Research Article

Do all dogs go to heaven? Tracking human-animal relationships through the archaeological survey of pet cemeteries

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Pet cemeteries provide a unique opportunity to investigate the development of human-animal relationships, yet few archaeological studies of these cemeteries have been undertaken. This article presents an archaeological survey of gravestones at British pet cemeteries from the Victorian period to the present. These memorials provide evidence for the perceived roles of animals, suggesting the development of an often conflicted relationship between humans and companion animals in British society—from beloved pets to valued family members—and the increasing belief in animal afterlives. The results are discussed in the context of society's current attitude towards animals and the struggle to define our relationships with pets through the mourning of their loss.

Introduction

Archaeologists have long recognised the value of historical cemeteries in addressing a wide range of research questions. Studies have covered topics including death, bereavement and commemoration, the development of complex social relationships and identities, reconstructions of wealth, power and status, as well as past health, wellbeing and demographics (e.g. Dethlefson & Deetz 1966; Cannon 1989; Mytum 1989, 1990, 1993; Meyer 1993; Bell 1994; Tarlow 1999). Historical and modern pet cemeteries provide similar opportunities to refine our understanding, especially in relation to the development of past human-animal relationships, yet few archaeologists engage with these burial grounds. To investigate whether such cemetery data provide evidence for the changing roles of animals in people's lives and afterlives, this article presents an archaeological survey of four pet cemeteries in England. Interpreted alongside archaeological, historical and sociological

literature, the results demonstrate the value of pet cemeteries in furthering our understanding of the continuously changing relationships between humans and animal companions in the post-medieval and modern periods around the world.

The archaeology of pets

Pets, defined as animals who occupy a domestic space and primarily serve as entertainment and companionship for humans (Tague 2008: 290), are difficult to identify positively in the archaeological record (Thomas 2005; Sykes 2014). Although skeletal remains and their archaeological contexts offer clues, the precise nature of these relationships are difficult to interpret and often inconclusive. Not all pets were given discrete burials, and not all discrete burials recovered by archaeologists are necessarily indicative of an animal companion (Thomas 2005: 95; Morris 2011; Pluskowski 2012). Additional skeletal evidence can further inform on past human-animal relationships. Butchery patterns and age-at-death distributions, for example, can indicate whether populations of animals were exploited predominantly for meat, secondary products or for other reasons, while bone pathologies and trauma identified can provide insight into maltreatment or care (Thomas 2005: 95; Tourigny *et al.* 2016). Unfortunately, disease and trauma can have multiple aetiologies, rendering it difficult to associate differential diagnoses with a direct human treatment of animals (Thomas 2016). Concepts such as 'care' and 'wellbeing' are relative and historically specific, further complicating assessment (Thomas 2016: 169). Human-animal co-burials offer additional opportunities to infer the presence of a pet/companion, but these are rare and their meanings can be interpreted in multiple ways (Morris 2011). Few are the occasions that pets can be positively identified in the archaeological record.

A history of pet burials and commemoration

Relationships between people and animals can simultaneously vary from purely functional to primarily emotional. Such relationships change over time and space and assume a variety of roles. While certain species, such as cats and dogs, can serve functional roles (e.g. for pest control or security), it is generally agreed that modern pet-keeping began in Britain in the late eighteenth and early nineteenth centuries (Ritvo 1987; Tague 2008: 290). Pet ownership then became increasingly common in the Western world across a range of social groups throughout the nineteenth century (Serpell 1986: 51).

For as long as people lived with animals, they needed to manage dead animal bodies. Although dog burials are commonly recovered from prehistoric and Roman sites in Britain, fewer are found in medieval contexts (Morris 2016: 13), when dog and cat skeletons are more likely to be recovered from refuse deposits (Thomas 2005). Not all animal bodies were buried in the post-medieval period: sometimes, dogs and horses were sold to knackers' yards, where carcasses could be rendered down to produce useful materials, such as skins, and meat for animal consumption (Wilson & Edwards 1993: 54). Such post-medieval disposal practices do not necessarily reflect a lack of care for the animals in life, but rather the influence of Christian doctrine on appropriate burial practice, and hygiene concerns related to body disposal (Mytum 1989; Thomas 2005).

The eighteenth century witnessed the publication of epitaphs and elegies for pets in very small print runs, predominantly in local newspapers. Although these were mostly satirical and generally intended for amusement, some were suggestive of public discourse at the time, and touched on controversial topics, such as whether or not animals had souls and the morality of pet keeping (Tague 2008). While a few elite households occasionally held small funerals and erected memorials to deceased pets within their private gardens (Thomas 1983: 118), the first public pet cemetery in Britain appeared in the late nineteenth century, in the affluent London borough of Westminster. Following the death of a dog named Cherry in 1881, its owner asked a gatekeeper at Hyde Park whether the dog could be buried there. A space was allotted in the gatekeeper's personal garden, where, over the next few decades, hundreds of other dogs were interred (Hodgetts 1893: 630) (Figure 1). Publicly accessible pet cemeteries subsequently spread across Britain throughout the twentieth century.

