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# Horse Matters: Re-examining Sustainability through Human-Domestic Animal Relationships

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## Abstract

Sociology increasingly recognises that ‘the social’ extends beyond ‘the human’. The ongoing theoretical integration of animals has extended our understanding of notions like alienation, violence and technology. This article considers in turn the highly contested concept of sustainability. Focusing on our entangled relationships with domestic animals, particularly horses, extends our critical understanding of sustainability in three ways. First, by recognising horses as social actors, we can challenge the anthropocentrism of sustainability and integrate animals into our analysis of how social systems create and /or resist sustainability claims. Second, in adding species to traditional categories of race, class and gender, we can extend critiques of sustainability by considering how it intersects with relations of power. Third, by exploring how alternative visions of the future emerge from within everyday as well as epic settings and encounters, the article broadens our understanding of what should be sustained and for whom.

## Keywords

domestic animals, horses, human-animal relations, sociology, sustainability

## Introduction

**A** full understanding of industrial society requires us to direct our sociological gaze beyond the human (Tovey 2003; Carter and Charles 2018). Sociologists have brought animals into the study of concepts including alienation (Noske 1993; Benton 1998; Stuart *et al.* 2013), violence (Cudworth 2015; Todd and Hynes 2017) and technology (Latimer and Birke 2009) among others, extending our

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understanding of these concepts by so doing. The purpose of this conceptual article is to build on these efforts by theoretically integrating animals into a particularly thorny concept within sociology, namely sustainability.

Sustainability has gained prominence in the public and private sphere in industrial countries particularly, exemplified by the publication in 2016 of the United Nations' Sustainable Development Goals (SDGs). Seventeen targets – such as climate action, reduced inequalities, life on land – are framed as a 'blueprint to achieve a better and more sustainable future for all' by 2030 ([www.un.org](http://www.un.org)). Widely adopted by business and government, the SDGs are a useful starting point for a preliminary definition of sustainability. They also provide an initial indication of some of its conceptual difficulties.

First, with their emphasis on a 'more sustainable future for all', the SDGs make clear the duty of care owed to present and future inhabitants of the world. However, these imagined inhabitants are exclusively human: Nonhuman animals – 'fishes', 'endangered species' – are mentioned only indirectly and with regard to the benefit they provide for humans (Bergmann 2019). This reflects a broader tendency within the sustainability literature to identify animals as generic resources rather than active co-habitants of the earth (Policarpo *et al.* 2018). This anthropocentric approach inhibits our ability to reimagine a livable future for the planet and all its occupants *i.e.*, both human and nonhuman (Tsing 2017; Bergmann 2019). Second, the SDGs advocate balancing economic wellbeing, environmental stewardship and social justice ([www.un.org](http://www.un.org)). These 'three pillars' have underpinned the concept of sustainability ever since the publication of the Brundtland Report in 1987 (WCED 1987). The SDGs reformulate these pillars into a series of measurable and verifiable indicators (Brightman and Lewis 2017). However, the goals and the pillars underlying them can be contradictory: For example, the goal of 'eliminating poverty' (SDG 1) is in tension with many approaches aimed at 'protecting terrestrial ecosystems' (SDG 15) (Brightman and Lewis 2017). We need to recognise and surface these contradictions if 'alternative viable conceptions of sustainability and society [are] to emerge' (Longo *et al.* 2016, p. 437). Third, the SDGs reveal sustainability as an ongoing process, aspirational and global in nature (Dymitrow and Halfacree 2018). It demands transformational changes to cultural, physical and social structures that are at once urgent yet slow moving. In addition, it can be hard to apportion responsibility as the causes and consequences of unsustainable practices may be distant in both time and space. Sustainability might therefore be characterised as a 'wicked problem', which renders our understanding of it necessarily incomplete, fragmented and contradictory (Dymitrow and Halfacree 2018; Murphy 2012). Ultimately, this may in turn prevent us engaging with the concept altogether (Longo *et al.* 2016).

In summary, then, sustainability is not a unifying concept but a contested normative framework (Longo *et al.* 2016). Within rural contexts for example, it intensifies different interests and perspectives, such as those relating to rurality, rural development and agriculture (Hermans *et al.* 2010). Sociology is well placed to extend our critical understanding of these and other aspects of sustainability, by asking difficult questions such as how sustainability claims are created and/or resisted, how sustainability intersects with relations of power, and what should be sustained and for whom. However, this particular corner of sociology has been hampered by a similarly human-centric view of social relations to that outlined above. This has obscured our

awareness of people's dependence on and power over other species, and the natural and social systems that we share (Longo *et al.* 2016; Policarpo *et al.* 2018). As a result, the discipline has consistently struggled to engage with the concept of sustainability (Murdoch 2001; Walker 2005). This article therefore contends that theoretically integrating animals into our analysis is a necessary first step in developing a more critical sociological understanding of sustainability.

The article therefore turns to human-animal scholarship within sociology, but also within cultural geography (e.g., Lorimer 2015), environmental philosophy (e.g., Plumwood 1993) and science studies (e.g., Crist 2013) among others. I also draw on wider debates about materiality and human/nonhuman agency. Actor Network Theory, for example, suggests all actors – human and nonhuman – are active entities, worthy of observation and analysis. They 'matter' precisely because of their relationships with others (Latour 2007; see also Law and Mol 2002; Whatmore 2002; Barad 2007; Ingold 2008). Research sites comprise interactions between myriad human and nonhuman actors, embedded in turn within broader socio-political networks (Latour 2007). The discovery of pasteurisation, for example, is reinterpreted as a joint enterprise of rats, bacteria, industrialists and worms (Latour 1988). Haraway (2008) explores similar concerns via her concept of 'companion species', which knots together humans, landscapes, technologies and animals. These ideas have been influential within sociology and beyond but are only just gaining ground within discussions about sustainability (see notably Blok 2013; Latour 2014; Miller and Wyborn 2018).

Pyyhtinen (2015) suggests that taking these networks and their component relations seriously requires a 'more-than-human sociology', which can also liberate our thinking about the scales on which such things exist. For Haraway (2008), our entangled affective relationships with domestic animals are particularly revealing: In effect, they help make us who we are. Haraway's research focuses on dogs, who have evolved alongside humans for thousands of years. The present research focuses on horses. According to Adelman and Thompson (2017, p. 3), our long and intimate association with these particular animals 'reveals and illuminates important and symbolic societal transformations' that have unfolded within industrial society. Since Palaeolithic times, people and horses have evolved together. In the UK, for example, evidence of domestication can be found dating back to the Bronze Age (Harding 2000). For centuries, horses were used to transport people, goods and armies over long distances. The industrial revolution consolidated rather than undermined their usefulness, as horses became an indispensable source of power for ever-heavier and more complex machinery in both rural and urban settings (Raulff 2017). During the course of the twentieth century, however, due to the arrival of more affordable motorised vehicles and machinery, working horses began to disappear (Verdon 2017). Now kept for leisure rather than labour, heavy breeds went into decline and lighter types – often deliberately bred for a particular sporting purpose such as hunting or jumping – began to take their place. In this way, horses made a 'gradual but radical move from the centrality of relations of production to those of consumption and leisure' (Thompson and Adelman, p. 3).

