Guest editorial

Introduction: for a critically posthumanist sociology in precarious times

> Zoos and bios conjoined: Such is the posthuman ethos, which invokes the biological/ecological community of "companion species" that compose our lifeworld, without which we cannot exist. The COVID-19 viral presence, though invasive in our world, changes our self-perception: no longer a single macro-organism, we are in fact an "assemblage" of microorganisms, upon which life depends absolutely (Baumlin, 2020, p. 3).

The COVID-19 coronavirus pandemic reached the United Kingdom in late January 2020, thereby ensuring that the final stages of this special issue came together at an extraordinary time: a time that could very well signal the end of the world as we knew it. By July 2020, over ten million coronavirus cases had been recorded globally, and the number of related *human* deaths now exceeds half a million. As we write this editorial, we are painfully aware of the connections between industrial animal agriculture and the emergence of COVID-19. Animal abuse and environmental issues are linked and give rise to major public health issues – live animal trade, eating animals and industrialised agriculture have combined to generate zoonoses, in addition to the usual suspects for environmental pollution (WHO, 2010). There have long been warnings about zoonoses both before and after previous strains of flu viruses, such as SARS and Avian Flu. As humanity has become a predominantly urban species, human settlement, work, transport and a range of social practices make the lives of vulnerable creatures more so, encroaching on and eliminating habitats, and driving wild animals into closer proximity with humans. It remains to be seen whether this pandemic will have any impact on the demand for meat ("wild" or farmed), dairy and other animal-based products. The experiences of SARs, MERs and EBOV (Ebola) were not instructive in this regard. However, predictably, we are already seeing familiar arguments for "business as usual" gain in momentum and visibility, just as the next zoonotic pandemic "waits in the wings" (Lebedev, 2020).

The wet markets of Asian countries have, however, been demonised in an attempt to assert that this current zoonotic epidemic is an isolated incident rather than an endemic condition of the networks of commoditisation that turn non-human creatures into food. As might be expected, the treatment of farmed animals in some countries has been even grimmer than the everyday routinized mass violence that characterises animal agriculture (see Cudworth, 2015). In the United States, between the end of April and mid-September 2020, pigs and chickens were subject to "depopulation" by alternative methods that were deemed acceptable when slaughterhouses are closed, but which have been identified as highly unethical in causing prolonged suffering. Two million "meat chickens" and 61,000 "laying hens" have been killed by methods including smothering with foam (such as is used in fire-fighting). Up to 10,069,000 pigs are likely to have been killed by various methods including ingesting poisoned food, being suffocated by the closing of ventilators and being subject to "blunt force trauma"; meaning, for example, piglets being thrown to the ground until they are dead (*The Guardian*, 2020). In writing of other creatures who are victims of the economic disruption caused by the current crisis – "racing" animals such as horses and greyhounds, animals confined in laboratories, zoos or "wildlife parks" – and currently also subject to a culling spree, Paula Arcari remarks that

> [. . .] our uses of animals proceed with no regard for back up plans or contingencies. When things go to shit, animals are on their own, which is what makes their entrapment in capitalist political

economies so doubly heartless. That this animal-industrial complex is so directly implicated in the COVID-19 pandemic *and* the climate crisis, with myriad animals being substantial victims of both, only emphasises the cycles of violence that result from capitalist commodification. (Arcari, 2020)

The current pandemic both exposes the fragility of current systems of social organisation which exclude, consume and oppress, while also providing a diversion from the way in which those relational systems of oppression routinely operate. In this context, the Black Lives Matter protest surge, awakened by the murder of George Floyd in the United States on 25 May 2020, has provided a beacon of hope and has shown that a return to "normal" is contested ground. Patrisse Khan-Cullors explains the intersectional nature of the Black Lives Matter movement that challenges the denialism of capitalist normality:

[. . .] if we were not aware of it before, now we cannot turn away: we live in a world where hatred is so deep that adults are fine ensuring death sentences for us young people who have done nothing but be in the world who we were born to be (2018, p. 87)

In this special issue, which brings together radical academic voices drawing on the influence of critical animal studies, eco-feminism, anarchist studies and critical theory, contributors explore what normality in the Anthropocene means for humans, other animals and the planet. The normality that the ruling class now craves is the normality of disastrous human generated climatic change and the mass extinction of other species; it is the normality in which capitalism seriously threatens the survival of our planet.

Contributors to this special issue do not welcome a return to such normality, instead they dare to envision the posthuman communities that we can build in which social justice for humans, animals and the Earth can thrive. Whilst our contributors draw from a range of influences, the inspiration for this special issue comes from the success of several anarchism and animal liberation panels at the Anarchist Studies Network (ASN) conference held biannually at Loughborough University, to which the editors have significantly contributed as organisers and speakers. It is therefore unsurprising to note that anarchist theory and practice has emerged as a common thread linking many of the contributions.

Posthumanist sociology in the Anthropocene
The growing interest in the social relations of the more-than-human world has spread apace across the social sciences. This surge of interest has questioned key foundations of Western modernity for the conceptual separation of "the human" from other creatures, and the "natural" world has been foundational for how "we" understand the world we inhabit. But what happens when "nature" is no more? The concept of the Anthropocene, along with other crisis concepts, have mounted a considerable challenge to Western (and other) framings of human exception.

