; Willis 2007, 119).

Whilst it is clear that these changes in social practice took place gradually during the late Iron Age and Roman periods, the motivation behind them is less obvious. In order to investigate the issue we turn now to the subject of exotic animals.

EXOTIC ANIMALS FROM EXOTIC WORLDS

The received wisdom is that the Roman Empire was responsible for introducing a wide range of new species to Britain, and a recent review of the evidence (O'Connor and Sykes 2010) has indicated that these beliefs have some foundation. It seems that pheasants, peafowl, donkeys and perhaps even rabbits were introduced to the island during the Roman period (Poole 2010; Sykes and Curl 2010; Yalden and Albarella 2008). Whilst none of these species has, as yet, been identified at Fishbourne, there is good evidence that the settlement was home to a number of other imported animals. Table 1 shows that two specimens of black rat (*Rattus rattus*) have been identified from a first/second-century context but, as this species was introduced inadvertently rather than deliberately, it will not be considered here (for further details on the Roman introduction of the black rat *see* Rielly 2010).

One species that was, without doubt, a deliberate introduction is the chicken — a domesticated form of the red jungle fowl that is native to South-east Asia. The westward spread of the chicken into Europe has been well studied, and it is widely accepted that domestic fowl were imported to the Mediterranean in the eighth century BC, arriving in central Europe a century later (Benecke 1993, 21; Poole 2010). Their move to northern Europe is less well researched, however. Table 1 makes clear that domestic fowl were present in the Fishbourne region by the Late Iron Age period, and other zooarchaeological studies have proven an even earlier presence, with examples discovered from the Early Iron Age sites at Blackhorse Road, Hertfordshire (Legge *et al*. 1989) and Houghton Down, Hampshire (Hamilton 2000). Although the initial introduction of the species cannot be attributed to the Romans, it is evident that the management and consumption of domestic fowl increased substantially during the Roman period; this is shown graphically in Figure 3, where the data for Fishbourne are presented against the national averages. It can be seen that the early Roman period (first to second century AD) is the point at which chickens become exceptionally abundant, particularly at Fishbourne (for an in-depth study of the presence of domestic fowl in Roman Britain *see* Maltby 1997). Figure 4 shows that domestic fowl became more widely exploited on sites after the Iron Age/Romano-British transition, many sites containing their remains in higher frequencies than were seen in the Iron Age.

Figure3 indicates that Fishbourne's Iron Age and Roman assemblages are set apart by the high frequency of chicken remains they contain, and this pattern is also exhibited by the data for hares; Figure 5 shows that their representation at Fishbourne is far higher than the national average. Some may question why hares are being considered in a section concerning exotic animals, but genetic evidence suggests that whilst the mountain hare *Lepus timidus* is native to Britain, the brown hare, *Lepus europaeus*, is an introduced species (Yalden 2010). When and whence the brown hare was brought to Britain is currently uncertain,

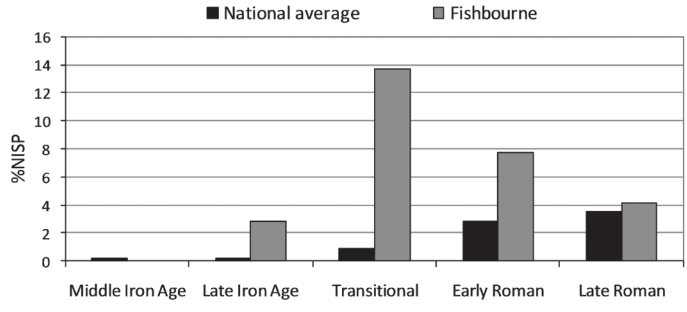

Fig. 3. Inter-period variations in the representations of domestic fowl remains at Fishbourne shown against national averages. Frequencies are expressed as percentage NISP of domestic fowl again cattle, sheep/goat and pig. *See* Table 2 for the number of assemblages for each date group. The 'Iron Age' Fishbourne data equate to the ditch context alone, the 'transitional' Fishbourne data equate to 1st.C–AD data exclusive of the 'Iron Age ditch' data, the 'early Roman' Fishbourne data equate to the 1st–2ndC.AD data, and the 'late Roman' Fishbourne data equate to the sum of the 2nd–3rdC.AD and 3rd–4thC.AD data. Source: Allen 2011, in prep.