Historians and geographers have recognised the value of British pet cemeteries in studying past human-animal relationships, providing much-needed discussion on the meanings behind the spaces occupied by these graves, the human emotions involved in animal commemoration, and how pet cemeteries reflect past and current social values (Howell 2002; Mangum 2007; Kean 2013; Lorimer 2019). These studies provide important historical context and theoretical foundations for an archaeological survey. Other scholars have examined pet cemeteries

Figure 1. Surviving gravestones from Hyde Park Pet Cemetery (photograph by E. Tourigny, taken with permission from The Royal Parks).

elsewhere in the world, adopting anthropological and sociological approaches to their studies, without necessarily drawing on the substantial archaeological literature on cemetery recording methods and data analyses (e.g. Chalfen 2003; Brandes 2009; Gaillemin 2009; Veldkamp 2009; Ambros 2010; Pregowski 2016a; Bardina 2017; Schuurman & Redmalm 2019). This article takes a more systematic approach to the recording of animal burial grounds, comparing results to contemporaneous human burial practices and examining changing commemoration practices. The resulting discussion demonstrates how other disciplines can make use of archaeological approaches to recording cemeteries and the resulting data analyses.

Methods

Tarlow (1999: 2) describes gravestones as "history and archaeology; both text and artefact. They are both deliberately communicative and unintentionally revealing". As with human burial grounds, pet cemeteries represent locations where social relationships are negotiated and reproduced in the gravestones—whether intentionally or not. As evidenced in the works of Howell (2002) and Kean (2013), historical British pet cemeteries contain clues that reveal human attitudes towards animals, but we need a systematic method of studying the materiality of pet cemeteries in order to examine properly the extent to which they represent wider social trends. Following the standards described by Mytum (2000) for recording human cemeteries, I have recorded all of the extant gravestones present in four British pet cemeteries. Inscriptions and designs were photographed and recorded for each grave marker. Many gravestones were damaged, buried or toppled, or their inscriptions were eroded. Inscriptions were only transcribed when legible. The date of death is assumed to be the same as, or near to, the date of gravestone erection. Gravestones with illegible inscriptions are omitted from analyses, when necessary. Over the years, some gravestones were relocated to different sections of their respective cemeteries to accommodate the development of new footpaths and/or for aesthetic reasons. This is common practice in cemeteries (Tarlow 1999: 14) and does not affect the conclusions drawn here. The following sections discuss the data according to research themes, highlighting changing human-animal relationships and demonstrating potential contributions to further research.

The sample includes some of the largest pet cemeteries in the country, representing burials from the late nineteenth to the early twentieth century (Table 1; Figure 2). These include England's first public pet cemetery at Hyde Park, a large suburban burial ground in Ilford and two cemeteries—Jesmond Dene and Northumberland Park—in the north-east. The cemeteries surveyed were chosen for their size and accessibility; together their gravestones cover a 100-year period. The results demonstrate the usefulness of such an approach to

Table 1. Cemetery information.

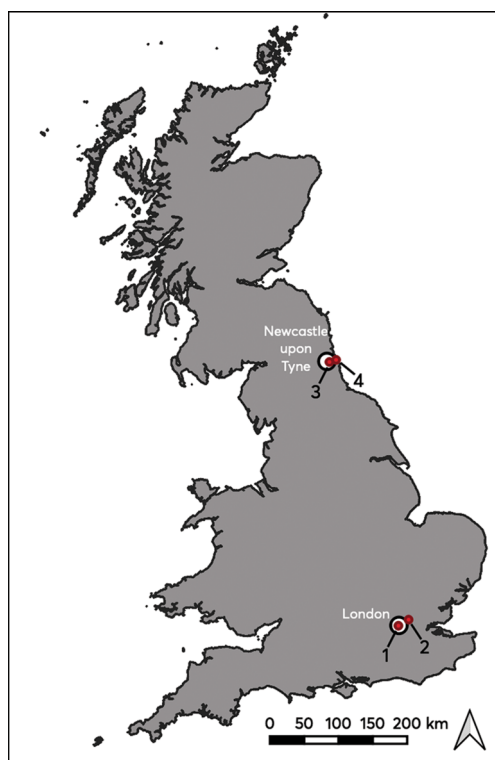| Cemetery	Dates	No. recorded gravestones
Hyde Park, London	1881–1976	471
Ilford	1930–1993	467
Northumberland Park, North Shields	1949–1988	210
Jesmond Dene, Jesmond	1969–1991	21

Figure 2. Location of recorded pet cemeteries: 1) Hyde Park; 2) People's Dispensary for Sick Animals cemetery, Ilford; 3) Jesmond Dene; 4) Northumberland Park (map by N. Dabaut).

the study of human-animal relationships. They do not, however, represent a complete analysis of the complex ways in which people interacted with animals across time and space. Most gravestones were erected between 1890 and 1910, and between 1945 and 1980 (Table 2). The concentration of data between these two periods complicates any observation of trends from the early to mid twentieth century. While few nineteenth-century gravestones note the species of the interred animal, Hodgetts (1893) identifies the Hyde Park grounds as a cemetery for dogs. The majority of recorded gravestones in this study are for dogs, although an increasing proportion of cats are represented as we progress through the twentieth century.

Pets, friends or family?

The vocabulary used on gravestones reveals the nature of the relationships between the buried animals and those who commemorated them. In all periods, most stones are quite simple, featuring only the name of the animal, relevant dates and perhaps an opening statement such as 'In memory of'. A few include further details about the relationship. Many of the earlier graves refer to animals as pets, friends or companions. Such references continue to the end of the twentieth century, but with differences in how commemorators refer to themselves. As was common practice in the nineteenth century, gravestones in human cemeteries often include the names or initials of those erecting the monuments (Tarlow 1999: 66). Late nineteenth- and early twentieth-century pet gravestones are no different, often including the names or initials of those erecting the stones. Occasionally, the commemorators' names feature more prominently than those of the buried animals. A few graves reference the animal leaving behind their 'sorrowing mistress'. Naming the commemorator continues throughout the twentieth century, although by the mid century, proper nouns and initials are often replaced with pronouns such as 'Mummy', 'Dad', 'Nan' or 'Auntie', suggesting a familial relationship with the animal (Figure 3).