This move was mirrored geographically. There are 850,000 horses in the UK for example (BETA 2019), with most of these living in rural areas. Horses thus remain key economic, symbolic and cultural actors in the countryside in particular (Schuurman and Nyman 2014). For example, few people have the facilities to keep horses at home,

thus creating a significant market in 'livery' services: Many of the livery yards that are home to these horses are sited on those same farms where their forefathers worked the land in centuries gone by. Their unique and ambiguous status therefore effectively renders horses – and our relations with them – a useful vantage point from which to reconsider sociological conceptions of sustainability.

In summary, the article decentres humans from our analysis of sustainability, allowing us to think differently about the world and the place of people and animals in it. As such, it contributes to our understanding of sustainability, while also supporting wider moves to reinvigorate the sociological imagination (Pyyhtinen 2015; Wilkie 2015; White 2015). The article is guided by these two aims: That is, the first aim is to theoretically integrate nonhuman animals – specifically domestic animals – into the sociological study of sustainability. The second aim is to extend our understanding of the social into specific, more-than-human worlds (in this case, that of horses). These aims are pursued via the three research questions that structure the article. The first question asks how human-animal research – into our relations with domestic animals in general and horses in particular – might extend our understanding of sustainability. The article then turns to a second research objective, which asks how sustainability has been conceptualised within sociology. Here I return to ideas about sustainability as anthropocentric, contradictory and complex, and reflect on how a less human-centric approach might help address these limitations. Finally, the third research question asks how we might bring the two previous objectives together, by applying the above insights from human-animal research to sociological interpretations of sustainability. What emerges is a relational, multi-layered and critical understanding of sustainability as a collective endeavour between a plethora of different actors – human, animal and other. I will now address these three research questions in turn.

### **Insights from multispecies scholarship that might extend our understanding of sustainability**

We are increasingly oblivious to how we share our worlds with nonhuman others (Moore 2015). This has sparked a move across the social sciences to decentre humans, emphasising instead that everything in the social-natural world exists within constantly evolving networks of relationships. It is these relationships, rather than the actors themselves, that are of interest to Latour's (2007) Actor Network Theory, for example, or Barad's metaphor of 'mesh.' Moore (2015) uses both in her study of horseshoe crabs on New York beaches, and their interconnections with other actors including politicians, pharmaceutical companies, cars and sand.

Within this wider context, multispecies research focuses in particular on our relationships with what Haraway (2008, p. 330) calls a 'motley crowd' of nonhuman animals. We are partners in the making of our world (Birke and Thompson 2017). However, in rich countries like the US and UK, we live further away both physically and psychologically from those partners than ever before. Wild animals become sentimentalised, while domestic animals exist as commodities within the global agricultural system (Tovey 2003; Cudworth 2015). We are more likely to encounter cows

and chickens pre-packaged on polystyrene trays in the supermarket than within our own communities. In the US in particular, farm animals have shifted from outdoor pastures to indoor industrial facilities, while slaughterhouses have moved out of sight (Coulter 2016). Indeed, Cudworth (2015) suggests the persistence of the harrowing conditions in which these animals live depends precisely on our continued and wilful ignorance of where our meat, eggs and milk 'really' come from. Yet, alongside this generalised detachment, comes an increased intimacy with a specific group of domestic animals who share our homes and communities. Our close relationships with dogs, cats and horses, for example, effectively undermine the distinction between human and nonhuman (Serpell 1996). They thereby represent a provocative starting point from which to consider the concept of sustainability, complementing existing research that focuses on wild animals such as boar (Storie and Bell 2017), elephants (Lorimer 2015) and bears (Hobson 2007).

Within industrial society, horses continue to inhabit a special place in the collective subconscious (Notzke 2013). Riding 'adds a level of physicality, intimacy, and intensity unique from anything experienced with household-animal companions' (Keaveney 2008, p. 448). Thus, while horses do not share our homes like cats or dogs, we are peculiarly bonded to each other (Dashper 2016). The distinctive hold of the human-horse relationship is such that it potentially troubles the dualisms that underpin modern industrial society itself (Latimer and Birke 2009). These oppositional concepts – including biology/society, subject/object and individual/collective – are the building blocks on which present and past forms of oppression are built (Plumwood 1993). These dualisms therefore represent a useful starting point for our critical analysis of sustainability. I will consider each in turn, asking what we can learn about them from horse-human relationships in particular and how this might in turn extend our understanding of sustainability.

The first dualism, between *biology vs. society*, goes back millennia but was consolidated and augmented by Enlightenment rationality (Plumwood 1993). The ability to distinguish between human and nonhuman animals – and between different categories of them – is a defining feature of industrial society and 'a tremendous step forward for learning' because everyone can now 'discuss and refer to all the creatures on the planet without either the animals or the people having to be anywhere nearby' (Diski 2010, p. 47). This drive to separation and hierarchy extends to academia: Since its inception, sociology has sought to differentiate itself from 'natural' science by distinguishing between the socially constructed worlds of people and the biologically determined and closed worlds of nonhuman animals (Murphy 1995). But this urge to construct nonhumans as different (and inferior) to humans has political and material consequences, especially for the animals concerned (Derrida 2008; Peggs 2013). These consequences may be positive. For example, greater interest in and understanding of the way horses live 'in the wild' has led to a growing consensus in the UK and elsewhere that it is better for their physical and mental wellbeing to live outside rather than confined to a stable. But such appeals to biology may also bring negative impacts. For example, a widely held belief that horses are 'naturally' submissive has been used to justify harsh training methods such as 'Rollkur' in dressage, which forces horses to lower their necks as they work (Birke and Thompson 2017).

The ease with which we resort to biological explanations understandably troubles multispecies scholars (Noske 1993). For example, Mullin (1999) critiques both the language and practice of maintaining the 'biological purity' of specific breeds, suggesting instead that animality is not an essence but a doing or becoming. 'Natural' characteristics are cultivated and/or modified through breeding, work and use (Latimer and Birke 2009; Gilbert and Gillett 2011). For example, Arabs combine energy, courage and intelligence, with physical attributes like strong legs, a deep chest and a short, straight back. They have come to dominate the sport of endurance riding, in which horse and rider cover up to 130 kilometres per day over challenging terrain. However, even horses bred for this purpose require long hours of training, not only to increase their physical stamina but to accustom them to the mental demands of competition (Bolwell *et al.* 2015). Crucially, horses are active participants in these processes themselves within and beyond the competitive arena. For example, part-bred Arab mare Hannah effectively reinvented herself, while taking part in the 'Fairly big ride' from West Wales to Jordan:

'One of our biggest concerns had been how she would accept her new profession as a humble packhorse. Hannah has always had the unfortunate belief, not only that she is the irresistible force, but also – and more expensively – that there are no immovable objects... [but] she had adapted superbly well to her new job; staying with us when loose on open hill or tracks; sidestepping skilfully to guide her panniers through the narrowest of bridleway gates, and standing stock still to be loaded and unloaded each day.'<sup>1</sup>

Animality – or 'horseness' more specifically – is thereby revealed as both biological and social, influenced and performed by horses themselves as well as by others with whom they come into contact.

In summary, the first key insight that emerges is that *animals themselves are active agents, embodying and shaping the relationship between nature, society and technology*. Despite constraints, animals 'take advantage of opportunities to exercise their selves' (Birke and Thompson 2017, p. 4). Indeed, one of the oldest known idioms in the English language tells us that 'you can lead a horse to water but you can't make them drink.' Via the simple step of expanding mindfulness to nonhumans, we begin to challenge the tendency to treat animals as mere tools for our unconstrained use (Plumwood 1993). Rather, openly recognising horses and other domestic animals as active social participants generates the possibility – and necessity – of a more-than-human conception of sustainability, shaping our understanding of the questions and challenges it raises all round.