Anthropocene and its others: terminology for an epoch of crises
The notion of the Anthropocene has its origin in the Earth sciences and describes a new geological epoch in which humankind has become a major force shaping our geology (Crutzen and Stoermer, 2000). This word, Crutzen and Stoermer claimed, would capture the ways in which the extent of human activity has meant that we have written ourselves into the geological record on such an unprecedented scale. When Crutzen and Stoermer talk of "human activity", they are talking about all the kinds of things we think of currently as "environmental" problems or threats, such as population growth, the growth of urbanism so that it has become a dominant way of life, consumption of fossil fuels, emission of greenhouse gases, speed of species extinction and so on. Through such activity, a subset of humanity has changed the conditions of our own existence, along with that of all other species. As Ruth Panelli puts it, we are forced to become increasingly aware

[…] of the complexity and interconnectivity of life. The never neat divisions between the economic, political, cultural, environmental, and the social have been further exposed as the densely entwined character of contemporary lives becomes more evident via discussions of cosmopolitanism, mobilities, sociospatial relations, interdependence, intersectionality (Panelli, 2010, p. 79).

This special issue considers some of the ways in which some social scientists have responded to the implications of the Anthropocene and the huge questions it raises.

The notion of the Anthropocene is a strong claim and at a huge scale – a "geostory" as Bruno Latour describes it (Latour, 2014, see also 2018). As a result, it has captured the imagination of those working across academic disciplines and featured so much in the media. There have been a fair few criticisms, however, with which contributors to this volume have some sympathy. Chakrabarty (2009) considers that a key problem with the way in which the Anthropocene is conceptualised is that it focuses on an imperilled planet as a result of human lifeways rather than an imperilled humanity. So, it does not really take account of the ways in which we really are "all in this together" – to borrow a phrase from the UKs politics of austerity. A threat to the "ongoingness of the planet" is a threat to many species, particularly mammals like humans. Many have criticised the human centeredness of the term – the Anthropos is the centre of attention, yet again. The Anthropocene is a geostory in which humans are responsible for ruining the planet. It suggests anthropogenic destruction is an inevitability given humanity's "super-natural" nature (Chiew, 2015, p. ix). We are indeed become death, the destroyer of worlds, to steal from Oppenheimer. The Anthropocene is a human-centric concept not just because it gives pre-eminence to humans as environmental changers but also as environmental saviours – the makers of worlds. The Anthropocene suggests humans are to be relied on for transcending such problems through technology. In this sense, the Anthropocene can be understood as a discourse which confirms humanity's pre-eminence; ultimately, it is wedded to human agency and human exceptionalism while being seen to undermine both. From a critically posthumanist perspective, then, this is a fundamentally humanist concept!

A key difficulty with the Anthropocene for critical scholarship is also that it suggests that "humanity" is a force of nature that is singular. Rather, as many have pointed out, we might characterise our current condition as one produced by the lifeways of a distinct social and geographically defined group; a subset of humanity – wealthy, White, Western, male, settler and so on; and it is to try and capture this that other terms have been proposed. Thus terms such as the Capitalocene (Malm, 2016; Moore, 2015), Oliganthropocene (Gemenne, 2015) and the Plantationocene (Haraway, 2015; Mitman, 2019) have been developed to make clear "who" and what practices are responsible. "Capitalocene", coined by Andreas Malm, is becoming ever more widely used. Given that Crutzen dates, the origins of the Anthropocene to industrialism, this is surely a befitting term for our current malaise. The history of capitalism with its imperatives to grow, expand and squeeze profit (from cheap land, labour, resources, if we follow Moore, 2015); to extract, to commoditize and commodify things, creatures and relations, has been a ruinous planetary force. Haraway (2015, 2017) has also been a strong advocate for the "Plantationocene" because the history of the plantation is a crucial element of the history of industrial capitalism. If we consider the plantation system as a global network of imperial relations involving the transportation of people, animals and plants, mono-cropping, land-grabbing, species extinction and population displacement and eradication, and forced labour systems (the slave labour of humans and other animals, or waged labour), then its planetary impact is hugely significant. Plantation mono-cropping is still very much with us if we think of the networks of exploitation, dependency, deforestation, habitat destruction and soil infertility associated with palm oil and soy. The Plantationocene is important as it draws attention to the planetary effects of extractive practices, monoculture development and coercive labour structures that have undergirded the development of naturecultures across the globe. It

illuminates the ecological and economic legacies of imperialism including patriarchal and racist hierarchies, and inequities. While the idea of the gynocene has not been developed as a distinct "cene thesis", there is a huge body of important scholarship from ecofeminist, ecological feminist, indigenous and indigenous-influenced feminisms and ecologisms, which locates anthropogenic violence as coextensive with patriarchal domination; linking ecocide and femicide. The contributors to this collection draw inspiration from, and are embedded in, the generation of ideas working out our current malaise and tracking the trails of how we got here, taking account of how intra human exploitation, inequality and violence is bound up with human relations with other creatures and the planet.

