Foreword
Animals, and their bones, in the 'modern' world: a multi-scalar zooarchaeology

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ABSTRACT
In this paper, we contextualise the volume: 'Animals, and their bones, in the 'modern' world' by briefly reviewing the history of modern-era zooarchaeology and discussing research themes which have shaped previous studies. We also call attention to exciting avenues for future research and highlight the value of zooarchaeology in the 'modern' period, especially with regard to interdisciplinarity, multi-vocality and the influence of changing theoretical perspectives.

KEY WORDS
Zooarchaeology
post-medieval
archaeology,
historical archaeology,
modern era
attitudes to
zooarchaeology.

RÉSUMÉ
Animaux et leurs ossements, à l'ère « moderne » : une zooarchéologie multi scalaire.
Dans cet article, nous offrons un contexte au volume « Animaux et leurs ossements, à l'ère moderne (AD1750-1900) » en parcourant l'histoire de la zooarchéologie moderne et en discutant les thèmes de recherche précédents qui ont fondé les études antérieures. Nous attirons également l'attention sur les passionnants chemins possibles pour de futures recherches et mettons en lumière la valeur de l'archéozoologie de l'époque moderne, particulièrement en regard avec l'interdisciplinarité et l'influence des évolutions des perspectives théoriques.

MOTS CLÉS
Archéozoologie,
archéologie post-
médiévale,
archéologie historique,
époque moderne,
attitudes face à
l'archéozoologie.

INTRODUCTION

Animal bones are common archaeological finds and it is well-recognised that their detailed study informs upon a diverse range of past human activities. These include the identification of: subsistence strategies; economic regimes; the use of animals and animal parts in craft and industry; attitudes to animals; and the symbolic role of animals in all facets of life. The centrality of human-animal interactions in daily life in the past, coupled with the ubiquity of faunal remains on many sites, has meant that analyses of animal bone are now routinely undertaken as part of the post-excavation process. Despite this potential, faunal assemblages from sites dating after the mid-18th century (for convenience in this volume labelled 'modern') are infrequently subjected to analysis and publication in many parts of the world (see below; Broderick, this volume).

This oversight is surprising when one considers the profound changes in the nature of human-animal relationships that took place during this period. For example, major technological changes were occurring in the realm of domestic livestock husbandry. These included: the development of livestock breeds; the introduction of new forms of agricultural machinery; and the expanded use of artificial feed and hay which decoupled the relationship between seasonality and natural biological cycles. Social change also thoroughly affected agricultural practice. The urban population boom necessitated the industrialisation of meat and dairy production and the emergence of trans-continental trade networks. The drive to increase output resulted in major changes to the conformation and appearance of domestic livestock through breeding programmes designed to affect specific aspects of productivity, but also reflecting a manifestation of the ethic of 'improvement' (Tarlow 2007). Dietary traditions were challenged by urbanisation, industrialisation and globalisation, leading to the consolidation of culinary identities as an active form of resistance to change whilst emerging urban and immigrant communities were a source of new and hybridised foodways (for Britain see: Broomfield 2007; Panayi 2007; Spencer 2002).

Pronounced changes in human attitudes towards animals also occurred in the 'modern' period, with the emergence of sentimental attitudes, the formalisation and later changing emphasis of veterinary care (Curth 2010; Degeling 2009) and the appearance of societies dedicated to the protection of animals. This re-orientation of perception was partly a response to the "painful proximity" of urban dwellers to animal cruelty fostered by an increasingly industrialised, commercialised and urbanised society, combined with a growing ethic of moral 'improvement' (Donald 1999). In Britain, the Royal Society for the Prevention of Cruelty to Animals (RSPCA) was founded in part to enforce the 1822 Cruel Treatment of Cattle Act (or Martin's Act). It directed its first efforts at the conduct of people mistreating animals in Smithfield meat market and other populous urban environs. Concurrently, a growing scientific and philosophical interest in the origins of humans and the relationships between humans and animals arose, as evidenced in the works of Georges-Louis Leclerc (Comte de Buffon), James Burnett (Lord Monboddo), the brothers Georges and Frédéric Cuvier, Alfred Russel Wallace and Charles Darwin and in the explosion of zoological enterprises (Simons 2012). Yet, these emergent attitudes coincide with a period that witnessed the widespread exploitation of many taxa and their environments to satisfy growing human demand, which in some cases lead to extinction and major habitat changes (Cowles 2013). Ironically, one manifestation of the growing interest in animal welfare was the rise of pet-keeping, and a rapid expansion of the international trade in live (especially 'exotic') animals to satisfy this demand placed further pressure on the viability of some animal populations (Brown 2010).

The conference session from which this volume originated was organised under the experience-led conviction that the study of animal bones from the 'modern' era is a worthwhile pursuit, and can make a meaningful contribution to our understanding of the contingent, contextual, and changing relationships between people and animals in an era of dynamic change. There are good intellectual reasons for studying the zooarchaeology of this period. Rather than negating the value of animal

bones, the combination of primary documentary sources, photographs, oral history and folklore with zooarchaeological evidence provides a nuanced and detailed understanding of past human-animal relationships, offering the potential to produce a 'thick description' (after Geertz 1973). Integration of these sources also affords zooarchaeologists the opportunity to test the reliability of their models against known historical events before those models are applied to earlier periods where parallel forms of evidence are sparse or lacking, and allows the development of new research directions. Finally, studying the 'modern' era greatly enhances our prospects of undertaking comparative and long-term approaches within zooarchaeology.