Some gravestone texts explicitly describe the relationship, either with introductory statements such as 'In memory of my dear pet', or through epitaphs like 'A faithful friend and constant companion'. The relationships described in the texts sometimes conflict with the commemorator's self-reference. Cooch's (d. 1952, Ilford) epitaph, for example, reads 'Our faithful pet and companion', but the commemorator identifies themself as 'Mummy'.

Table 2. Number of recorded stones by decade (determined by earliest date of death on gravestone).

	Hyde Park	Ilford	Northumberland Park	Jesmond Dene	Total
1880s	5	0	0	0	5
1890s	255	0	0	0	255
1900s	70	0	0	0	70
1910s	8	0	0	0	8
1920s	4	0	0	0	4
1930s	0	6	0	0	6
1940s	7	21	3	0	31
1950s	3	189	111	0	303
1960s	0	105	69	3	177
1970s	1	8	2	10	21
1980s	0	7	3	1	11
1990s	0	2	0	1	3
No date	118	129	22	6	275

References to animals as family members increase after the Second World War (Figure 4), coinciding with a rise in the use of family surnames on pet gravestones (Figure 5). Some early adopters of surnames put them in parentheses or quotation marks, as if to acknowledge they are not full members of the family, or perhaps to pre-emptively address any criticism.

The Victorian era represents a watershed for human-pet relationships, marked by a growing discourse on animal welfare and the changing role of dogs in British society, as they became increasingly important figures in the family household (Howell 2002: 8, 2015).
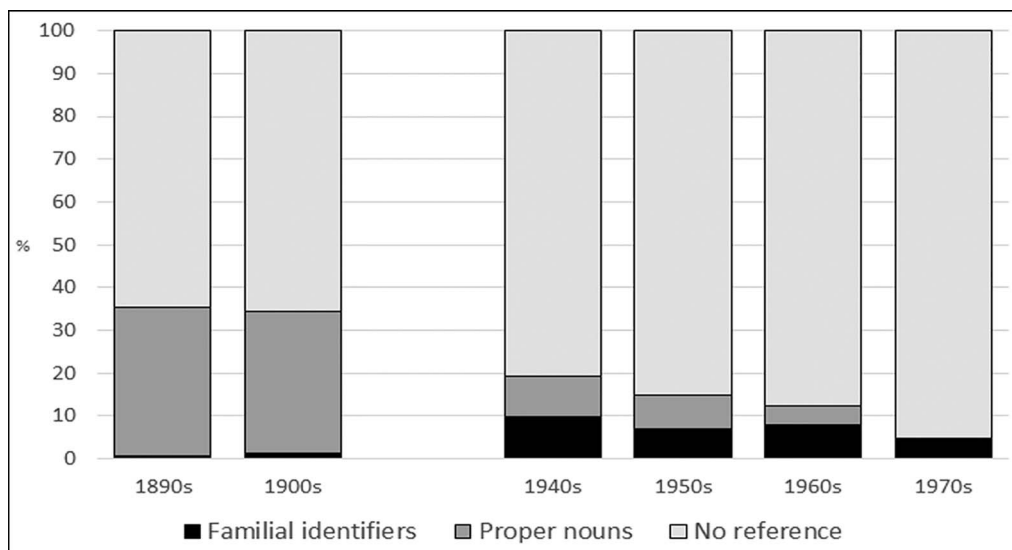
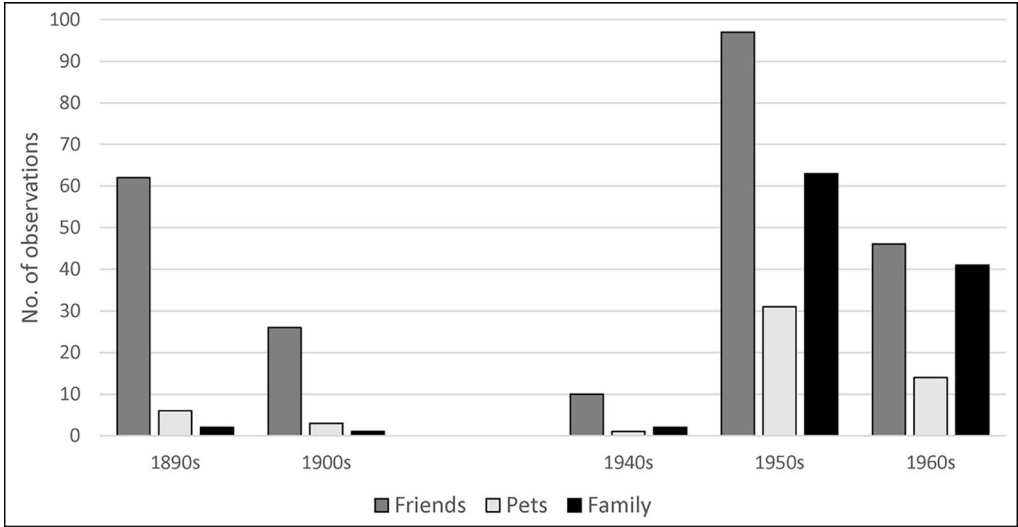*Figure 3. Vocabulary used in reference to the commemorator (figure by E. Tourigny).*

Figure 4. *Types of human-animal relationship mentioned on animal gravestones (figure by E. Tourigny).*