As has been demonstrated during the coronavirus pandemic, the short-term policy frames of capitalist governments are undone by unexpected events in an increasingly unpredictable world. These policy frames are inadequate when we need think not only about responsibilities to the next generation of humans in a particular place, but about the complex vulnerabilities, we may cause for generations yet to come, and in different parts of the globe, alongside our situation in webs of relations with multifarious non-human species. The "old normal" was, in reality, an era in which mass human poverty and inequality abounds, where catastrophic climatic change threatens life on the planet, and in which other species are already experiencing an extinction crisis. The term "Chthulucene" is a way of thinking forward from this. Developed by Donna Haraway (2016a, b), it focuses on the ways in which the entangled, intradependent, multi-species assemblages which inhabit the planet are going to be working out how to "survive on a damaged planet" (see Tsing, 2015) and come to terms with the "dreadful" powers of the Earth which climate chaos unleashes. We consider it vital to think beyond, to consider future possibilities and whether in these times of destruction and precarity, (some) humans might find ways of forming alliances and promoting partial healing on a damaged planet. Future thinking is hard and has been robustly criticised in social science and beyond for being "speculative" and thereby "unscientific". Yet, it is more necessary now, perhaps than ever, to be thinking about and making a different future.

The papers in this special issue evolved from a call by the editors which raised some troubling questions for life in the Anthropocene/Capitalocene/Plantationocene: Will humans join other Great Apes already on the critically endangered list? What does it mean to appreciate that we live in a multi-species world of co-dependencies in which other beings and things may have a point of view? (see Fox, 2006; Cudworth, 2017; Cudworth and Hobden, 2018; Sorenson and Johnson, 2016). What does this demand of human beings in responding to the lives and needs of other creatures and the worlds on which they depend? How might we respond to key questions for our time, surmised rather brutally by Haraway (2016a) as who lives? and who dies? and so what? When it comes to the treatment of some domesticate animals, we are also compelled to consider not only how non-human creatures and plant worlds are killed and destroyed but also how life is *made* to live and *let* die and the fast and slow violence associated with these systemic practices (Nixon, 2011; Wolfe, 2012). Posthumanism, to which we will now turn, has both generated these questions and been an important scholarly move in supplying both some partial answers and an increasing array of questions needing urgent attention.

Posthumanisms and posthumanist sociology
The "posthumanist turn" in the social sciences demands that we no longer see ourselves, humans, as anything other than multi-species beings co-constituted with a myriad of other beings and things and dependent upon them (see Bingham, 2006). Yet posthumanism is a contested concept (Braun, 2004). The term posthumanism has been understood in a variety of different ways (Wolfe, 2010, p. xi); but it does have a coherence. A clear common thread

running through posthumanist scholarship is that it represents a reaction against the view of human exceptionalism. This view understands humanity to be marked off from the huge diversity of non-human animal life due to apparently exceptional characteristics, such as the possession of syntactical language or of "free will".

Erika Cudworth and Steve Hobden (2018) consider that the term "posthuman" has been used in three principle ways: in the sense of a world after humanity, as a project of human uplift through technology and as a world comprised of the more-than-human. Along with others, they have argued that the projects of "transhumanism" are not "posthumanist", but rather, ethically and politically questionable approaches advocating human "uplift" from the frailties of the body through the use of technology (Cudworth and Hobden, 2011; see also Thomas, this volume; and for an example, Bostrum, 2016). Others have a more inclusive approach to posthumanism, and a useful mapping of approaches, in particular in relation to the human/technology interface can be found in Firth and Robinsons' contribution to this volume. Some of the ways the posthuman has featured in the popular culture and literature has been apocalyptic, taking the "post" to literally mean "after" and suggesting future worlds will be characterised by fewer humans leading highly challenged existences, or even by the absence of the human (Rees, 2003; Weisman, 2008; see also Haraway 2016b, for her experiments with Sci-Fi influenced futures thinking). Finally, Cudworth and Hobden suggest that posthuman has been applied to a range of ways of thinking, across disciplines, which understand the world as comprised of more-than-human beings and things, and which problematizes human centred scholarship, political and social life. These ways of thinking can be understood to be posthumanist.

Posthumanist critique raises vital questions for human being in the world and demands qualitative and quantitative shifts "in our thinking about what exactly is the basic unit of common reference for our species, our polity and our relationship to the other inhabitants of this planet" (Braidotti, 2013, p. 2). However, it needs to be acknowledged that both the analyses emerging within posthumanism and the political projects these positions imply or endorse cover a range of political positions. Within posthumanist thinking, there are a range of scholars and positions. As is ever the case, individual scholars, ideas, concepts and theories slip over the boundaries taxonomies create (Cudworth, 2005). It is perhaps best to consider different positions on different scales of criticality on a number of issues. A few examples might help illustrate this point.

One strand of new materialism/posthumanism might be referred to as "new vitalism". The latter has been particularly associated with the influence of Gilles Deleuze (Coole and Frost, 2010, p. 9). In political work, this position is well illustrated by the "enchanted" or "vital" materialism of Bennett (2010), who argues that inorganic matter such as kerbside litter (trash) or an electricity grid, all exhibit force and vitality rendering them active, productive and self-creating. A second approach, which Cudworth and Hobden (2015, 2018) refer to as "hybridization", can be illustrated by the contributions of Bruno Latour, for whom the social world is an assembly of material entities and processes which is constituted through the interactions of all kinds of matter (human and non-human, animate and not) in the form of networks. In both hybridity and vitalism, there is a tendency to horizontalism – relations are not understood to exist in a context of hierarchies of power. The flat non-hierarchical networks of hybridity approaches and the lively character of matter in vital materialism are instructive and useful approaches to thinking about more-than-human social worlds. However, they are not sufficient. A key characteristic of the enterprise of sociology has been to examine the qualities of relationships, and for critical sociology, this has meant understanding the constitution and practice of power. In our view, a third approach, critical posthumanism is required. While there are differences of emphasis and focus, what these have in common is that they draw upon aspects of critical theory broadly defined and including Marxism, anarchisms, feminisms, ecologisms, alter-colonialism and more. In doing

so, they are attentive to the nature of power, its hierarchical orderings, exclusions, expulsions and its intersected and complex forms. It is this more critical perspective which informs the contributions to this special issue.

