

# The Climate Crisis and Other Animals

Richard Twine



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# Introduction

The aims of this book are to consider human–animal relations in the emergences<sup>1</sup> and effects of the climate crisis and to explore the prospects and strategies for real transformatory change of those relations as an important part of responding to the crisis. The tragedy of climate change has been revealed already in the largely helpless bewilderment of nonhuman animals in the aftermath of extreme weather events, seen starkly in the so-called Black Summer bushfires experienced in Australia in 2019–20 and captured on the cover of this book. Humans increasingly share this perplexed state as the climate crisis makes droughts, heatwaves, wildfires and floods more likely. Humanity can in theory know something about the emergence of the crisis and act to mitigate it. But lived experiences of what, in the worst-case scenario, will turn out to be a great unravelling of the conditions for earthly survival for many species are vital checks on the abstraction of the crisis and how it comes to be understood. The foregrounding of this malaise, a violent imposition of homelessness across species, can act to prevent abstraction from becoming depoliticisation.

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1 I use the term “emergences” throughout to complicate simplistic narratives of causality and to highlight that sources of greenhouse gases are multiple, overlapping and complex.

Exposing depoliticisation is now a central contribution of the social sciences to the climate crisis, underlining that within its social construction there is much obfuscation and deflection. At first it seems compelling that the crisis is a practical and mathematical problem concerned with reducing the emissions of various gases. Yet to fetishise a single factor within the crisis – for example, “carbon dioxide” – is to risk denial of the inescapably political nature of the climate crisis.<sup>2</sup> At worst this means emissions take the place of understandings of why the climate crisis is happening and the relationships, practices and histories that produce the crisis are obscured. The argument here is not a refutation of data, modelling and statistics, by any means, but serves to underline that this book also aims to promote employment and integration of broad knowledges across the natural–social sciences divide to better understand the climate crisis. Moreover, this aim is contextualised by the recognition that the climate social sciences face an even greater struggle to be heard within policy than climate science narrowly conceived.

Data of all kinds are clearly vital to our understanding of the changing climate, but they must be integrated into sociological and historical understandings of relationships and practices. The following examples are specific and speak to recent decades. I was born in the 1970s, when the concentration of carbon dioxide (CO<sub>2</sub>) in the atmosphere was around 328 parts per million (PPM); by June 2023, it was 424 PPM.<sup>3</sup> Another greenhouse gas, methane (CH<sub>4</sub>), rose in concentration from 1,625 parts per billion (PPB) in the early 1980s to 1,910 PPB by the end of 2021.<sup>4</sup> Furthermore, in 2021 global CO<sub>2</sub> levels were 60% higher than they were in 1990,<sup>5</sup> and the majority of CO<sub>2</sub> emissions since 1751 had been produced since 1990.<sup>6</sup> The eight years 2015–22 have globally been the hottest on record.<sup>7</sup> Such statistics speak to a stark failure in policy to mitigate the climate crisis, demonstrating

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2 Swyngedouw 2010.

3 2 Degrees Institute 2022.

4 Lan, Thoning and Dlugokencky 2022.

5 Stoddard, Anderson et al. 2021.

6 Stainforth and Brzezinski 2020.

7 Carrington 2022.

that there has been no meaningful attempt to restructure those sectors – energy, transport and agriculture – that generate the majority of emissions. The first major international conference on climate change took place in 1979, yet knowledge of the climate emergency has accompanied its exacerbation.<sup>8</sup> As well as indicating the inadequacy of the response of incumbent institutional leaders, such statistics also emphasise the urgency of the situation, with the amount of “carbon budget” that can still be emitted diminishing all the time before targets to limit the global temperature rise to 1.5 or 2°C are missed. In the absence of ambitious legally binding agreements, 2°C will surely be breached, and the risk of runaway climate change<sup>9</sup> will increase alongside socio-ecological collapse. Indeed, the IPCC *Special Report on the Impacts of Global Warming of 1.5°C*, published by the Intergovernmental Panel on Climate Change (IPCC) in 2018, made clear that rapid, far-reaching and unprecedented systemic changes were required to limit warming to 1.5°C,<sup>10</sup> and the same applies for a 2°C target.

If ever it was time for novel approaches to address the climate crisis, that time is now. Part of this must be the elevation of perspectives from the arts, social sciences, (post)humanities and broader civil society. These are important contributors not only to the analysis of what many have called a classically “wicked problem”,<sup>11</sup> a problem which is especially complex and obstinate, but also to alternative social imaginaries of how people and societies may live in such ways that promote the flourishing of the more-than-human world and pull the Earth back from the brink of climate chaos. Stoddard et al. define “social imaginaries” as “collective images of how we might live” and argue that they need to be based upon a radical departure from pre-existing norms and practices.<sup>12</sup> Sociology and the social sciences

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8 The First World Climate Conference took place in February 1979 in Switzerland and was sponsored by the World Meteorological Organization.