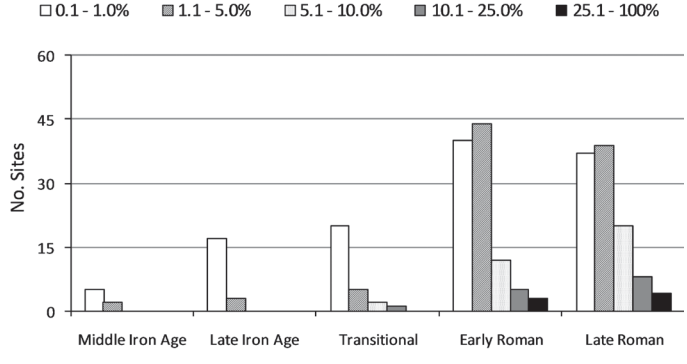

Fig. 4. Inter-period variation in the number of sites which include domestic fowl remains. Frequencies are expressed as percentage of NISP of domestic fowl against cattle, sheep/goat and pig. *See* Fig. 3 for dating of the phases. Source: Allen 2011, in prep.

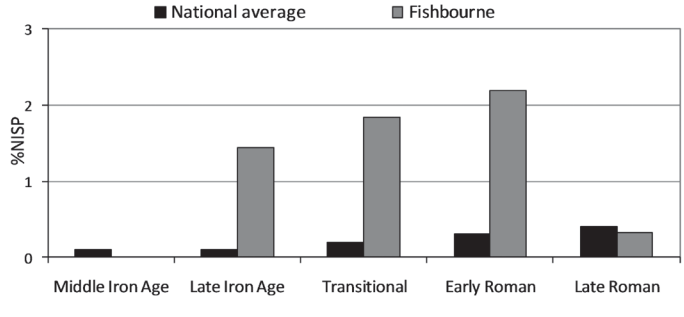

Fig. 5. Inter-period variation in the representation of hare remains at Fishbourne shown against the national average. Frequencies are expressed as percentage of NISP of hare against cattle, sheep/goat and pig. *See* Table 2 for the total number of assemblages in each date group, and Fig. 3 for an explanation of how the Fishbourne data synchronise with the national average data. Source: Allen 2011, in prep.

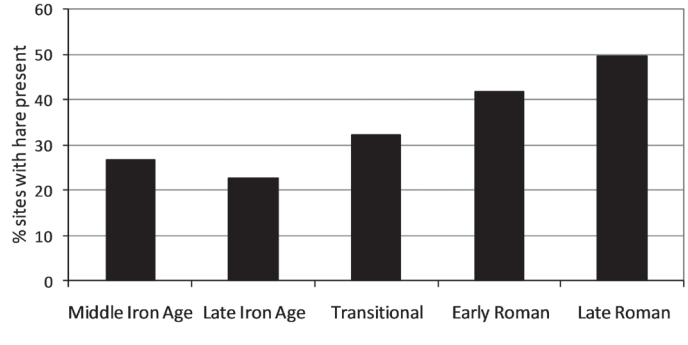

Fig. 6. Inter-period variation in the representation of hare according to the percentage of sites where hare bones have been recovered. *See* Table 2 for the total number of assemblages in each date group and the dating of those phases. Source: Allen 2011, in prep.

obfuscated by the difficulties of separating the remains of the two species, but Figure 6 shows that the frequency of sites where hare remains have been recovered increases from the Iron Age into the Roman period. Regardless of whether this rise reflects the introduction of the brown hare or simply increased exploitation of either an earlier established population or the mountain hare, it suggests a change in human–animal interactions, and therefore social practice, coincident with Roman occupation.

Whilst the circumstances surrounding the arrival of the brown hare are unclear, studies of the Fishbourne assemblage have been able to prove conclusively that breeding populations of fallow deer, a species native to Anatolia, were established in Roman Britain (Sykes *et al*. 2006b). Recent re-analysis of the animal bone assemblage from the site has identified a substantial collection of fallow deer remains (Table 1; Sykes *et al*. 2006b; Sykes 2010b; Allen 2011). Amongst these were two jaw bones, both of which were AMS dated to around the first century AD, one to AD 60±40 years (Beta-201535 2σ Cal BP 1990–1820), the other slightly later to about AD 90±40 (Beta-201534 2σ Cal BP 1930–1740). These are the earliest specimens recorded for Roman Britain, and are the only jaw bones to have been recovered from Roman Europe. As such, their teeth presented a unique opportunity to undertake strontium isotope analysis, a geochemical provenancing technique. The methods and results of this study are presented in Sykes *et al*. (2006b) but, in brief, the analyses demonstrated that the *c*. AD 60 individual was imported to Fishbourne as a fawn. Where this animal was brought from is currently uncertain, but southern Gaul seems a plausible source, given the apparent absence of fallow deer in the rest of northern Europe (Sykes *et al*. 2011). Since this discovery, another set of Roman fallow deer remains, identified from the rural settlement at Monkton on the Isle of Thanet, Kent, have been AMS dated variously to between the first and third centuries AD, most returning second and third century dates. The Monkton specimens were also submitted for ancient DNA analysis and, although the sample size is very small, preliminary results suggest a Mediterranean, possibly Italian, origin (Sykes *et al*. 2011).