Sociology has been particularly resistant – compared, for example, to other social sciences such as geography, or to the humanities such as cultural studies or philosophy, to the study of the non-human. The humancentrism of sociology has been challenged on a number of fronts, however. Despite a silence on global warming in the disciplinary mainstream (Lever-Tracy, 2008), we have seen the emergence of environmental sociology since the 1980s, albeit that this remains a relatively small and discreet area (see Dunlap, 2010). Concern with environmental crisis has coalesced around the recently emergent sociology of climate change to which key figures have contributed in terms of the sociology of catastrophe and risk, public policy, and the idea of a "post-carbon" sociology (Beck, 2009, 2010; Giddens, 2009; Urry, 2010a, b, 2011). A second challenge comes from the interventions of scholars in the sociology of science and technology, now a distinct and productive sub-field of the discipline (Callon, 1986; Latour, 2014; for an overview see Law, 2008). Finally, the development of interdisciplinary human-animal studies has prompted sociologists to reflect on sociology's neglect of animals (Alger, 2003; Benton, 1993) and to argue that just as sociology has been willing to consider a widening array of forms of social exclusion and oppression and the links between them, it must now consider non-human animals (Peggs, 2013). In addition, sociological animal studies has reflected on the difference including non-human creatures makes for methods (for example, Hamilton and Taylor, 2017; Sutton in this volume), concepts and theories (for example, Cudworth, 2017; Peggs, 2014) and undertake empirical research in an attempt to take account of non-human animals in key areas of sociological concern such as work and labour (Coulter, 2016), family and kinship (Charles, 2016), personhood and the self (Irvine, 2004), community (Cudworth, 2017), the body (Peggs, 2018), food and diet (Twine, 2014), socialisation and childhood (Cole and Stewart, 2014). Carter and Charles (2018) argue that in order for sociology to take non-human animals seriously, the foundational concepts and vocabulary of the discipline need revision. We consider that critical approaches in animal studies have been and will be crucial to such an endeavour. The future of the discipline will be contested, but critically posthumanist sociology which understands "humanity" as one element of "the social", and as embedded in networks of relations of dependency with the non-human lifeworld, will be crucial. Theories and concepts, methods and research practices, substantive areas of concern in our social world need opening up to the presence and significance of more-than-human beings and things to emphasise and reflect the fragility of embodied life.

Critically posthumanist sociology also recognises the importance of an intersectional approach rooted in diverse forms of political challenge and direct action. The sociology of human/non-human relations is not confined to academia, and space has been given in this special issue to reflect activist experiences and issues. Black Lives Matter activists, in a time of pandemic, have engaged in daring and creative forms of direct action. In the UK, this includes dismantling a statue in Bristol honouring Edward Colston – an English merchant and later Member of Parliament for the Tories (precursor of the modern Conservative Party), who made his fortune primarily from the Atlantic slave trade (Parkes, 2020). Such forms of direct action create situations that disrupt what was once regarded as "normal". In challenging the disastrous normality of the Anthropocene animal activists and environmental campaigners disrupt the old normal as we begin to construct another world in which posthuman communities can flourish. We need scholarship that responds to the need for different ways of thinking, doing and living; that engages with the imperative to change our world.

Critically posthumanist sociology: thinking, doing, living and changing

The special issue comprises seventeen papers, organised by four thematic sections. For the first theme, *thinking posthumanist sociology*, contributors were invited to explore issues relating to neoliberal capitalism and the Anthropocene and asked what posthuman social justice might look like. In this section, we encouraged contributors to develop critical posthuman sociology by exploring issues of intersectionality and entanglement. The second theme, *doing posthumanist sociology*, offered space for contributors to explore ideas of activism and resistance, to discuss posthuman politics and policy and consider posthuman research practice, ethics and data. The third theme, *living in posthuman social worlds*, encouraged contributors to explore actually existing posthumanism. This could include living with companion species, violence and non-violence in inter-species relations and the extinction crisis. We also asked contributors to reflect on the role of the animal-industrial complex and state surveillance. In posing these questions, we recognised the way that states and police forces have disrupted and brutalised the lives of animal rights activists, for instance in the UK, undercover police have waged a decades long campaign of sexual and psychological abuse against animal rights and environmental justice campaigners (Police Spies Out Of Lives, 2020). The final theme, *towards posthumanist social life*, asked contributors to envision intersectional, posthuman communities and intra-species commons. In this theme, we wanted to encourage contributions that explored counter cultures, creative practices, veganism and direct action.