The second dualism – *subject vs object* – leads on from the first. Even as we recognise much-loved horses and other companions as social subjects, we also objectify them by effectively discarding them when they are no longer needed or convenient (Charles and Davies 2008). So even where horses and people are tightly bonded, the human partner alone can choose to break that bond at any time by selling or giving the horse to someone else (Birke and Thompson 2017). Unlike other domestic animals like cows and pigs, horses are not usually kept for economic reasons but can nonetheless be seen as 'sentient commodities' (Wilkie 2005). This ambivalence is detectable within the sales listings found in print and online media outlets like the long-established Horse and Hound magazine. For example, some people cite divorce



or bereavement as factors in the decision to part with a horse, or employ phrases like '5\* home wanted' or 'for sale through no fault of her own.' In other words, even as people recognise that they are treating the horse as a disposable object, they are underlining the animal's subjective status as much-loved friend.

Horse-human engagements thereby produce and reproduce relations of domination and exploitation (Latour 2007). These relations underpin, for example, the ritualised Sunday morning riding lesson. A dozen or so ponies and their diminutive riders dutifully circle the outside of a dusty arena. Chased along by the instructor, the pony at the front breaks into a reluctant shuffling trot. He and his bouncing jockey lurch to the rear of the ride, whereupon the next pony in line follows suit. Even the most placid pony might occasionally squash a startled rider against the wall, suggesting that animals can feel and sometimes resist the domination to which they are subject. But they cannot recognise or resist the larger systems of power within which they are enmeshed (Coulter 2016).

Cudworth (2015) and Todd and Hynes (2017) remind us there is nothing accidental here. Rather the very sense of what it is to be human in industrial society rests upon the (violent) exclusion of animals. Sociologists are wary of considering animals as an oppressed group (Carter and Charles 2018) but concepts like alienation and exploitation clearly cut across species lines. In racing, for example, physical proximity, demanding conditions and the emotional bond that develops between racehorses and stable staff results in their 'shared suffering' (Porcher 2011). Horses (and people) compete from a young age and risk catastrophic injury. Workers are young, female and/or migrants: Their day starts early, finishes late and the 'dirty work' in between is hard and repetitive (Miller 2013). Industrial modernity, then, undermines what it is to be human and what it is to be animal alike (Tovey 2003).

Our second useful insight, then, is that *the agency of animals (like people) is constrained by the power relations within which they are enmeshed*. The empathetic and embodied nature of multispecies interactions suggests that we should take more seriously our duty of care (Donovan 2007; Coulter 2016; Dashper 2016). Our relationship with horses and other domestic animals promises to extend the reach of social justice, for example. However, academic attempts to undertake such a fundamental challenge to the human/nonhuman distinction have not yet permeated 'common-sense' understandings of human-animal relations (Charles and Davies 2008). Nor can we assume that the dissolution of these boundaries will end exploitation (Porcher 2011; Cudworth 2015). This suggests the need to move beyond taking a greater interest in or advocating for animals towards integrating them fully into our theoretical thinking (Carter and Charles 2018). That is, alongside feminist, postcolonial and other critical perspectives, multispecies research might thereby begin to challenge mainstream sociological analysis.

The third dualism is that of *individuals vs. collectives*. In evolutionary terms, species are characterised by generic collective qualities. For example, horses are prey animals so tend to have a well-developed flight response to perceived dangers (Birke and Thompson 2017). However, they are also individuals with their own ideas. The particular horse in front of us may indeed run away from a flapping tarpaulin but coming across a growling dog a few minutes later, she might bravely and unexpectedly stand her ground. From a multispecies perspective, then, the horse is both 'earthly organic



entity' and 'taxonomic convenience' (Haraway 2008, p. 17). All animals are messy, entangled beings rather than discrete pre-established bodies. Barad (2007) uses the term 'intra-action' to capture the dynamic way in which animals and other beings constantly and inseparably engage with each other, both individually and collectively. This is perhaps particularly true for domestic animals and the humans who live with them. For example, Maurstad *et al.* (2013) use the term 'co-being' to reflect how horse and human meet and change as a result. Similarly, Game (2001) uses the metaphor of the centaur, a mythological creature with the upper body of a human and the lower body of a horse. She suggests there is no such thing as pure horse or pure human, rather they are mutually embodied through their participation in the world. This complicates our analysis of riding itself. From an *inter-species* perspective, riding is ethically problematic as it is embedded in the aforementioned relations of power between humans and horses (Patton 2003). However, from an *intra-species* perspective, many horses visibly enjoy the activities they undertake with their human partners. Donaldson and Kymlicka (2011) suggest that this recognition is key to efforts aimed at imagining and building a better and fairer world: 'For both humans and animals, justice requires a conception of flourishing that is more sensitive to both interspecies community membership and intra-species individual variation' (Donaldson and Kymlicka 2011, p. 99). This in turn requires that we open up spaces in which horses and other domestic animals 'can communicate what kind of world they would like to co-create for themselves, with humans' (Birke and Thompson 2017, p. 136).

Our third insight, then, is that *recognising domestic animals as members of a broader moral community means we can and should include them in efforts to redefine our understanding of what a 'good life' looks like – for humans and animals.* Our analysis of horse-human relations suggests the possibility of 'compassionate action' that might enable us to take a first step in challenging the seductive but unsustainable visions that currently predominate in industrial societies.

### Conceptualising sustainability within sociology and beyond: Some challenges

Forty years ago, visible environmental damage and growing awareness of the limits to growth placed sustainability firmly within the gamut of sociological interests. In their seminal paper, Catton and Dunlap (1978) called for more focus on environmental alongside social variables, as part of a 'New Environmental Paradigm'. Such calls have continued but a paradigmatic shift remains elusive (Bowden 2017). I return here to the three underlying reasons why sustainability represents a problematic concept. In each case, I discuss the role that a more multispecies variety of sociology might play in addressing some of the issues raised.

First, sustainability is a largely anthropocentric concept (Policarpo *et al.* 2018). For example, the present and future generations whose needs underpin the widely adopted Brundtland definition of sustainability are assumed to be human alone (WCED 1987; Stevens 2012). This excludes the vast majority of the earth's inhabitants, who are of course nonhuman. Recent initiatives – the declaration of a 'climate emergency' in the UK and elsewhere and growing concerns about the decline of biodiversity, for example – are likewise framed in terms of self-interest. That is, concerns about the

impact on other animals and life forms tend to refer to their instrumental value (to humans) rather than their intrinsic value for their own sake (Bergmann 2019). This is problematic not least because self-interest leaves vulnerable those nonhuman species who, lacking utilitarian value, may prove unworthy of human protection (Kopnina *et al.* 2018).

An overemphasis on humans, their uniqueness and their capacity for ingenuity, has led to an understanding of sustainability as a series of technical fixes rather than an existential debate, according to Longo *et al.* (2016). Further, they suggest that by prioritising and naturalising contemporary capitalistic economic relations in particular, a 'pre-analytic vision' of sustainability prevails, closing off important questions about how to balance competing priorities within society. Thus, while the very notion of the three pillars implies balance, in practice they are rarely weighted equally. Rather, the economy comes first, environment second and social equity a distant last (Agyeman *et al.* 2002).