RESEARCH CONTEXT

In order to contextualise the new research presented within this volume, it is apposite to provide a brief overview of some of the key themes that have emerged from previous zooarchaeological scholarship of 'modern' period sites. From the outset, it merits recognition that there are clear regional variations in the extent to which animal bones from sites dating after the mid-18th century are subjected to analysis and publication. In general, 'modern' era bone assemblages are more frequently studied in countries with an established tradition of historical archaeology. In North America, this practice can be traced to the very origins of historical zooarchaeology (e.g. Parmalee 1960; for histories and discussion of the development of historical zooarchaeology in North America, see Bogan and Robison 1978 and 1987; Jolley 1983; Landon 2005, 2009) and has remained a vibrant focus of scholarship ever since (e.g. Warner and Genheimer 2008). Former European colonies in other parts of the world have also witnessed a growth in interest in the zooarchaeology of the 'modern' era, most notably: Argentina (e.g. Chichkoyan 2013; Silveira 2010), Australia and New Zealand (Colley 1987; English 1990; Gibbs 2005, 2010; Lawrence 2006, 2010; Lawrence and Tucker 2002), Canada (Balkwill 1990; Balkwill and Cumbaa 1987; Betts 2000; Cossette and Herard-Herbin 2003; Cumbaa 1979, 2007; Guiry et al. 2012; Tourigny and Noel 2013), Jamaica (Morgan 1995) and South Africa (Heinrich and Schrire 2011). There are some notable exceptions to this pattern, however. In the UK, historical archaeology is a relatively well-established academic pursuit but few published zooarchaeological reports focus entirely, or even partially, on animal bones from 'modern' sites. This is not because the archaeology of this period has been ignored altogether, but rather reflects a focus upon other classes of material, such as mass-produced ceramics. Thomas (2009) notes that part of the problem is the perceived worthiness of animal bones from this period: they are often sacrificed at the expense of the 'more interesting' earlier periods. This chimes with the situation in Ireland where Murphy, in an overview of post-medieval zooarchaeology between 1550 and 1850, laments that "it is still often the case that post-medieval remains are withheld from study because excavators wrongly assume that the analysis of such late material will not provide any meaningful results" (Murphy 2007: 371). This 'sacrifice' can occur either during excavation, when 'modern' material is stripped away to gain access to earlier archaeological deposits, or during post-excavation processing, when the potential of recovered finds is 'assessed' before a decision to undertake a full analysis is made (Thomas 2009). Although studies of animal bone assemblages from the mid-18th century onwards are similarly absent in many parts of the Old World, recent scholarship in: Finland (Puputti 2010); Iceland (Edvardsson et al. 2004; Hambrecht 2009, 2012); Italy (Bon et al. 2012); and Tanzania (Biginagwa 2012) clearly indicates that it is a growing area of research interest.

Key themes in the zooarchaeology of the 'modern' era have tracked topical discourse in historical zooarchaeology. By 1977, the significance of zooarchaeological interpretation in understanding status differences at antebellum plantation sites was demonstrated (Otto 1977), and this theme has continued to attract attention. Indeed, the role of food in the negotiation of identity has formed one of the central elements of later post-medieval zooarchaeological enquiry in North America (e.g. Lev-Tov 2004; Reitz 1987; Schulz and Gust 1983). Culinary practice has been used to explore relationships between diet

and different colonial, religious and ethnic identities, and the symbolic role of particular food items within society. Consumption habits, as revealed by zooarchaeological analyses, have also been integrated into smaller-scale studies of rural farmsteads (e.g. Groover 2003). Economic questions have been at the forefront of zooarchaeological research of the 'modern' era. David Landon charted the expansion and industrialisation of meat production and supply to meet the growing urban demand from the 17th to early 19th centuries (1997; 2008). His review of the development and current state of historical zooarchaeology (though focused upon American studies and intellectual frameworks) highlights the influences of prevailing paradigms and details some common issues of analysis (Landon 2009). Landon groups historical animal bone research into four broad topical areas which include: diet and subsistence practices; animal husbandry and food distribution; social and cultural variation in foodways; and archaeological interpretations (Landon 2009). Notably, Landon (2009) observes that Robison's predicted "Integration" phase of historical zooarchaeology, wherein animal bone data are routinely and centrally integrated in standard archaeological reports (Robison 1987: 12), remains aspirational. Although this continues to be the case on both sides of the Atlantic and beyond, zooarchaeological interpretation has made many valuable contributions to knowledge of the historic past, particularly with regard to the impact of environmental change, human-environment interactions, subsistence, animal husbandry, the links between diet and identity, socioeconomic patterns, trade and provisioning. Animal bone studies have broadened scholarly discourse on European colonialism and added to our understanding of processes such as industrialisation, consumerism, and 'improvement'. Newly emergent themes are often framed in terms of animal-human relationships and include animal agency, commensality, pet-keeping, animal welfare, and perceptions of both live animals and their constituent parts. Some examples include research on the physical and health consequences of industrialised livestock breeding (Fothergill et al. 2012; Thomas 2005a; Thomas et al. 2013), species introductions (Davies and Garvey 2013; Thomas 2010), and changing attitudes towards animals (Fothergill 2014; Salmi 2012; Thomas 2005b).