Thinking posthumanism

The special issue begins with thinking posthumanism. Matthew Adams' contribution to this, "Indigenizing the Anthropocene? Specifying and situating multi-species encounters" is a response to the numerous recent calls to "decolonize" and "indigenize" the Anthropocene in the social sciences and humanities. In the paper, Adams develops a radical material and relational ontology by drawing on an Indigenous knowledge framework to challenge and extend dominant conceptualisations of the Anthropocene within a posthuman and more-than-human context. Adams draws on the work of Indigenous feminist scholar Zoe Todd to develop an Anthropocene social imaginary: accounting for one's own location; engaging with specific ontologies and locally informed responses to *in situ* challenges and reading and citing Indigenous scholarship. Adams also considers Posthuman and Māori approaches to manifold multi-species entanglements shaped by anthropogenic impacts. In particular, the whale and the kāuri tree are considered as enactments of a radically extended relational ontology. Adams offers a conceptual framework for the Anthropocene that articulates surprising multi-species connections between humans, trees and whales. Adams argues that in approaching the specific and situated application of Indigenous ontologies in some of their grounded everyday social complexity, there is the potential to open up the Anthropocene imaginary to a more radical and ethical relational ontology.

In "Robotopias: mapping utopian perspectives on new industrial technology" Rhiannon Firth and Andrew Robinson seek to construct a six-item typology of clusters of perspectives on robotics and related technologies, along two axes. The first axis assesses the expectations of technology and is divided into optimists or pessimists. Optimists invest new technologies with miraculous, utopian or revolutionary potential, whereas pessimists believe the general trend in current technologies is towards greater control, alienation, ecocide and other unwanted outcomes. The second axis divides authors between humanist and assemblage theories. This distinction comes down to the ontological primacy attached to humans and other actors. "Humanist" encompasses a variety of positions, from belief in an essential human nature, to belief in an especially important type of human creative power. Assemblage theories see humans as necessarily embedded in, if not effects of, wider assemblages

containing non-human components such as machines. Firth and Robinson argue that bringing the six perspectives into conversation is a vital task because these different approaches often ignore or speak past one another, leading to fragmentation, polarisation and a lack of inter-perspectival learning. Firth and Robinson show that bringing the different approaches into contact, and mapping their differences in ways which make them more comparable, can help to identify the points of disagreement and the grounds for these. The authors believe that such work will allow the identification of criteria to choose among, or syncretise, the approaches.

In "Becoming-with in a compost society – Haraway beyond posthumanism", Federica Timeto considers the role of non-human animals in the thought of Donna Haraway, moving from her critique of the animal as model or mirror for the evolution of the human body politic to her proposal for a "compost" society. The paper demonstrates Haraway's changing positions in relation to the social role of animals and the deepening of her critique of intersectional relations that subordinate non-human animals and animalized people. The paper intertwines a loosely historical approach with a thematic one, focussing on key issues of sociological theory, such as work, agency and kinship, and the way these relate to the animal question in Haraway's writings. Haraway's texts are discussed both broadly and in-depth, and her positionality in terms of both feminism and antispeciesism is foregrounded. Timeto provides us with a rigorous and comprehensive analysis of the social role of animals in Haraway's thought and the deepening antispeciesism of her feminist approach that sheds a different light on her positionality in relation to eco-feminism.

In moving us away from earthy entanglements, Alexander Thomas takes us back to technological imaginaries in "On progress and reason: stories of gods, animals and humans". He suggests that while transhumanists and posthumanists understand the human condition as mutable, for transhumanists, this represents the possibility for enhancement, opening up a teleological narrative of evolution towards. For posthumanists, it represents a fracturing of the liberal human subject, undermining its hegemonic principles. The former advocates the potentiality of instrumental rationality, while the latter engages with values, demanding ethical consideration of the implications of the unmooring. This paper aims to conceive of a way to underpin posthumanist thought to enable to serve a more effective critique of transhumanist aims. It thereby provides a partially reconstructed enlightenment humanist framework to bolster the effectiveness of posthumanism as a critique of transhumanist thought. The paper recognizes Theodor Adorno's conception that the central contradiction inherent to enlightenment thinking is the entanglement of knowledge and power. Hence, the metanarrative of progress as historical fact is fundamentally imbued with an imperial, colonizing force. For reason to achieve its promise as the organ of progress, it must become self-aware of its own limitations and its own potential destructiveness. Humility is, thus, vital in the task of preventing instrumental reason leading to inhuman ends. Whilst developments such as "metahumanism" attempt to bring "posthumanism" and "transhumanism" into direct conversation, from the perspective of uniting their positions, Thomas considers their antithetical nature and in particular whether posthumanism can provide an effective critique of transhumanism. Drawing on Adorno and Feenberg, in particular, Thomas combines elements of posthumanist critique with a partially reconstructed enlightenment humanism to bolster a critique of transhumanism.

Doing posthumanism

Markus Lundström's paper, "Pippi's posthuman power" uses the story of Pippi Longstocking to explore the ambiguity of posthuman heroism. Longstrum begins his paper by asking "How do we save the planet?" The answer, he argues, invites an examination of an (im)possible posthuman heroism as a means of "doing" posthumanism,

searching for a non-anthropocentric living in a more-than-human world. Longstrum argues that a suitable realm for such an examination is superhero fiction; and, in order to sidestep the superhero imagery of masculinized violence associated with figures such as Batman, Longstrum explains that children's literature produces much more amendable hero-figures. The paper probes the ambiguity of a posthuman heroism by using the story of Pippi Longstocking. Longstrum argues that Pippi Longstocking should be interpreted as a *posthuman figuration*. Longstrum's analysis concerns the Pippi residing in collective imaginations, which stem from the various books, television shows and film versions of the Pippi story. Through this analysis, Longstrum considers how abandoning an anthropocentric saviour-complex – accepting that the human "we" will never save the planet – has theoretical implications. Longstrum then considers different conceptualisations of power; in particular, the differences between power-to and power-over and how, in a capitalist society, power-to becomes power-over. In relation to the Pippi stories, Longstrum argues that this understanding of power in capitalist societies is indicative for exploring the ambiguity of posthuman heroism.