Sociology is well placed to open up a more systematic understanding of the three pillars and the relationship between them:

'From a sociological perspective, it is clear that economic institutions and relations arise through socio-historical processes... Thus, we must understand how social institutions interact with each other and with ecosystems when considering how to develop an integrated socio-ecological analysis that informs sustainability' (Longo *et al.* 2016, p. 436).

Indeed, environmental sociology in particular has contributed significantly to understanding the challenges and possibilities of sustainability (Islam 2016). However, sustainability remains both a neglected concept and a difficult one to embrace across sociology more broadly (Murdoch 2001; Walker 2005). Within rural sociology, for example, discussions regarding the social dimension of sustainability have been marginalised compared to its ecological and economic aspects (Slatmo *et al.* 2017).

Once again, anthropocentrism helps provide an explanation. Devoid of animals, the nature we seek to bring back into sociological theory is reduced to 'a supply department, a living space or habitat... a waste repository' (Tovey 2003, p. 210). By contrast, any analysis of the connections among people, institutions, technologies and ecosystems, requires that we treat ecosystem processes and nonhumans as worthy of sociological inquiry and theory in the same way as people and institutions (Lockie 2016).

If we accept that animals are indeed active agents, as asserted above, then this requires that we decentre humans and situate them instead within a complex array of heterogeneous relations (Murdoch 2001; Latour 2007). For example, Hobson (2007) explores how Asiatic black bears dynamically participate within the political practices and imaginations that underpin the global trade in their bile. As such, like human participants, they are subject to uneven processes and diverse forms of power. Interestingly, Tovey (2003) notes that focusing on wild animals can lead to a tendency to see nonhumans as 'populations or generic types' (2003, p. 210). That is, we do not necessarily recognise their subjective characters and experiences because of the distance – geographical and social – that exist between humans and wild animals in particular. In treating animals in terms of 'species' or 'biodiversity', then,

we may overlook the individual differences and agency of the individuals concerned. Rural sociology is well-placed to deliver an accompanying focus on domestic animals, thereby contributing to a more fine-grained understanding of sustainability as an active, subjective and 'collective endeavour' between specific human and nonhuman participants (Murphy 2012). By recognising social systems as comprising people and animals alike, then, sociology might for example illuminate our understanding of how such systems create and/or resist sustainability claims.

A second reason why sustainability is a troubling concept lies in its geographical origins and association with 'modernity' (Kopnina *et al.* 2018). This assumes that far-reaching changes are required, but also that these can be accomplished within the structure of liberal consumer capitalism (Bluhdorn 2017). This strong association with the prevailing paradigm means sustainability has not yet provided an opportunity for a radical critique of the industrialised North's underlying logic of economic growth (Longo *et al.* 2016). As stated above, even as we recognise the complex challenges raised by current unsustainable modes of living, discussions tend to privilege top-down technical solutions over critical engagement with the systems and processes that underlie them (Ferreira 2017; see also Agyeman *et al.* 2002; Longo *et al.* 2016).

As an inherently future-oriented and aspirational idea, 'there can be no fixed model of what a sustainable society looks like' (Lockie 2016 p. 2). Instead, sustainability represents an opportunity to engage critically with ideas about economic wellbeing, environmental stewardship and social justice, and the interdependencies and contradictions that underpin them (Longo *et al.* 2016). For example, in his analysis of the politics of conservation, geographer Jamie Lorimer (2015) explores how human-animal relations are informed by science, politics and late-stage capitalism. In so doing, he suggests that 'wildlife is not out there, mapped to and fixed within the wilderness or the countryside. Instead, wildlife is in here – in cities, in gardens, and even in our bodies' (Lorimer 2015, p. 5). Drawing on Whatmore (2002), Haraway (2008) and other more-than-human approaches, he says we can only understand this if we recognise our interconnectedness with animal species and 'learn to be affected' by them. Lorimer focuses primarily on wild species like elephants in Sri Lanka and corncrakes in north-west Scotland, but also discusses the 'rewilding' of Heck cattle in The Netherlands. He thus points to the value of extending the analysis to domestic animals.

Sociology – through such a focus on domestic animals in particular – might usefully add to these efforts. For example, Granjou (2011) describes how cattle have been reintroduced to pastures in the French Alps from which they have been absent for generations. She notes the contested nature of the initiative, the research on which it is based and its outcomes. This confirms that the usefulness of sociology lies not in simply investigating sustainability from the position of participants in society or even 'adding animals in' to such an analysis: Rather, it can illuminate the socioeconomic transformations provoked in the name of sustainability, along with novel lines of conflict, inequalities and hierarchies that emerge as a result (Neckel 2017). Animals as well as people are constrained by those relations of power, so we can usefully reflect on how different notions of sustainability – like those at play in Granjou's study – intersect with relations of power, not only for people but for nonhuman animals too.

A third problematic aspect of sustainability is its status as a ‘wicked problem’. Difficult, complex and large-scale challenges, wicked problems are characterised by interdependencies between different actors and systems that make it hard to articulate goals and manage potential solutions (Rittel and Webber 1973). Sustainability weighs environmental requirements against sociocultural desires and the needs of the present against the needs of the future. It thereby has the potential to effectively challenge industrial society’s atomistic, human-centred orientation (Murphy 2012). However, even from a relatively uncritical solutions-based perspective, the sheer number of options available make it hard to prioritise among them (Washington 2015). This is compounded where we attempt a more critical approach: By encompassing everything from protecting endangered species to reducing inequality and increasing participation, the very notion of sustainability risks exacerbating a paralysing sense of helplessness (Murphy 2012).

Our relations with other animals are key to understanding how and why sustainability represents a wicked problem. For example, ecofeminist philosopher Marti Kheel (2008) critiques the notion of stewardship, which directly or indirectly underpins many notions of sustainability. She suggests it inevitably places humans in a hierarchically superior position, albeit in a ‘kindly caretaking capacity’. This is problematic as it leads us to concentrate on species and ecosystems, effectively ‘[subordinating] empathy and care for individual beings to a larger cognitive perspective or “whole”’ (Kheel 2008, p. 3). This larger-scale emphasis in turn leads us to ‘overlook or devalue’ domestic animals, in favour of ‘wild’ nature, which reflects masculine values of rationality, universality and autonomy. By contrast, Kheel suggests that a focus on domestic as well as wild animals would highlight the feelings of care and empathy that can arise where we acknowledge and experience animals as individuals rather than species. However, this is not an either/or scenario, rather we should relocate those individual relations within their larger historical and current context. That is, like Lorimer (2015) and Haraway (2008), she sees domestic animals as a useful gateway to this macro-level analysis. Our familiarity and co-evolution with horses and others enables us to study what she calls individual ‘*existents*’ but also the ‘historically-shaped *ways of existing*’ that such individuals inherent, embody and hopefully pass on’ (Diehm 2012, p. 83).

Rural sociology is key to this endeavour. With its long-established tradition of recognising domestic animals as social actors, it can respond to Kheel’s call for greater integration between our analysis of individuals and larger ‘wholes’. Sustainability becomes an opportunity to analyse the present, while putting forward what fellow ecofeminist Soper (2012) calls a ‘new political imaginary’. As we develop necessarily competing visions of what sustainability might mean in particular places for particular groups of people and the animals with whom we share our lives, sociology can engage directly with questions about who decides, who acts and who benefits in the pursuit of those visions (Lockie 2016; Neckel 2017).