It seems unlikely that fallow deer, domestic fowl or any other materials brought from 'outside' would have been viewed in a neutral light (Helms 1993, 3). Indeed, we propose that the importation of exotic animals and other goods, which began in the Iron Age but increased dramatically after AD 43, may have instigated a recalibration of worldviews, mental geographies expanding to incorporate those areas beyond the traditional boundaries of the 'wilderness'. In much the same way that the arrival of the European fur trade in northwest America altered native cosmologies — whereby European goods, woollen blankets for example, took on ritual and ideological significance, even replacing the customary animal skins in ceremonial activities (Helms 1993, 156) — it may be envisaged that these imported exotics, and the realms from which they came, began to replace the Iron Age wilderness as the new sacred spheres.

With this possibility in mind, it is interesting to note that several researchers have highlighted the fact that the remains of exotic animals and plants are found in higher frequencies in Late Iron Age and Roman ritual contexts — human graves, temples, shrines and votive deposits — than they are in other deposit types (King 2005; Morris 2008; van der Veen *et al*. 2008). There is growing evidence that fallow deer remains, in particular shed antler and foot bones, were being incorporated into votive offerings; these body parts have been found in reportedly ritual contexts across Roman Europe (Sykes 2010b). Similarly, there are numerous domestic fowl ABGs; for instance, at Houghton Down in Hampshire complete skeletons of a cockerel and a hen were recovered, and large numbers of cockerel remains were recovered at the shrines to Mercury at Uley, Gloucestershire (Levitan 1993). Philpott (1991, 201) has demonstrated that chickens were by far the most common offering in Romano-British graves (Poole 2010).

In many cases these exotic animals appear to have been deposited whole, with little evidence that they were eaten before disposal. This suggests that they represented more than simply new components of the diet; they clearly had significance beyond mere food. However, consumption does not require that animals be physically digested; humans may use all their senses — touch, sight, smell and hearing — to 'consume' animals whilst they are alive. It thus seems likely that the arrival and proliferation of new animal species would have affected the way that people experienced their environments, especially since the introduction of

some species would, by necessity, have introduced new landscape concepts in the form of animal enclosures.

NEW ANIMAL LANDSCAPE: *VIVARIA, LEPORARIA* AND *PISCINA*E

Classical texts provide considerable detail about Roman animal enclosures, such as parks and fishponds, but archaeological investigations have been restricted. This is particularly the case in Britain, where studies have been curtailed by both lack of documentary evidence and the scarcity of preserved features (Cunliffe 1981; Zeepvat 1991). We would argue, however, that detection and physical tracing of animal enclosures are unnecessary; their presence can be ascertained and their significance understood through the study of animal remains, albeit in combination with evidence from other sources.

The very presence of fallow deer at Fishbourne and Monkton can be viewed as a proxy indicator for parks or *vivaria,* because it seems unlikely that these exotic animals would have been transported great distances only to be released to roam freely. Given that Fishbourne has been identified as the location of a Roman park (Sykes *et al*. 2006b), the high frequency of hare in its assemblage may also suggest the presence of *leporarium* — an enclosure for keeping hares that, according to Varro (*De Re Rustica* III, XII.1) was an important component of a large villa estate. A number of other Roman villa sites have yielded large quantities of hare remains, and it seems possible that *leporaria* were fairly common features in the landscape of Roman England. At Whitehall Roman villa in Northamptonshire, for instance, hare bones account for 2.8% of the total mammal assemblage, and similarly high levels have been found at Caister-on-Sea in Norfolk (2%) and Great Holts Farm in Essex (2.5%) (Sykes 2010a).