Some scholars interpret the establishment of separate pet cemeteries as representative of pets occupying 'liminal' positions within society: a special relationship within the family that is not quite equal to that of the humans involved (e.g. Gaillemin 2009; Ambros 2010). Although the separateness of pet and human cemeteries in Britain can be easily explained by the influence of religious doctrine governing human burial grounds, the 100-year record in pet gravestones emphasises how people struggled to identify and label their relationships
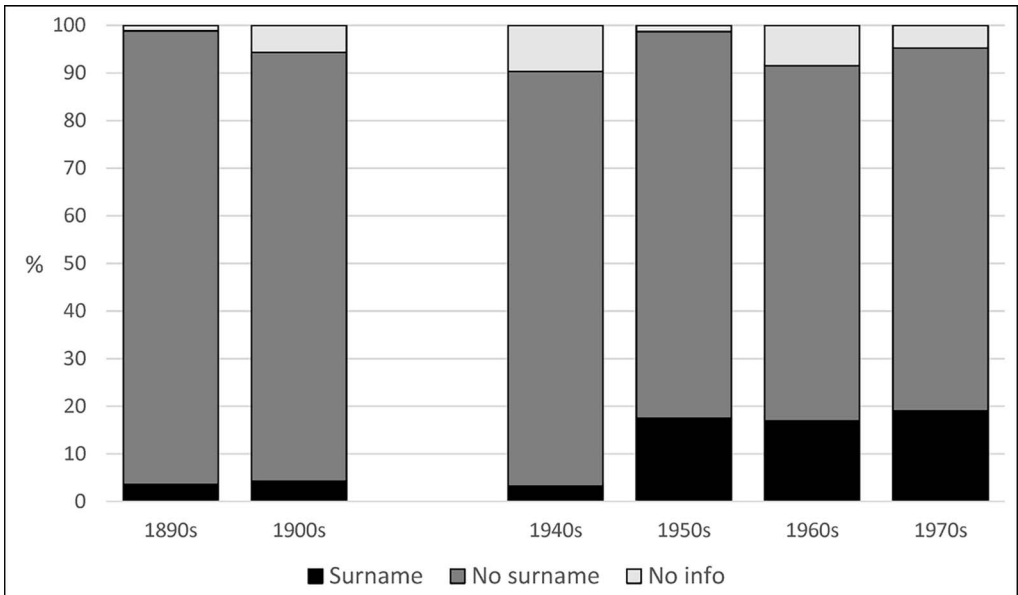

Figure 5. *The use of family surnames on animal gravestones (figure by E. Tourigny).*

with animals. Even by the late twentieth century, there was a discrepancy between the role of animals in life, as suggested by their treatment after death and the language used to describe the human-animal relationship. An animal may be considered part of the family, but this belief is not always committed to public text on the gravestone (Pregowski 2016a; Bardina 2017; Schuurman & Redmalm 2019).

Immortality, spirituality and reunion

Howell (2002, 2015) describes how Victorian concepts of heaven changed to become a recreation of the family home in the afterlife—a home in which the dog played a prominent role. While the act of burial and the text on some of the earliest gravestones provide evidence for an increasing belief in animal life after death (Howell 2002; Brandes 2009; Gaillemin 2009), epitaphs and gravestone designs also reveal an initial hesitance at the direct expression of such beliefs. The language used among those earliest stones is carefully worded so as only to suggest or hope for reunification in an afterlife. The commemorator of Grit (d. 1900, Hyde Park), for example, demonstrates uncertainty in writing: 'Could I think we'd meet again, it would lighten half my pain'. References to the afterlife increased slightly into the mid twentieth century, but those that do mention it tend to be more assertive. Commemorators of 'the brave little cat', Denny (d. 1952, Ilford), for example, confidently wrote, 'God bless until we meet again'.

Howell (2002: 13) discusses how some Hyde Park gravestones reference the few Bible verses that may tenuously be interpreted as suggesting that animals have souls. Seven gravestones reference Biblical scripture: four reference Luke 12:6 ('Not one of them is forgotten before God'), another Psalms 50:10 ('Every beast in the forest is mine, saith the Lord') and another Romans 8:21 ('the creature itself also shall be delivered from the bondage of corruption into the glorious liberty of the children of God'). The last stone references John 13:7 to suggest that animal death is part of God's plan ('Jesus replied, "You do not realize now what I am doing, but later you will understand"'). References to Christianity increase following the Second World War, when noticeably more crosses and epitaphs invoking God's care and protection appear on gravestones (Figure 6). Late twentieth-century cemeteries in the north-east of England contain no references to Christianity or reunification in heaven, countering the trend observed in the London area. This is due to council-run cemeteries not permitting the use of Christian symbols (Coates 2012: 75) and further highlights the contentious nature of the belief in an animal afterlife and the influence of religious authority on animal commemoration practices.

Although the lack of Christian symbols on Victorian gravestones may be surprising, it is notable that such symbols also appear relatively infrequently in contemporaneous human cemeteries. Tarlow (1999: 73–75 & 143) observes that Christian symbols and references to a heavenly reunion are more reflective of twentieth-century cemetery trends.