### **How multispecies insights help us reconceptualise sustainability**

The previous section outlined how sustainability remains problematic as a concept. I highlighted three issues in particular, how other disciplines have engaged with those

issues, and the outstanding questions that remain. The following discussion explores how insights from multispecies scholarship – via a focus on domestic animals in particular – can help sociology usefully address those questions and in so doing extend our understanding of sustainability (see Table 1 for summary).

First, an anthropocentric approach impedes our understanding of sustainability. That is, in underestimating our interdependence with nonhuman actors and the ecosystems we share, we also overstate the likelihood that we can effectively resolve challenges like climate change through sheer human ingenuity (Longo *et al.* 2016; Policarpo *et al.* 2018). A multispecies approach, by contrast, would open up our understanding of what sustainability means by acknowledging and systematically exploring the interconnections between human and nonhuman actors alike. This in turn would potentially enable more durable and just forms of society to emerge (Lockie 2016).

Such a multispecies approach is thus fundamental to a distinctively sociological perspective on sustainability, helping us reflect on *how social systems create and/or resist sustainability claims*. For example, by recognising our interdependence, we begin to see that human ways of life persist across generations only where they have successfully aligned themselves with the dynamics of other creatures (Tsing 2017). A multispecies approach to sustainability means increasing our sensitivity to other (human and nonhuman) perspectives. Rather than replacing anthropocentrism with ecocentrism, then, it might be helpful to think in terms of recognising a ‘broader, more inclusive moral community’ (Buller 2016, p. 422). Humans are effectively mixed up with animals of all kinds, but our co-evolution with domestic animals means they are particularly embedded within our social systems (Donaldson and Kymlicka 2011). Thus, extending our social analyses to encompass them goes beyond a gesture of inclusion (Stuart *et al.* 2013). Rather, it fundamentally challenges our ways of thinking and knowing (Todd and Hynes 2017).

Donovan (2007) suggests that this means we should care *for* animals but – more profoundly – we should also care *about* them. That is, we should take seriously what they are telling us. In so doing, we go beyond understanding other species, but rather stand alongside one another in ‘interspecies’ or ‘more-than-human’ solidarity (Rock and Degeling 2015; Coulter 2016). This represents an ethico-political position, according to Bellacasa (2011). She suggests that these ‘matters of care’ go beyond good intentions to involve doing and intervening, effectively troubling the critical distance typical of scholarly work. For example, there have long been efforts to care ‘for’ native ponies living on public land in places like the New Forest or Dartmoor in the UK, by preserving their habitat or protecting them from hunters. But caring ‘about’ them raises difficult questions. For instance, culling ponies and selling their carcasses to local zoos is justified as a way to care ‘for’ the long-term viability of the herd. But if we care ‘about’ them – as members of a shared moral community and therefore deserving of similar consideration to their human neighbours – these same practices become more problematic. This extension of human concepts like care (Donovan 2007) or alienation (Stuart *et al.* 2013) to include domestic animals expands and refines rather than devalues such notions. In the case of sustainability, depositing humans back within the crowded, unpredictable animal world requires that we let go of our sense of both uniqueness and control. But, in so doing, our understanding

Table 1: Summary of research questions & conclusions

<p>1 What insights from multispecies scholarship might extend our understanding of sustainability?</p> <p>Domestic animals are active agents</p>	<p>2 How has sustainability been conceptualised? Some challenges</p> <p>Anthropocentric approach emphasises sustainability as series of technical fixes rather than an existential debate</p> <p>Modernist emphasis discourages radical critique of prevailing paradigm</p> <p>Agency is constrained by power relations</p>	<p>3 How do multispecies insights help us reconceptualise sustainability?</p> <p>If animals are active agents, then we should care both <i>for</i> &amp; <i>about</i> them ... this helps us integrate (domestic) animals into our analysis of how social systems create &amp;/or resist sustainability claims</p> <p>If animal agency is constrained by power relations, then change requires an emotional &amp; <i>political</i> response</p> <p>... this helps us understand how sustainability intersects with relations of power for both people &amp; (domestic) animals</p>	<p>Conclusion</p>
<p>Domestic animals can &amp; should be included in efforts to redefine our understanding of 'good life'</p>	<p>Status as 'wicked problem' leads to paralysing sense of helplessness</p>	<p>If domestic animals can &amp; should be included in efforts to redefine what constitutes the 'good life', then process of mutual, multi-species engagement might give rise to understanding &amp; action ... this helps us reflect on what might be sustained &amp; for whom</p>	<p>Repositions sustainability as concerned with the everyday as well as the epic</p>
<p>Further research required into how, in practice, we might 'listen' to animals &amp; what they are telling us</p> <p>Reveals sustainability as a contested process vis-à-vis not just people but animals too</p> <p>Further research required that complements feminist, postcolonial &amp; other analyses by taking a bottom-up, multispecies approach to the root causes of the problems we face</p>	<p>Further research required into how humans &amp; animals engage in 'collective action' aimed at building a more just &amp; sustainable society for both animals &amp; humans</p>	<p>Further research required into how humans &amp; animals engage in 'collective action' aimed at building a more just &amp; sustainable society for both animals &amp; humans</p>	<p>Further research required into how humans &amp; animals engage in 'collective action' aimed at building a more just &amp; sustainable society for both animals &amp; humans</p>

of sustainability is expanded and refined, as it emerges as a collective endeavour of humans and nonhumans.

Second, the 'modernist' origins of sustainability have hindered critical engagement with the so-called three pillars of economic wellbeing, environmental stewardship and social justice, and their underpinning interdependencies and contradictions (Longo *et al.* 2016). It is not surprising that animals are also absent from the analysis, since human-animal relations have themselves been largely marginalised within the same modernist paradigm (Tovey 2003). However, multispecies research reveals that humans and animals alike find themselves constrained by the power relations within which they are enmeshed. By employing 'species' as a critical sociological category, then, we might usefully explore, for example, *how sustainability intersects with relations of power* for both people and animals.

Our distinctive relations with domestic animals renders them a useful starting point (Tovey 2003). For example, Stevens (2012) notes that where a person identifies with an object or being they act to avoid harm to it, so a closer relationship with specific and familiar nonhuman partners might encourage us to take better care of our shared world and beyond. Coulter (2016) suggests that, pursued by one or by many, interspecies solidarity represents both an activity and a political value:

'Individual acts of solidarity matter, and they can disrupt dominant perceptions and power relations. They can also set a domino effect in motion which propels a broader set of processes... caring can be and can become political' (Coulter 2016, p. 152).

Despret (2004) describes this as re-affecting the objectified world, joining the personal and the political. This in turn 'generates possibilities for other ways of relating and living... [that transform] the ethico-political and affective perception of things by the way we represent them' (Bellacasa 2011, p. 99). Thus, any emotional response needs to be located within a stronger political framework that includes both protective measures and positive entitlements (Donaldson and Kymlicka 2011; Nibert 2013; Cudworth 2015).