That it is possible to infer the presence of *vivaria* and *leporaria* in the absence of their physical remains appears something of a methodological breakthrough, but in reality it is little more advanced than the traditional use of bioarchaeological evidence for environmental reconstruction; we need to consider these spaces in terms of sensory experience. Deer parks are a good case study in this respect, because they would have been characterised by intense seasonality in which time was charted in a dramatic and highly sensory way by the annual cycle of development (antlers and the rut), bounty (fawns), colour change (winter coats) and shedding (casting of antlers). Whilst all temperate landscapes are seasonal, parks would have been set apart by the constancy of their constituent animals; ageing data for the Roman fallow deer indicate that, almost without exception, these animals were kept for many years before their eventual death and consumption. Their life-spans were therefore significantly longer than those of most domestic livestock and would have allowed more complex relationships with humans to develop. For this reason, it is clearly inappropriate to view parks simply as larders where venison was stored on the hoof. Fallow deer, and presumably other wild animals, were appreciated for properties other than their meat, probably being valued for the emotional and sensory sustenance they provided.

The same case can be made for fishponds, although here it is more difficult to argue for their physical presence purely on the zooarchaeological evidence, as fish could be acquired through a variety of mechanisms and need not have derived from ponds (Enghoff 2000; Locker 2007). At Fishbourne, possible evidence for ponds and associated water-management features were identified in the south garden of the Palace (Cunliffe *et al*. 1996) and, taken together with the representation of fish at this site, it seems feasible that fishponds were indeed a feature of the Palace landscape. Again, ponds were not simply about food but rather about human experience, Varro (*De Re Rustica* III.XVII.2–4) noting that they 'appeal to the eye more than to the purse, and exhaust the pouch of the owner rather than fill it'.

The cost involved in establishing and maintaining wild animal enclosures suggest that they must have been important symbols of socio-economic status, and it has been argued elsewhere that they may even have been deliberate statements of allegiance to the Roman Empire (Sykes *et al*. 2006b). However, their presence in Britain is more significant than this, because *vivaria*, *leporaria* and *piscinae* would have been both physically and conceptually alien to the majority of the native population of Britain. At the most basic level, their presence demonstrates that the socio-cultural groups responsible for their establishment perceived wild and exotic animals as being *worth*

the expense of their upkeep; this itself is a cultural stance. Perhaps more important, however, they indicate that people believed they had the *right* to enclose wild animals. This is a key point which seems to separate the ideologies of the Iron Age and Roman periods. Whilst both cultural groups saw nature and the wilderness as sacred, their beliefs appear to have manifested themselves in different ways. Archaeological and iconographic evidence indicate that the Iron Age population negotiated with the world around them, their cosmology reflected in avoidance of resources from 'outside' (Aldhouse-Green 2004; Green 1992, 241). Roman society, on the other hand, saw it as their spiritual duty to bring the wilderness to order, investing their efforts in the paradox of domesticating the wild so that they might dwell, in the manner of their gods, in close proximity to the plants and animals taken from the wilderness or even brought from beyond the shores of Britain (Beagon 1992, 55; 1996, 299; Coates 1998, 27; Purcell 1987, 201; 1996).

DISCUSSION AND CONCLUSION: PLANTS AND ANIMALS IN THE LANDSCAPE

The ideological differences between the Iron Age and Roman populations of Britain have long been recognised, so the argument presented here is hardly new. However, it does draw on a source of data not traditionally used in this way — the evidence from animal remains. We hope that we have shown that zooarchaeological data have great potential to address questions about landscapes and environments, in terms of cultural and perceptual phenomena, which are beyond more abstract economic and environmental reconstructions. If viewed in the *right* way, as representing complex interactions with people and places, animal remains can provide profitable insights into past societies. Here we have suggested that the Iron Age to Romano-British changes apparent in the zooarchaeological record are direct reflections of the way in which people engaged with, behaved in and thought about their surroundings. The introduction and establishment of new animals were more significant than simply an increase in biodiversity or available nutrition; they would have brought new sights, sounds, smells and characters to the landscape. Management of these species, in particular enclosure and ownership of exotic animals, would also have been a significant conceptual leap and, as proxy indicators for the presence of wild animal enclosures, the zooarchaeological data should be viewed as tangible evidence for a fundamental Iron Age to Romano-British shift in worldview. Certainly the arrival of the exotic seems to have altered attitudes to the native, with an increase in fowling, fishing and hunting — activities through which people would have engaged with the elements and traversed the landscape in new ways, and probably at specific times.

The speed at which worldviews began to alter deserves further investigation, but it is apparent that increased engagement with the wild occurred earlier in some areas, for instance at Late Iron Age Fishbourne, than at others. This suggests that AD 43 cannot be seen as a point at which the ideological polarity reversed. The situation was clearly more complex, with new perspectives creeping in and merging with the old until, at some point, worldviews had gradually (and probably imperceptibly to those involved) been transformed.

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