Attitudes towards animal death

The early nineteenth century witnessed radical transformations in human burial practices, as overcrowded urban graveyards led to the creation of for-profit cemeteries outside of city
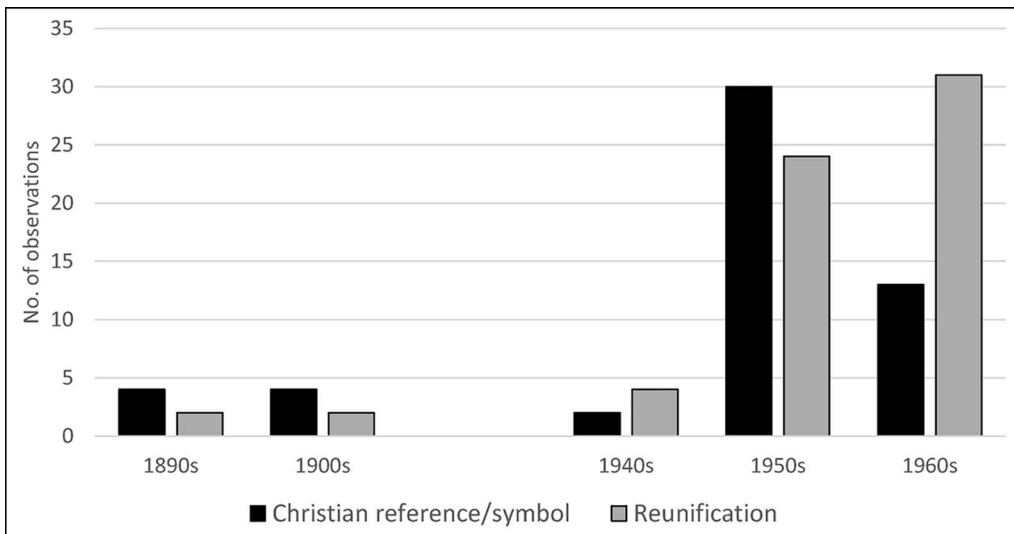
Figure 6. The number of references to Christianity and concepts of reunification observed on animal gravestones (figure by E. Tourigny).

centres (Curl 1972: 181–82; Mytum 1989: 284). A changing relationship between the living and the dead is also evident in an increased desire by the bereaved to visit the grave and for burials to remain perpetually undisturbed (Tarlow 1999: 145). People began spending considerable sums of money on funerals and more ostentatious gravestones. These demonstrate a desire to mourn publicly, resulting in a higher number of gravestones relative to previous centuries (Tarlow 1999). Although the majority of people opted to bury their animals in private gardens, the creation of pet cemeteries and the emotional epitaphs on a few early animal gravestones suggest an increasing desire for public expressions of grief following a deep loss (Howell 2002; Kean 2013). The need to express grief following the loss of a beloved animal, however, was at odds with socially acceptable beliefs of the time, as a disbelief in animal souls conflicted with the need to mourn a beloved individual's death (Tague 2008: 298). Howell (2002: 7) argues that the establishment of the first public pet cemeteries represent human desire for an animal afterlife. While only a few early gravestones mention the desire for reunification specifically, the symbolism apparent in many of the gravestone forms and designs suggests that people conceptualised animal death in the same way as human death, through the metaphor of sleep.

Understanding death through the metaphor of sleep featured prominently in the late Victorian era (Tarlow 1999). Sleep is a particularly attractive and comforting metaphor, as it suggests an impermanent state without being explicit about beliefs concerning the immortality of animal souls. Many of the animal graves at Hyde Park follow trends observed in contemporaneous human burial plots and include both kerbstones and a headstone, as if mimicking a bed. Some even display raised body stones for increased visual effect (Figure 7). Gravestone texts regularly use sleep-related language commonly observed on human memorials, such as 'Rest in Peace' and 'Here lies […]'. Sam's epitaph (d. 1894), for example, reads 'After life's fitful slumber, he sleeps well', while Snap and Peter's headstone (d. 1890s) reads

Figure 7. Example of the use of body stones, kerbs and headstones to resemble the appearance of a bed in Hyde Park Pet Cemetery (photograph by E. Tourigny, taken with permission from The Royal Parks).

'We are only sleeping, Master'. Society's attitudes towards death have changed little, as the sleep metaphor is used continuously throughout the twentieth century to conceptualise death, following the pattern observed in human cemeteries (Tarlow 1999: 109).

Nineteenth-century human gravestones tended to be large, of various, standardised shapes, and often included secular designs, such as foliate borders, architectural elements (e.g. pilasters and pediments) and symbols of the neo-classical revival (e.g. columns, obelisks, urns). Many were set in beautifully landscaped, garden-like cemeteries (Tarlow 1999: 69–73). Remarkably, this is not the case in Hyde Park, where gravestones are nearly all of a uniformly small size (averaging: 0.31m in height, 0.24m in width and a thickness of 0.05m). Predominantly cut of the same stone type, they are tucked away in a small, private corner of the park. The majority display the same basic shape, with only six of 471 gravestones having additional decorative elements. The uniformity of gravestones, the lack of decoration and the remoteness of their location suggest that pet burials did not simply reflect another form of conspicuous consumption, but represent an actual desire to bury and commemorate animals.

Following patterns observed in human cemeteries, a greater variety of gravestone designs appear in twentieth-century pet cemeteries. Commemorators could select from an increased supply of standardised gravestone shapes, which include foliate borders and bespoke elements, such as engravings of animals and small sculptures (best evidenced at the People's Dispensary for Sick Animals pet cemetery in Ilford) (Figure 8). Human gravestones diminish in size following the First World War (Tarlow 1999: 152), whereas pet monuments occasionally become larger and more elaborate by the mid twentieth century.

As British society became increasingly secular and more tolerant of different religious beliefs during the twentieth century (Brown 2009), there was less reluctance to express publicly a belief in animal souls, reunification in the afterlife and the membership of animals within the family. These changes are especially pronounced in the second half of the twentieth century, and are also observed elsewhere in the world. In their assessment of Finnish and

Figure 8. Examples of variation in gravestone design from the People's Dispensary for Sick Animals pet cemetery in Ilford: left) Whiskey (d. 1987); right) Billy (d. 1951) (photographs by E. Tourigny).