Sociology's contribution here lies in exploring 'the intersections between the oppression of non-human animals and the oppression of devalued groups of humans' (Peggs 2013, p. 600). In rural settings, for example, farmers and domestic animals alike are excluded from – or alienated by – the contexts in which they find themselves (Wilkie 2005; Stuart *et al.* 2013; Slatmo *et al.* 2017). Historian Sandra Swart (2007, p. 288) suggests we need an 'ocular expansion' to facilitate a 'continuing process of inclusion, normalisation, and gradual mainstream acceptance' of animals. Swart notes that this process happened first with workers, then women and now animals. Her own work blurs the lines of human and natural history, via a 'horsetory' of the changing relationship between horses and people in South Africa (Swart 2010). Similarly, Hribal (2007) suggests that animals, agency, and class represent a significant and powerful force for change. He revisits the 'unspoken negotiation' between human owners and their labouring animals in the eighteenth and nineteenth centuries, noting that animal subjects do not 'suddenly and without much effort, become actors' (Hribal 2007, p. 102). Rather, we genuinely have to study society from below. Welcoming horses and other animals into the 'disciplinary line of sight' in this way, requires traditional



desk-based research and less typical fieldwork, namely ‘touching [them]... watching them move, watching them being ridden, watching them eat’ (Swart 2007, p. 288).

Third, as a so-called wicked problem, sustainability presents multiple, conflicting challenges, to which conventional economically oriented analyses have proven unequal (Longo *et al.* 2016). Ongoing and necessary efforts to give greater priority to environmental and social – as well as economic – considerations simultaneously expose yet more potential variables and tensions. Rather than being overwhelmed, however, we should perhaps embrace the aspirational character of sustainability, and consider it an opportunity to reconsider the kind of world we want to live in. Given that this world extends beyond the human, this article has argued that animals – initially the domestic animals with whom we are especially familiar – should be included in these efforts.

As an inherently future-oriented and aspirational idea, sustainability requires that we reflect on *what might be sustained and for whom*. Stevens (2012) suggests that an important first step is recognising that the environment is not a scene through which we move but the medium within which we are integrally embedded. Thus, like Lorimer (2015), he reminds us that nature and the environment is not something remote or ‘out there’. Rather, as Moore (2015 p.899) argues, ‘the substance of the ordinary and everyday’ is as useful to our analysis as ‘the epic, the extraordinary or the catastrophic’.

Sustainability – however defined – is negotiated and enacted in wilderness areas and national parks but in more familiar and mundane settings too. Within the post-productive rural landscape, for example, wider relations of production, consumption and protection are effectively reordered. At this point, a familiar group roams into view:

‘Although horse keeping is just one of many possible examples of new rural land use, it is hard to think of any other kind of land use with such profound impact on the landscape... Besides being one of the main increasing activities in the countryside, it is also very specific in its way of using the land and the landscape’ (Elgaker 2012, p. 592).

Thus, as argued in the introduction, the horse-human relationship reflects wider changes within society. For example, livery (or horse-boarding) yards offer up an opportunity to reconsider and potentially rebalance the competing needs and interests of human and nonhuman actors. Yards create particular pressure on land close to urban areas, as proximity to work or home is often a priority for horse people (Elgaker 2012). Similarly, they may also value facilities like an all-weather riding arena, on-site storage or access to off-road riding routes, which more effectively enable them to enjoy time with their horses. By contrast, horses themselves tend to prioritise food and friendship. For example, in the wild, horses spent about 18 out of 24 hours grazing. Likewise, as herd animals, they prefer the company of others and become unhappy or even physically ill when kept alone or stabled for long periods (Henderson 2018). Owners themselves acknowledge the difficulty of reconciling these competing horse-human priorities. For example, it is a recurring theme in discussions on one British equestrian forum:

‘I would love to be somewhere with really good grazing so the horses can be out 24/7 as much of the year as possible. But I also want a good school with lights. Good paddocks seem to often be at the expense of other facilities. Or the facilities are there but no storage or no hacking ... Am I looking for something which doesn’t exist?’.

If horse-human relations show how leisure activities and food production sometimes conflict in the countryside, however, they also demonstrate how they can reinforce each other. For example, in the uncompromising uplands of northern England, even as hill farmers struggle to make ends meet, they have been at the heart of efforts to preserve native pony breeds (Fitzgerald 2000). Herds of Fell and Dales ponies remain a common sight in Yorkshire and Cumbria, and the prefixes of the various breeding lines are strongly associated with particular farming families. No longer widely used for agricultural and logging work, the ponies graze areas that are unpalatable to sheep. Horses thus continue to be recognised and valued as an integral part of the rural cultural landscape (Tanulku 2019). As part of both 'wild' nature and the rural economy, the horses retain both intrinsic and instrumental significance to the people with whom they share the landscape. Thus across rural areas, the balance between production, consumption and protection is shifted via multiple small-scale encounters between people, horses and others (Elgaker 2012). The direct and extended experience of the actors involved suggests the possibility of moving towards what Hribal (2007) identifies as a kind of 'collective consciousness.' This kind of compassionate action is crucial in enabling us to redefine our understanding of what a 'good life' – or joint future (Cuomo 1998; Haraway 2008; Bellacasa 2011) – might look like for humans and nonhumans alike.

## Conclusions

Even as we have integrated them into our sociological analyses more broadly, domestic animals are overlooked as irrelevant or detrimental to our understanding of sustainability in particular (Kheel 2008). By contrast, this article has highlighted three insights from horse-human research that help extend our understanding of and approach to sustainability.

First, multispecies scholarship underlines how horses and other domestic animals are social as well as biological actors. They take on and effectively 'perform' multiple roles within the communities they share with humans and others, thereby challenging the anthropocentrism that underpins our thinking about sustainability. That is, in recognising horses as social beings with their own relationships and ideas, we focus less on caring *for* than caring *about* them and their preferences. As domestic animals thereby become members of a broader moral community, so we must expand our human concepts to take account of them. Ideas like citizenship, fairness or equity are all fundamental to our understanding of sustainability, and expanding them to horses and others helps us reflect on how social systems might create and/or resist sustainability claims. The article has therefore illustrated how we might effectively redefine sustainability as a collective endeavour of people and animals alike. This raises the need for future research that examines how we might more effectively 'listen' to animals and what they are telling us.

Second, multispecies scholarship highlights the constraints on this agency. This is useful in enabling us to reflect on how sustainability intersects with relations of power for both people and animals. In so doing, the article confirms that sustainability is a contested process but – by drawing domestic animals into the analysis

– we might begin to reimagine the link between the personal and the political, generating possibilities for other ways of relating and living (Bellacasa 2011). The article has therefore offered a clear case for adding species to existing sociological categories of analysis. This in turn brings the possibility of further critical research into the root causes of unsustainable practices and modes of living, which takes species – alongside race, class and gender, for example – as a starting point.

Third, multispecies scholarship suggests domestic animals are members of a broader moral community and we should therefore include them in efforts to refine our understanding of what a ‘good life’ looks like. In considering what might be sustained and for whom, the article has focused on rural areas and the people and horses who live there. Complementing existing work on ‘rewilding’ and other extraordinary initiatives, I have highlighted how competing visions can emerge also from within ordinary and everyday encounters between people and domestic animals in rural settings, from the confines of the Sunday morning riding lesson, to the exposed pastures of the remote hill farm. The article therefore repositions sustainability as concerned with the everyday as well as the epic. As a species with certain instincts but also individuals with subject qualities, horses help us understand how animals experience life within these kinds of everyday interactions (Birke and Thompson 2017). Critically understood, sustainability becomes an opportunity to articulate ambitious – if contested – visions of the future. Future research might therefore usefully examine how humans and horses (or indeed other animals) engage in ‘collective action’ aimed at building a more just and sustainable society.