Melissa Laing considers the question of posthumanist doing of the social with an examination of the challenges for social workers when encountering and working with multi-species households. In "On being posthuman in human spaces: critical posthumanist social work with interspecies families", Laing proposes a critical posthumanist orientation to social work as an approach to address the impediments to care experienced by inter-species families. Second, she challenges the anthropocentric assumptions that underpin this exclusion of non-human family members in human services disciplines such as social work. Companion animal-inclusive practice with inter-species families in social work is an under researched area, and there is little empirical data available on the nature of this work. In addressing this paucity, the article presents data from a qualitative study into social work and other human services practice in the family violence and homelessness sectors in the state of Victoria, Australia, centring social workers' own accounts of practice. The paper finds that social workers undertook companion animal-inclusive practice to counter vulnerability to inter-species families caused by gender- and species-based violence, and by homelessness. Gender- and species-based violence was exacerbated by a lack of refuge options and contributed to women considering their companion animals to be their children. The vulnerability that homelessness brought upon inter-species families was amplified by stigma within and external to social work and related professions, and the impediment that experiences of homelessness had on being able to provide care for their non-human family members. These factors shaped social work practice with inter-species families. The research findings can be used to inform policy change that includes consideration of non-human family members. In addition, this article suggests an urgent need for critical posthuman program design in social work education, with the potential to empower students to challenge assumptions about social work being solely focused on human-centred concerns.

Zoei Sutton's paper "Researching towards a critically posthumanist future: on the political "doing" of critical research for companion animal liberation" focuses on the complexity of companion animal's positioning in an anthropocentric world. Sutton is concerned with role of research – both the act and the products of – in working towards emancipatory futures. Research methods both shape and are shaped by the social world from which they arise and therefore, Sutton suggests that different research methods have the potential to contribute to a radical rethinking by visibilising realities that perpetuate or challenge dominant, human-centric, problematic ideas and highlighting new ways of being in the world with "other" animals. Sutton's paper relies on data concerning the lived experiences of negotiating human-pet relationships. In constructing and conducting species-inclusive research with human owners and "their" animal companions, Sutton found that methods were central to visibilising animals' lived experiences and challenging human-centric narratives of the

relationships. Sutton's paper makes an important contribution to emancipatory scholarship by explicitly challenging oppressive entanglements and actively encouraging participants, scholars and the broader community to engage in less human-centric ways of thinking about animals. Sutton concludes with a call for animal scholars to commit to a critical posthumanist future that explicitly rejects oppressive multi-species relations and shape their scholarship in ways that reflects this.

"Critical creatures: children as pioneers of posthuman pedagogies" by Karin Gunnarsson Dinker draws on rich empirical findings from critical human-animal fieldwork undertaken in three Swedish primary schools (2012–2017). Dinker's paper pays particular attention to exploring more fully how children negotiate their own space in the face of adultism, and how this connects this – or their – acts of resistance to broader inter-species struggles concerning non-human animals. Here the focus of attention considers how anthropocentric forms of education reinforce and normalise human-animal binaries, in powerful ways. To illustrate this, the paper offers a number of persuasive insights. These include reflections on how stories of hunting, domestication and farming are told in ways that "bind together and separate the category of children animals". Reinforcing these divisive stories Dinker notes how (ethical) questions of animal abuse and violence – when the farmed animals are slaughtered – are avoided in the classroom (and when school visits are arranged to a "family farm"), or narrated in such a way to reassure the "emotional" child. The second half of the paper focuses on presenting alternative and imagining new futures, foregrounding children's agency, and help support them to enquire and act "according to their moral compass". In this context, an appeal to critical animal geographies and the importance of engaging more nuanced readings of space and place is made.

The final paper in the second section is Nick Prendergrast's paper, "The vegan shift in the Australian animal movement", which explores two examples of the vegan turn within the animal advocacy movement in Australia. Prendergrast focuses on Animal Liberation Victoria (ALV) and Animals Australia, two organisations that have responded to the "vegan turn" in different ways. The two organisations provide examples of various ways in which veganism has been promoted at the levels of grassroots advocacy and by larger organisations. Prendergrast draws on the campaigning materials of the organisations, a wide range of academic literature and interviews carried out by the author. Prendergrast analyses the vegan shifts in ALV and Animals Australia. ALV provides an example of an organisation shifting to animal rights vegan activism and operating in a grassroots, volunteer run manner. Animals Australia is an example of a larger organisation that has not embraced animal rights vegan activism, but has nevertheless moved in a vegan direction in their advocacy. Prendergrast draws on the theory of resource mobilisation, which emphasises the role of resources, particularly financial, in social movements, in order to shed light on different organisational forms and the way in which the size and wealth of an organisation can affect the manner in which veganism is promoted.