Swedish pet cemeteries, Schuurman and Redmalm (2019) suggest that fewer references to owners in post-Second World War pet gravestones provides evidence for the acceptance of animals in the family. Furthermore, Brandes (2009: 107–109) identified an increased use of familial identifiers in later twentieth-century pet burials in Hartsdale, New York.

While it may appear counter-intuitive to witness an increase in religious symbolism in a more secular society, this trend is also noted in contemporary human cemeteries in Britain and other Western countries (Tarlow 1999; Anderson *et al.* 2011). As Anthony (2016: 361) notes, while human cemeteries became more inclusive in the twentieth century and became more accepting of inscriptions and symbols being used, the gravestones are not necessarily increasingly secular. Pet cemeteries, such as the example in Ilford, show a clear increase in Christian symbolism. Buena Vista pet cemetery in Leicestershire (est. 1977) comprises predominantly standardised wooden crosses as grave markers (Figure 9). The standard use of crosses at Buena Vista and the restrictions on religious symbolism imposed on other cemeteries (e.g. North Shields, Jesmond) suggest that theological orthodoxy was enforced differently across authorities.

Christian symbols are equally sparse in the few early pet cemeteries described outside of Britain. The generally accepted Christian position is that animals do not have souls or spirits, and that animal life is less valued than human life; there is, however, a belief that animals are God's treasured creations (Lewis 2008: 314–15). Despite mirroring human burial customs and hoping for reunification in a Christian heaven, the struggle to define the role of animals in the afterlife continued throughout the twentieth century, both in Britain and elsewhere around the world. Brandes (2009) notes that most Christian symbols on pet gravestones in Hartsdale, the first pet cemetery in the USA, appear after the 1980s, thus suggesting a more conservative approach compared to London's post-war pet owners. In Moscow, where most people do

Figure 9. Wooden cross grave markers characteristic of the Buena Vista pet cemetery, Leicestershire (photograph by K. Bridger).

not believe that animals have spirits or souls, pet epitaphs still suggest a continued life beyond death and reunion with the family, without evoking religious references (Bardina 2017). Paris's pet cemetery banned crosses upon its establishment in 1899. Gaillemin (2009), however, notes that Parisians found other ways to suggest that pets have souls by substituting crosses with hearts, doves and angels or saints. Conversely, many of Japan's Buddhist cemeteries commonly include both human and pet burials, welcoming the idea of pets having souls (Veldkamp 2009). Rather than reflecting personal beliefs, prohibited religious symbols are often more indicative of mainstream religious doctrine and political motives.

The need to grieve

The stylistic similarities between early pet cemeteries and Victorian human cemeteries possibly reflect the adoption of ritual practices originally intended for people, where no such rituals existed for animals (Dresser 2000: 102). While some scholars describe the act of burial and commemoration itself as evidence for belief in animal souls (e.g. Bardina 2017), the pet cemetery 'movement' also developed out of a need to mourn lost companions in a public manner alongside other bereaved people. The bond formed with an animal can be just as close as that formed between humans (Cowles 2016), and the archaeological data indicate

that, over time, people have become increasingly comfortable in expressing this bond, and in both grieving and commemorating its loss. While the pet cemetery movement may partly be explained as representing early expressions of belief in animal souls, their purpose may have shifted over time. This is observable in Japanese cemeteries, where funerals for animals have become less about warding off the spiritual vengeance of animal souls and more about meeting increased consumer demand and allowing pet owners the opportunity to remember and mourn the loss of their animals (Veldkamp 2009: 333).

Today, people continue to struggle to find an appropriate outlet to express the deep emotional pain that they suffer following the loss of a beloved animal, fearing social repercussions for either anthropomorphising their relationships and being too sentimental, or for being disrespectful of people and religious beliefs (Woods 2000; Morley & Fook 2005; Desmond 2011; Schuurman & Redmalm 2019). In the UK, charitable organisations such as the Blue Cross and the Rainbow Bridge Pet Loss Grief Centre offer counselling services to bereaved humans following the loss of their pet. The Royal Society for the Prevention of Cruelty to Animals website offers explicit reassurance to bereaved pet owners that their feelings of deep sadness, loneliness and isolation are normal and no reason to be ashamed (Royal Society for the Prevention of Cruelty to Animals n.d.). Online forums and digital pet cemeteries provide new venues in which people can express their grief and commemorate their beloved pets. Similarly, these online commemorations can provide scholars with evidence for changing human-animal relationships (MacKay *et al.* 2016). Pet-cemetery research puts this grief into historical context, demonstrating to the currently bereaved that they are not alone in their struggles to express their feelings.

Conclusion

The relationships that people develop with animals are partly a product of the cultural milieu in which they form. While people's reactions to animal death have varied across time and space, the treatment of the animal body (Tourigny *et al.* 2016) and the material culture associated with animal death and commemoration highlight the human perceptions of these relationships. The archaeological data presented in this article demonstrate the wide range of human-animal relationships depicted in pet cemeteries, and their value towards investigating changing behavioural patterns through time. The results illuminate the transition of animals from being pets and companions to becoming family members, and the changing beliefs about the animal's role in the afterlife. They provide testimony to the conflicts between individual beliefs and societal pressures. Pet cemetery studies can further contribute to additional research themes not discussed here, including the differential relationships between social groups (e.g. based on ethnicity, economic status or gender), relationships to changing household demographics, studies of pet life expectancy and changes in naming practices as a reflection of cultural attitudes (e.g. Thomas 1983: 119; Chalfen 2003; Brandes 2009; Pregowski 2016b; Inoue *et al.* 2018).