In summary, this article has explored how insights from human-animal research – and human-horse relations in particular – extend our understanding of the tricky concept of sustainability. By redirecting our sociological gaze in this way, I hope to have contributed to wider efforts to think differently about the world, and the place of people and animals within it.

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## References

- Adelman, M. and K. Thompson (2017) Introduction to equestrian cultures in global and local contexts (London: Springer)
- Agyeman, J., R. Bullard and B. Evans (2002) Exploring the nexus: bringing together sustainability, environmental justice and equity. *Space and Polity* 6 (1) pp. 70–90
- Barad, K. (2007) Meeting the universe halfway: quantum physics and the entanglement of matter and meaning (Durham: Duke)
- Bellacasa, M. (2011) Matters of care in technoscience: assembling neglected things. *Social Studies of Science* 41 (1) pp. 85–106
- Benton, T. (1998) Rights and justice on a shared planet: more rights or new relations? *Theoretical Criminology* 2 (2) pp. 149–175
- Bergmann, I. (2019) Interspecies sustainability to ensure animal protection: lessons from the thoroughbred racing industry. *Sustainability* 11 (19) pp. 5539–5569
- BETA, British Equestrian Trade Association (2019) National Equestrian Survey. (Summary downloaded from <http://www.beta-uk.org/pages/industry-information/market-information.php> on 8th November 2019)
- Birke, L. and K. Thompson (2017) (Un)stable relations: Horses, humans and social agency (London: Routledge)
- Blok, A. (2013) Pragmatic sociology as political ecology: on the many worths of nature(s). *European Journal of Social Theory* 16 (4) pp. 492–510
- Bluhdorn, I. (2017) Post-capitalism, post-growth, post-consumerism? Eco-political hopes beyond sustainability. *Global Discourse* 7 (1) pp. 42–61
- Bolwell, C., C. Rogers, S. Rosanowski *et al.* (2015) Cross-sectional survey of the management and training practices of endurance horses in New Zealand: a pilot study. *Journal of Equine Veterinary Science* 35 (10) pp. 801–806
- Bowden, G. (2017) An environmental sociology for the Anthropocene. *Canadian Review of Sociology* 54 (1) pp. 48–68
- Brightman, M. and J. Lewis (2017) The anthropology of sustainability (London: Palgrave)
- Buller, H. (2016) Animal geographies III: ethics. *Progress in Human Geography* 40 (3) pp. 422–430
- Carter, B. and N. Charles (2018) The animal challenge to sociology. *European Journal of Social Theory* 21 (1) pp. 79–97
- Catton, R. and W. Dunlap (1978) Paradigms, theories, and the primacy of the HEP-NEP distinction. *The American Sociologist* 13 pp. 256–259
- Charles, N. and C. Davies (2008) My family and other animals: pets as kin. *Sociological Research Online* 13 (5) pp. 1–14
- Coulter, K. (2016) Animals, work and the promise of interspecies solidarity (London: Palgrave)
- Crist, E. (2013) On the poverty of our nomenclature. *Environmental Humanities* 3 (1) pp. 129–147
- Cudworth, E. (2015) Killing animals: sociology, species relations and institutionalised violence. *The Sociological Review* 63 (1) pp. 1–18
- Cuomo, C. (1998) Feminism and ecological communities: an ethic of flourishing (London: Routledge)
- Dashper, K. (2016) Human-animal relationships in equestrian sport and leisure (London: Routledge)
- Derrida, J. (2008) The animal that therefore I am (New York: Fordham University Press)
- Despret, V. (2004) The body we care for: figures of anthropo-zoo-genesis. *Body and Society* 10 (2–3) pp. 111–134
- Diehm, C. (2012) Finding a niche for species in nature ethics. *Ethics and the Environment* 17 (12) pp. 71–86
- Diski, J. (2010) What I don't know about animals (London: Virago)

- Donaldson, S. and W. Kymlicka (2011) *Zoopolis: a political theory of animal rights* (Oxford: Oxford University Press)
- Donovan, J. (2007) Caring to dialogue: feminism and the treatment of animals. Pp. 360–369 in J. Donovan and C. Adams eds, *The feminist care tradition in animal ethics* (New York: Columbia)
- Dymitrow, M. and K. Halfacree (2018) Sustainability—differently. *Bulletin of Geography. Socioeconomic Series* 40 (40) pp. 7–16.
- Elgaker, H. (2012) The new equine sector and its influence on multifunctional land use in peri-urban areas. *GeoJournal* 77 (5) pp. 591–613
- Ferreira, F. (2017) Critical sustainability studies: a holistic and visionary conception of socio-ecological conscientisation. *Journal of Sustainable Design and Educational Environment Research* 13 pp. 48–70
- Fitzgerald, I. (2000) Dales ponies (Stowmarket: Whittet)
- Game, A. (2001) Riding: embodying the centaur. *Body and Society* 7 (4) pp. 1–12
- Gilbert, M. and J. Gillett (2011) Equine athletes and interspecies sport. *International Review for the Sociology of Sport* 47 (5) pp. 632–643
- Granjou, C. (2011) Integrating agriculture and biodiversity management: between green legitimisation and knowledge production. *Sociologia Ruralis* 51 pp. 272–283
- Haraway, D. (2008) *When species meet* (Minneapolis, MI: University of Minnesota Press)
- Harding, A. (2000) *European societies in the Bronze Age* (Cambridge: Cambridge University Press)
- Henderson, A. (2018) Pampered prisoners: meeting the ethological needs of the modern sport horse to enhanced equine welfare. Pp. 65–189 in J. Young and N. Carr eds, *Domestic animals, humans, and leisure: rights, welfare, and wellbeing* (London: Routledge)
- Hermans, F., I. Horlings, P. Beers *et al.* (2010) The contested redefinition of a sustainable countryside: revisiting Frouws' rurality discourses. *Sociologia Ruralis* 50 pp. 46–63
- Hobson, K. (2007) Political animals? On animals as subjects in an enlarged political geography. *Political Geography* 26 (3) pp. 250–267
- Hribal, J. (2007) Animals, agency, and class: writing the history of animals from below. *Human Ecology Forum* 14 (1) pp. 101–112
- Ingold, T. (2008) Bindings against boundaries: entanglements of life in an open world. *Environment and Planning A* 40 (8) pp. 1796–1810
- Islam, M. (2016) Sustainability through the lens of environmental sociology: an introduction. *Sustainability* 8 (5) pp. 1–11
- Keaveney, S. (2008) Equines and their human companions. *Journal of Business Research* 61 pp. 444–454
- Kheel, M. (2008) *Nature ethics: an ecofeminist perspective* (London: Rowman and Littlefield)
- Kopnina, H., H. Washington, J. Gray *et al.* (2018) The 'future of conservation' debate: defending ecocentrism and the Nature Needs Half movement. *Biological Conservation* 217 pp. 140–148
- Latimer, J. and L. Birke (2009) Natural relations: Horses, knowledge, technology. *The Sociological Review* 57 (1) pp. 1–27
- Latour, B. (1988) *The pasteurisation of France* (Cambridge, MA: Harvard)
- Latour, B. (2007) *Reassembling the social. An introduction to actor network theory* (Oxford: Oxford University Press)
- Latour, B. (2014) Agency at the time of the Anthropocene. *New Literary History* 45 pp. 1–18
- Law, J. and A. Moll (2002) Local entanglements or utopian moves: an inquiry into train accidents. *Utopia and Organisation* 50 pp. 82–105
- Lockie, S. (2016) Sustainability and the future of environmental sociology. *Environmental Sociology* 2 (1) pp. 1–4
- Longo, S., B. Clark, T. Shriver *et al.* (2016) Sustainability and environmental sociology: putting the economy in its place and moving toward an integrative socio-ecology. *Sustainability* 8 (5) pp. 437–454