Towards posthumanist social life

In thinking about living in posthumanist social worlds, Erika Cudworth, David Redmalm, Delia Langstone and Emma Barnes invite us to consider what might be learned from companion species encounters. Focussing on everyday lives and relationships within the household, Erika Cudworth suggests that the quality of "home" is altered by the presence of animal companions in "Muddied living: making home with dog companions". Little has been written of "home" within sociology, despite "home" capturing a range of social practice. Sociologists examining human-animal companion relations have not considered how relations play out in home space. This paper investigates home as a shared space of multi-species interaction, making the case for a posthuman sociology of home. Conceptions of home

as a haven have been critiqued on grounds of the elision of power relations, yet home has also been understood as a place of resistance to, and refuge from, an exploitative and exclusionary public world. Acknowledging differentiated relations of power and understanding homemaking as a process, Cudworth investigates the playing out of species relations within home space. The paper draws on empirical material from a study of companion species in households and public spaces, deploying ethnographic material gained through extended observation and semi-structured and often mobile interviews with dog "owners" in urban and rural contexts in the UK Cudworth argues that dogs transform domestic space through muddying human lives. This process is twofold. First, life in posthumanist households problematizes boundaries between humans and other creatures in terms of relationships, behaviour and use of space. Second, muddied living involves breaching and maintaining domestic order. Muddied living is characterised by tension, power and compromise. Homes are posthuman not just by including non-human animals but through elements of dog agency in how home is made.

In "Discipline and puppies: the powers of pet keeping", David Redmalm deploys Foucauldian theory to discuss pet keeping. Empirical studies of pet keeping that rely on this theoretical framework are scarce, and Redmalm's intervention is to adopts Foucault's notion of a bipolar technology of disciplinary power and regulatory biopower to address the tension between discipline and freedom in domestic relationships between human and non-human animals commonly referred to as "pets". In doing so, the article examines the promises and pitfalls of thinking through pet keeping as a form of lived, posthumanist critique. The paper draws on an interview study with 20 pet owners – most of the interviews being conducted in their homes together with their pets – to conceptualize how they organize their lives in relation to their pets. Redmalm argues that the boundaries of the home, the play of power between bodies, and the "conditions of an unconditional love" are central to producing the pet relationship as inherently meaningful and as an indispensable part of the lives of both pet keepers and pets. A balance between discipline and freedom enables the construction of both human and other identities: pet owners produce their pets' subjectivity by speaking of them as autonomous persons, while pets' presence in the home also enables their owners' subjectivity. While the article argues that pet keeping can challenge anthropocentrism and unsustainable consumption lifestyles, it cautions that it may also reinforce prevailing biopolitical logics, if it remains maintained within a secluded domestic or cultural sphere.

In "No shit Sherlock"! Canine DNA and policing public space" Delia Langstone draws attention to how non-human animals have been largely overlooked in the theorising of surveillance and make a persuasive argument as to how this ongoing exclusion and neglect of other animals is intensely problematic. In this context, Langstone draws on empirical research focused on a pioneering initiative in London (PooPrints), which involves the collection of canine DNA. This research illustrates both how animals are already entangled in elements within "survelliant assemblages", and also how they extend the research of the surveillant assemblage in important ways. One of these is the way in which DNA surveillance is susceptible to "function creep", where the act of surveillance goes beyond its stated purpose and (potentially) leads to a range of disproportionate and highly problematical ethical consequences. In this way, through drawing critical attention to the posthuman communities of humans and dogs walking in public space, the paper serves as a broader warning the danger of surveillance technology being used not to identify and crack down on environmental nuisances (e.g. dog "owners" not cleaning up their dog's excrement) but to gather evidence to pursue more serious criminal investigations.

Drawing this section to a close, in "Cuddle, kill, conserve: a posthuman analysis of the African lion within the South African wildlife security assemblage" Emma Fletcher-Barnes explores the life cycle of a captive bred lion in South Africa. She examines the way lions are produced in captive breeding facilities across the country to provide cubs and juvenile lions

for ecotourism, and following this, hunting "trophies." A distinction is made between the "wild" and "captive" lion, a categorization that legitimizes violent and unethical treatment towards those bred specifically to be cuddled and killed. This analysis explores how the lion is remade or modified from wild to commodity and the repercussions this has had throughout the wildlife security assemblage. The paper draws on extensive ethnographic research carried out in South Africa during 2016 that involved conducting informal and semi-structured interviews with activists, breeders, wildlife security personnel and conservationists drawing out the inter-species relations that influenced the encounters between humans and wildlife. Barnes contends that dominant conservation narratives continue to understand and interpret wildlife solely as a commodity or profitable resource. This has led to the normalization of unethical and cruel practices that implicate wildlife in their own security and sustenance through their role in ecotourism, hunting and more recently, the lion bone trade. Captive bred lions are treated as products that undergo a series of translations through which they are exposed to violence and exploitation operationalized through practices linked to conservation and ecotourism.