TOWARDS A ZOOARCHAEOLOGY OF THE 'MODERN' WORLD

The aim of the conference session from which this volume arose was to showcase the diversity of research focusing upon animals and their skeletal remains in this oft-overlooked era, and the papers contained here reflect that goal. Briefly, animals were active agents in shaping urban environments (Reitz and Zierden, this volume); they and their products played important roles in trade and subsistence (James-Lee, this volume) and also reflected or reinforced cultural identity (Sportman, this volume). Animal bones can also function as proxies for social, economic and technological change (Locker, this volume; Reynolds et al., this volume) and speak to the nature of industries for which animal bone was an essential raw material (Unwin, this volume). Faunal remains also explicitly bear silent witness to social and scientific 'progress' and the accompanying implications for animals, humans and their relationships, as Morris's description of anatomical practices (this volume) demonstrates. More generally, the studies included here not only reveal the range of questions that can be asked of faunal bone data from different corners of the globe, but also attest to the augmentation of understanding provided by the integration of multiple evidential sources. Zooarchaeology is not subservient to or constrained by these other lines of evidence, nor is it superior to them: when subjected to appropriate source criticism, bones, documents, material objects, and oral testimony offer distinctive and often overlapping understandings of human-animal relations in the 'modern' era'. A particular advantage of these complementary sources is that they provide the zooarchaeologist with a more refined conceptualisation of what Mytum (2010: 246), describes as the "ideological and physical constraints and opportunities available to actors in the past." Only by taking a multi-disciplinary approach can we provide a textured account of human-animal relations, reconcile contrasting perspectives revealed by different

lines of evidence and reflect upon and firmly locate contemporary attitudes towards animals.

Despite the advancements in knowledge represented here, it remains the case that within the tumult and dynamism of the 'modern' period, many themes have remained unexplored from a zooarchaeological standpoint (e.g. urban work animals like horses and dogs, animals in warfare, sport, exploration, the impact of introduced species, extinctions, and changing attitudes toward 'natural spaces' such as wilderness and national parks). Furthermore, up until now, emphasis has often been placed on contextualising the changing nature of human-animal interactions as part of large-scale processes within social and economic frameworks such as urbanisation, internationalisation, industrialisation of food and agriculture, and commercialisation, even where the focus of attention is individual sites. These frameworks remain vital avenues for investigation; however, the chronological precision and diversity of primary documentary sources available to archaeologists of the 'modern' era can also permit the detailed exploration of small-scale interactions between people and animals. Zooarchaeology can be advanced within historical archaeology and other disciplines through an engagement with some of the ideas emerging out of what might broadly be called posthumanist enquiry. Work here goes beyond querying aspects of the environment and economy of temporally and spatially bounded 'populations' (herds, flocks, etc.) and their production, consumption and deposition, and challenges the assumption that humans are the only possessors of agency, for example. It also recognises that the construction of our human identity is strongly influenced by our complicated relationships with animals (Fudge 2006).

Of course, the interaction between animals and human identity is not unidirectional. It is clear that the way in which animals are perceived, treated and exploited is strongly influenced by many different facets of human identity such as social status, religion, and ethnicity: avenues that have proved fruitful for zooarchaeological research (O'Day et al. 2004). However, the richness of source materials in the 'modern' era also presents opportunities for expanding such enquiry to include other dimensions of the social context of interactions with animals, such as gender, sex, age, disability and marital status.

Taken together, such a shift in approach would demonstrate the complexity, contingency and contextual specificity of interactions between people and animals as well as their ubiquity in many aspects of life. Adopting this course articulates with emergent agendas within historical archaeology (e.g. Mytum, 2010), including: the application of biography as a framework (following Kopytoff (1986); see Morris (2011) for a good example of the application of this framework within zooarchaeology); a willingness to explore multivocality in the past; attempts to interweave seemingly disparate lines of evidence in the pursuit of more holistic interpretation; and the establishment of truly cross-disciplinary research foci and projects. There is not a discontinuity of scale here; rather, the different levels of investigation are interlinked: a biographical approach allows us to compare regional and site-specific patterns and explore how large-scale processes played out at the level of individual human-animal relationships.

In summation, the study of animal bones dating to the 'modern' era offers an exciting avenue of exploration for zooarchaeology and historical archaeology: many research themes remain unexplored or under-explored and tantalising opportunities for multi-scalar and multi-vocal interpretations exist, to say nothing of the possibilities presented by the integration of zooarchaeological data with other evidential strands. We hope this will be the first of many contributions devoted to this topic.

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