- Lorimer, J. (2015) *Wildlife in the Anthropocene: conservation after nature* (Minneapolis, MI: University of Minnesota)
- Maurstad, A., D. Davis and S. Cowles (2013) Co-being and intra-action in horse–human relationships: a multi-species ethnography of be(com)ing human and be(com)ing horse. *Social Anthropology* 21 pp. 322–335
- Miller, J. (2013) Racing bodies. Pp. 193–206 in C. Wolkowitz, R. Cohen, T. Sanders *et al.* eds, *Body/sex/work: intimate, embodied, and sexualised labour* (London: Palgrave)
- Miller, C. and C. Wyborn (2018) Co-production in global sustainability: histories and theories. *Environmental Science and Policy*. DOI: 10.1016/j.envsci.2018.01.016
- Moore, L. (2015) A day at the beach: rising sea levels, horseshoe crabs, and traffic jams. *Sociology* 49 (5) pp. 886–902
- Mullin, M. (1999) Mirrors and windows: sociocultural studies of human–animal relationships. *Annual Review of Anthropology* 28 pp. 201–224
- Murdoch, J. (2001) Ecologising sociology: actor-network theory, co-construction and the problem of human exemptionalism. *Sociology* 35 (1) pp. 111–133
- Murphy, R. (1995) Sociology as if nature did not matter: an ecological critique. *Sociology* 46 (4) pp. 688–707
- Murphy, R. (2012) Sustainability: a wicked problem. *Sociologica* 2 pp. 1–23
- Neckel, S. (2017) The sustainability society: a sociological perspective. *Culture, Practice and Europeanisation* 2 (2) pp. 46–52
- Nibert, D. (2013) *Animal oppression and human violence: domesecration, capitalism and global conflict* (New York: Columbia University Press)
- Noske, B. (1993) The animal question in anthropology. *Society and Animals* 1 (2) pp. 185–190
- Notzke, C. (2013) An exploration into political ecology and nonhuman agency: the case of the wild horse in western Canada. *The Canadian Geographer* 57 (4) pp. 389–412
- Patton, P. (2003) Language, power and the training of horses. Pp. 83–99 in C. Wolfe ed., *Zoontologies: the question of the animal* (Minneapolis, MI: University of Minnesota Press)
- Peggs, K. (2013) The animal-advocacy agenda: exploring sociology for non-human animals. *The Sociological Review* 61 (3) pp. 591–606
- Plumwood, V. (1993) *Feminism and the mastery of nature* (London: Routledge)
- Policarpo, V., T. Monteiro, M. Truninger *et al.* (2018) A life of their own: children, animals, and sustainable development. Pp. 203–225 in A. Delicado, N. Domingos and L. de Sousa eds, *Changing societies: legacies and challenges: Volume 3 The diverse worlds of sustainability* (Lisbon: Imprensa de Ciências Sociais)
- Porcher, J. (2011) The relationship between workers and animals in the pork industry: a shared suffering. *Journal of Agricultural and Environmental Ethics* 24 (1) pp. 3–17
- Pyhtinen, O. (2015) *More-than-human sociology: a new sociological imagination* (London: Palgrave)
- Raulff, U. (2017) *Farewell to the Horse* (London: Penguin)
- Rittel, H. and M. Webber (1973) Dilemmas in a general theory of planning. *Policy Science* 2 pp. 155–169
- Rock, M. and C. Degeling (2015) Public health ethics and more-than-human solidarity. *Social Science and Medicine* 129 pp. 61–67
- Schuurman, N. and J. Nyman (2014) Eco-national discourse and the Finnhorse. *Sociologica Ruralis* 54 pp. 285–302
- Serpell, J. (1996) *In the company of animals: a study of human-animal relationships* (Cambridge: Cambridge University Press)
- Slatmo, E., K. Fischer and E. Roos (2017) The framing of sustainability in sustainability assessment frameworks for agriculture. *Sociologia Ruralis* 57 pp. 378–395
- Soper, K. (2012) Beyond the scarcities of affluence: an ‘alternative hedonist’ approach. *Architectural Design* 82 (4) pp. 100–101
- Stevens, P. (2012) Towards an eco-sociology. *Sociology* 46 (4) pp. 579–595

- Storie, J. and S. Bell (2017) Wildlife management conflicts in rural communities: a case-study of wild boar (*sus scrofa*) management in Ergļu Novads, Latvia. *Sociologia Ruralis* 57 pp. 64–86
- Stuart, D., R. Schewe and R. Gunderson (2013) Extending social theory to farm animals: alienation in the dairy sector. *Sociologia Ruralis* 53 (2) pp. 201–222
- Swart, S. (2007) But where's the bloody horse? Textuality and corporeality in the 'animal turn'. *Journal of Literary Studies* 23 (3) pp. 271–292
- Swart, S. (2010) Riding high: Horses, humans and history in South Africa (Johannesburg: Wits)
- Tanulku, B. (2019) The English lake district: a culturally wild landscape. *International Journal of Wilderness* 25 (2) pp. 68–78
- Todd, R. and M. Hynes (2017) Encountering the animal: Temple Grandin, slaughterhouses and the possibilities of a differential ontology. *The Sociological Review* 65 (4) pp. 729–744
- Tovey, H. (2003) Theorising nature and society in sociology: the invisibility of animals. *Sociologia Ruralis* 43 pp. 196–215
- Tsing, A. (2017) A threat to Holocene resurgence is a threat to livability. Pp. 51–65 in M. Brightman and J. Lewis eds, *The anthropology of sustainability* (London: Palgrave)
- Verdon, N. (2017) Working the land: a history of the farmworker in England from 1850 to the present day (London: Palgrave)
- Walker, G. (2005) Sociological theory and the natural environment. *History of the Human Sciences* 18 (1) pp. 77–106
- Washington, H. (2015) *Demystifying sustainability: towards real solutions* (London: Routledge)
- WCED World Commission on Environment and Development (1987) *Our common future* (Oxford: OUP)
- Whatmore, S. (2002) *Hybrid geographies: natures, cultures, spaces* (London: Sage)
- White, D. (2015) The socio-ecological imagination. Pp. 1–15 in D. White, A. Rudy and B. Gareau eds, *Environments natures and social theory: toward a critical hybridity* (London: Palgrave)
- Wilkie, R. (2005) Sentient commodities and productive paradoxes: the ambiguous nature of human-livestock relations in Northeast Scotland. *Journal of Rural Studies* 21 (2) pp. 213–230
- Wilkie, R. (2015) Multispecies scholarship and encounters: changing assumptions at the human-animal nexus. *Sociology* 49 (2) pp. 323–339

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