Comparing pet burial practices from cemeteries around the world demonstrates different attitudes towards animals and variation between social and cultural groups. Whether or not gravestones are explicit in their portrayal of human-animal relationships, pet cemeteries demonstrate emotional responses to the loss of a pet. As Schuurman and Redmalm (2019)

observed in modern Scandinavian pet cemeteries, emotions are often ambiguous, reflecting an uncertainty in defining one's relationship with animals, and identifying what constitutes acceptable forms of grief following the loss of this relationship. The archaeological data presented provide historical context for this conflict in British society, demonstrating how public attitudes have changed over time, and how they are manifested in the material record. Furthermore, pet cemeteries allow us to contextualise our current relationship with animals through comparisons to human burial practices, thus demonstrating how archaeology can contribute to other fields of research. As our relationship with pets continues to change, so do burial practices. Cremation services are becoming increasingly popular, and new forms of material culture related to animal death and commemoration are emerging. These provide us with new opportunities to investigate the material manifestation of our relationship with non-human animals.

References

AMBROS, B.R. 2010. The necrogeography of pet memorial spaces: pets as liminal family members in contemporary Japan. *Material Religion* 6: 304–35. https://doi.org/10.2752/175183410X12862096296801

ANDERSON, K.A., C.L. SIELSKI, E.A. MILES & A.V. DUNFEE. 2011. Gardens of stone: searching for evidence of secularization and acceptance of death in grave inscriptions from 1900 to 2009. *OMEGA—Journal of Death and Dying* 63: 359–71. https://doi.org/10.2190/OM.63.4.d

ANTHONY, S. 2016. *Materialising modern cemeteries: archaeological narratives of Assistans Cemetery, Copenhagen* (Lund Studies in Historical Archaeology 18). Lund: Media Tryck Lund.

BARDINA, S. 2017. Social functions of a pet graveyard: analysis of gravestone records at the metropolitan pet cemetery in Moscow. *Anthrozoös* 30: 415–27.

https://doi.org/10.1080/08927936.2017.1335099

BELL, E. 1994. *Vestiges of mortality and remembrance: a bibliography on the historical archaeology of cemeteries.* Metuchen (NJ) & London: Scarecrow.

BRANDES, S. 2009. Meaning of American pet cemetery gravestones. *Ethnology* 48: 99–118.

BROWN, C.G. 2009. *The death of Christian Britain: understanding secularisation 1800–2000.* London & New York: Routledge. https://doi.org/10.4324/9780203879436

CANNON, A. 1989. The historical dimension in mortuary expressions of status and sentiment. *Current Anthropology* 30: 437–58. https://doi.org/10.1086/203764

CHALFEN, R. 2003. Celebrating life after death: the appearance of snapshots in Japanese pet gravesites. *Visual Studies* 18: 144–56. https://doi.org/10.1080/14725860310001632047

Coates, M.N. 2012. *The story of Northumberland Park: North Shields, Spital Dene and the Pow Burn*. Newcastle-upon-Tyne: Summerhill.

Cowles, K.V. 2016. The death of a pet: human responses to the breaking of the bond, in M.B. Sussman (ed.) *Pets and the family*: 135–48. New York: Routledge. https://doi.org/10.4324/9781315784656-10

Curl, J.S. 1972. *The Victorian celebration of death*. Newton Abbot: David & Charles Ltd.

Desmond, J. 2011. Death and the written record of history: the politics of pet obituaries, in L. Kalof & G.M. Montgomery (ed.) *Making animal meaning*: 99–111. East Lansing: Michigan State University Press.

Dethlefson, E. & J. Deetz. 1966. Death's heads, cherubs and willow trees: experimental archaeology in colonial cemeteries. *American Antiquity* 31: 502–10. https://doi.org/10.2307/2694382

Dresser, N. 2000. The horse bar mitzvah: a celebratory exploration of the human-animal bond, in A. Podberscek, E. Paul & J. Serpell (ed.) *Companion animals and us*: 90–107. Cambridge: Cambridge University Press.

Gaillemin, B. 2009. Vivre et construire la mort des animaux: le cimetière d'Asnières. *Ethnologie Française Nouvelle Série* 39: 495–507. https://doi.org/10.3917/ethn.093.0495

Hodgetts, E.A.B. 1893. A cemetery for dogs. *Strand Magazine* 6: 625–33.

Howell, P. 2002. A place for the animal dead: pets, pet cemeteries and animal ethics in late Victorian Britain. *Ethics, Place and Environment* 5: 5–220. https://doi.org/10.1080/13668790220146401

– 2015. *At home and astray: the domestic dog in Victorian Britain*. Charlottesville (VA) & London: University of Virginia Press.