Changing human-centric worlds

The opening paper to our fourth and final theme comes in the form of Hannah Gunderman and Richard White's rallying cry for a "Critical posthumanism for all: a call to reject insect speciesism". In this paper, the authors look towards future ways of being in the world, articulating a posthuman politics of hope to better capture the richly embodied personal experiences and web of relationalities that are formed through repeated encounters with insects. By showing how insect decline has been impacted by colonialism and white supremacy, they offer an important illustration as to how insect speciesism has flourished alongside the exploitation of other human and non-human creatures. Elsewhere, the authors draw our attention towards the use of everyday language and framing of insects that serve to "other" them, and trivialize and demonize their existence. Importantly, insect speciesism employs similar rhetoric that can be seen to reinforce the discrimination patterns of other non-human animals and humans. The paper draws on a range of everyday geographies to help illustrate and contextualise these inter-species encounters. These include a focus on everyday domestic spaces, such as an office desk, through to the multi-species site of "the allotment". In conclusion, they advance two possible posthuman futures: one where insect speciesism is entrenched and unrepentant; the second, a decolonized society where we aspire to live a more compassionate and non-violent existence amidst these remarkable and brilliant creatures. One of the most profound lessons of the crisis-driven epoch of the Anthropocene is this: our existence on Earth is intimately bound with the flourishing of all forms of life. This includes complex multi-species encounters between humans and insects, an area of enquiry widely neglected across the social sciences. Faced with imminent catastrophic decline and extinction of insect and invertebrate populations, Gunderman and White insist that human relationships with these fellow Earthlings are deserving of further attention.

In "Promoting an emotional connection to nature and other animals via forest school: disrupting the spaces of neoliberal performativity", Dave Cudworth begins with a powerful critique of the last 30 years of neoliberal governance over education in the UK. One of the consequences of this has been the dramatic decline in young people having the opportunity to directly experience and regularly engage with nature and the natural world. Against this background, and through drawing on data from qualitative observation and interviewing, the paper draws our attention to the ways some schools have attending to reconnect children with nature through developing Forest Schools. The main contribution of this paper is to argue – persuasively – that Forest School provision "could have the potential to also disrupt the 'spatialities' of the neoliberal classroom

setting". Such an intervention could lead, Cudworth argues, to doing things radically differently. One of these would be to harness alternative futures through learning environments, ones where children can explore nurturing and caring forms of human-animal relationships further and be further educated in meaningful posthuman discourses through the school and their wider learning environments.

Michelle Westerlaken's paper "What is the opposite of speciesism? On relational care ethics and illustrating multi-species-isms" articulates a counter-concept to the notion of speciesism. This paper aims to encourage thinking beyond critique and towards imagining what non-speciesist worlds can look like. By using the concept of "multi-species-isms" (or "multi-species") and linking it to feminist and relational ethics of "care", the paper seeks to unite perspectives from Critical Animal Studies with feminist, posthumanist theories. Already existing traces of multi-species-isms that exemplify different forms of multi-species care are visualised through annotated illustrations that accompany the text. These traces offer a cue for negotiating multi-species worlds without attempting to define their content in all too definite forms. Rather than focussing on critiquing oppressive structures, the paper contributes narratives of multi-species worlds that inspire further imagination towards the positive ingredients of such worlds and show more concretely how multi-species care is practised in everyday life. These insights frame a starting point for a repertoire that shows the numerous ways in which multi-species relationships between humans and other animals are already given form. By articulating the actual ingredients of multi-species-isms rather than focussing on what they are not, the paper seeks to advance a move towards adding multi-species possibilities that can be especially helpful for those researchers, designers and activists concerned with imagining alternative futures.

In the final paper in this collection, "Insurrection training for post-human politics", Christian Nold sets out to identify the tensions around the way posthumanist politics has been framed and seeks to find a new way of identifying linkages between posthuman theory and specific ways of intervening in the world. Nold's paper offers a challenge to those who say that posthumanism has a problem in translating its theory into supporting social movements and creating political impacts. In the paper, Nold maps out an anarchist-influenced posthumanism as proposed in Critical Animal Studies and Cudworth and Hobden's ideas about emancipatory posthuman politics. Nold's contribution is to show how the notion of "multiple ontologies" and "insurgent posthumanism" can be used to create a form of insurrection training for researchers to acquire an "ontological imagination" that can support them in creating interventions in the world. Nold uses the example of the "Seeds of Hope East Timor Ploughshares action" as an illustrative case study. This involved a group of ten women breaking into a UK airbase in 1996 and disarming a Hawk fighter-jet that was being sold to the Indonesian regime for use against civilians in East Timor. Nold identifies two key components of posthuman politics from this example: specificity of intervention and reflexive practices. Nold proposes that posthumanist researchers can apply insurrection training in their daily lives to experience ontological difference, de-trivialise the everyday, connect to social movements, make posthuman politics "doable" and offer "direct" change.

Erika Cudworth
Applied Social Sciences, De Montfort University, Leicester, UK
Will Boisseau
Loughborough University, UK, and
Richard J. White
Geography, Sheffield Hallam University, Sheffield, UK

About the guest editors
Erika Cudworth is currently Senior Lecturer working in the Social Sciences at De Montfort University, Leicester, UK She is a gender, environmental and animal sociologist interested in intersectional inequalities across a range of scales and challenges to the theories and practices of human exceptionalism.

Will Boisseau completed his PhD at Loughborough University, UK. His research focuses on the place of animal advocacy within the British left, particularly on the relationship between the anarchistic/direct action and legislative wings of the movement. Through this research he explores a range of concepts including speciesism, total liberation and intersectionality.

Richard J. White is Reader in Human Geography at Sheffield Hallam University, UK. Greatly influenced by anarchist praxis generally, and anarchist geography in particular, Richard's main research agenda explores a range of ethical and economic landscapes rooted in the intersectional contexts of social justice and total liberation movements.

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