Inoue, M., N.C.L. Kwan & K. Sugiura. 2018. Estimating the life expectancy of companion dogs in Japan using pet cemetery data. *Journal of Veterinary Medical Science* 80: 1153–58. https://doi.org/10.1292/jvms.17-0384

Kean, H. 2013. Human and animal space in historic 'pet' cemeteries in London, New York and Paris, in J. Johnston & F. Probyn-Rapsey (ed.) *Animal death*: 21–42. Sydney: Sydney University Press. https://doi.org/10.2307/j.ctt1gxxpvf.8

Lewis, C. 2008. The virtual pet cemetery—internet world pavilion. *Implicit Religion* 11: 313–16. https://doi.org/10.1558/imre.v11i3.313

Lorimer, H. 2019. Dear departed: writing the lifeworlds of place. *Transactions of the Institute of British Geographers* 44: 331–45. https://doi.org/10.1111/tran.12278

MacKay, J., J. Moore & F. Huntingford. 2016. Characterizing the data in online companion-dog obituaries to assess their usefulness as a source of information about human-animal bonds. *Anthrozoös* 29: 431–40. https://doi.org/10.1080/08927936.2016.1181374

Mangum, T. 2007. Animal angst: Victorians memorialize their pets, in D. Denenholz Morse & M.A. Danahay (ed.) *Victorian animal dreams: representations of animals in Victorian literature and culture*: 15–34. New York: Routledge. https://doi.org/10.4324/9781315235073-2

Meyer, R. (ed.). 1993. *Ethnicity and the American cemetery*. Bowling Green (OH): Bowling Green State University Popular Press.

Morley, C. & J. Fook. 2005. The importance of pet loss and some implications for services. *Mortality* 10: 127–43. https://doi.org/10.1080/13576270412331329849

Morris, J. 2011. *Investigating animal burials: ritual, mundane and beyond* (British Archaeological Reports British Series 535). Oxford: British Archaeological Reports. https://doi.org/10.30861/9781407308128

– 2016. Mourning the sacrifice: behavior and meaning behind animal burials, in M. DeMello (ed.) *Mourning animals: rituals and practices surrounding animal death*: 11–20. East Lansing: Michigan State University Press.

Mytum, H. 1989. Public health and private sentiment: the development of cemetery architecture and funerary monuments from the 18th century onwards. *World Archaeology* 21: 283–97. https://doi.org/10.1080/00438243.1989.9980107

– 1990. A study of Pembrookshire graveyards: cultural variability in material and language. *Bulletin of the C.B.A. Churches Committee* 27: 6–11.

– 1993. Death and identity: strategies in body disposal and memorial at North Front cemetery, Gibraltar, in M. Carver (ed.) *In search of cult: archaeological investigations in honour of Philip Rahtz*: 187–92. Woodbridge: Boydell.

– 2000. *Recording and analysing graveyards*. London: English Heritage.

PLUSKOWSKI, A. (ed.). 2012. *The ritual killing and burial of animals: European perspectives*. Oxford: Oxbow.

PREGOWSKI, M.P. 2016a. All the world and a little bit more: pet cemetery practices and contemporary relations between humans and their companion animals, in M. DeMello (ed.) *Mourning animals: rituals and practices surrounding animal death*: 47–54. East Lansing: Michigan State University Press.

– 2016b. Human names as companion animal names in Poland, in M.P. Pregowski (ed.) *Companion animals in everyday life*: 235–50. New York: Palgrave Macmillan.

RITVO, H. 1987. *The animal estate: the English and other creatures in the Victorian Age*. London: Penguin.

Royal Society for the Protection of Animals. n.d. Pet bereavement. Available at https://www.rspca.org.uk/adviceandwelfare/pets/bereavement (accessed 28 August 2020).

SCHUURMAN, N. & D. REDMALM. 2019. Transgressing boundaries of grievability: ambiguous emotions at pet cemeteries. *Emotion, Space and Society* 31: 32–40. https://doi.org/10.1016/j.emospa.2019.03.006

SERPELL, J. 1986. *In the company of animals: a study of human-animal relationships*. Cambridge: Cambridge University Press.

SYKES, N. 2014. *Beastly questions: animal answers to archaeological issues*. London: Bloomsbury.

TAGUE, I.H. 2008. Dead pets: satire and sentiment in British elegies and epitaphs for animals. *Eighteenth-Century Studies* 41: 289–306. https://doi.org/10.1353/ecs.2008.0024

TARLOW, S. 1999. *Bereavement and commemoration: an archaeology of mortality*. Oxford: Blackwell.

THOMAS, K. 1983. *Man and the natural world: changing attitudes in England 1500–1800*. London: Allan Lane.

THOMAS, R. 2005. Perceptions versus reality: changing attitudes towards pets in medieval and post-medieval England, in A. Pluskowski (ed.) *Just skin and bones? New perspectives on human-animal relations in the historic past*: 95–105 (British Archaeological Reports International Series 1410). Oxford: British Archaeological Reports.

– 2016. Towards a zooarchaeology of animal 'care', in L. Powell, W. Southwell-Wright & R. Gowland (ed.) *Care in the past: archaeological and interdisciplinary perspectives*: 169–88. Oxford: Oxbow.

TOURIGNY, E., R. THOMAS, E. GUIRY, R. EARP, A. ALLEN, J.L. ROTHENBURGER, D. LAWLER & M. NUSSBAUMER. 2016. An osteobiography of a 19th-century dog from Toronto, Canada. *International Journal of Osteoarchaeology* 26: 818–29. https://doi.org/10.1002/oa.2483

VELDKAMP, E. 2009. The emergence of 'pets as family' and the socio-historical development of pet funerals in Japan. *Anthrozoös* 22: 333–46. https://doi.org/10.2752/089279309X12538695316103

WILSON, B. & P. EDWARDS. 1993. Butchery of horse and dog at Witney Palace, Oxfordshire, and the knackering and feeding of meat to hounds during the post-medieval period. *Post-Medieval Archaeology* 27: 43–56. https://doi.org/10.1179/pma.1993.004

WOODS, T. 2000. Mourning the loss of a companion animal. *Bereavement Care* 19: 8–10. https://doi.org/10.1080/02682620008657481