9 “Runaway climate change” is generally understood to mean the crossing of tipping points that positively feeds back into further uncontrollable global heating.

10 IPCC 2018.

11 Mertens 2018.

12 Stoddard, Anderson et al. 2021, 675.

are apt for critical analyses of practices, relations, histories and norms, while philosophy has been reflecting upon environmental and animal ethics for centuries. These are just some examples of critical thinking fields that one generally does not find represented at the annual United Nations Framework Convention on Climate Change's Conference of the Parties (COP).

If the climate crisis on a deeper level is not then primarily, or only, a problem of emissions, but one of relationships, practices and norms, it is also, as these concepts presuppose, one of power. Again, this implies enrolment for social and political analyses. That relations of power are integral to understanding the emergences, obstinacy and effects of the climate crisis is also the position of such framings as "climate justice". However, this framing and others should rightly be seen as open to scrutiny from the aforementioned fields. Nevertheless, there is undoubtedly a consensus between the climate social sciences and a climate justice framing in conceptualising the climate crisis as a problem involving economic, generational, racialised and gendered relations of power. The politics of climate discourse are partly revelatory of struggles (and their marginalisation) to achieve prominence for such thinking on policy agendas.

This apparent symmetry between the climate social sciences and a climate justice perspective could certainly structure a book that explored the alternative social imaginaries made possible by their overlap. However, such a book could ignore how the social sciences and framings like "climate justice" that attain broader popularisation are also capable of producing a confused assessment of the crisis. While this book does not shy away from critiquing the omissions and historical exclusions of the climate social sciences, which can impede their ability to properly capture what exactly the climate crisis is a crisis of, it does aim to demonstrate their importance; there are clear strengths to be teased out. Social scientists are adept at questioning naturalised, taken-for-granted practices and meanings, ways of being hemmed in by tradition, and at catalysing imaginaries for experiments in living differently. They examine processes of social change, detailing how transitions can happen, and underline (contra the reduction of what people do to individualised psychology) the fact that high-carbon practices have emerged from complex socio-historical relations and

infrastructure. They are also attuned to the analysis of dominant discourses and the effects of power in which such discourses are bound. This is particularly useful when applied to the climate crisis, enabling critical thinking about longstanding concepts such as sustainability, the Anthropocene or just transition. Critical thinking skills are similarly necessary for identifying when framings which delay meaningful action become dominant. The concept of net zero has been accused of this, for its allowing a largely business-as-usual approach and reliance upon unproven carbon capture technologies.<sup>13</sup> Another framing of relevance to this book is the often-total conflation of the climate crisis with fossil fuels, which may deprive food, agriculture and land-use changes of policy attention. Furthermore, it is important to know about analyses and proposed solutions that are deemed by many to be socially taboo and to understand why this is so<sup>14</sup> – for example, those which question normalised transport or energy- and food-related practices or critique capitalism as a suitable system to address the climate crisis.

This book contends that dominant framings of the climate crisis have been poor at identifying the place of human–animal relations in the emergences, effects and potential ways out of the climate crisis and that the critical knowledges of, for example, climate ethics and the sociology of climate change have not been especially inclusive of nonhuman animals.<sup>15</sup> I also write this book at the point in time when many societies are engaged in a political and cultural struggle over whether transformative changes to instrumental human–animal relations can form part of a response to the climate and biodiversity crises. Such relations of course concern how the development of a global animal-industrial complex dominates the food system and

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13 Dyke, Watson and Knorr 2021.

14 Almiron 2020a; Gössling and Cohen 2014.

15 There are linguistic politics inherent in writing about human–animal relations due to the embedding of anthropocentrism. Consequently, this book often uses the admittedly imperfect terms “nonhuman animals” and “other animals” to contest a naturalised view of human–animal difference. Terms such as “livestock”, which normalise the commodification of animals, are placed within quotation marks to signify a contestation of this normalisation. Homogenising nouns such as “fish”, “cattle” and “sheep” are altered to “fishes”, “cattle ungulates” and “sheep ungulates”.

breeds nonhuman animals on an unprecedented scale.<sup>16</sup> By 2020 this had translated into the annual slaughter of over 73.1 billion farmed land animals.<sup>17</sup> According to 2019 data, of the habitable land on Earth (104 million square kilometres), almost 50% (51 million square kilometres) was used for agriculture. Of this, 78% (40 million square kilometres) was used to farm nonhuman animals, including land used for feed production, despite the fact that this land only contributes 18% to the global human calorie supply and 37% to the global human protein supply.<sup>18</sup> For context, 40 million square kilometres equates to more than four times the size of the United States: this area is devoted globally to animal agriculture. These statistics speak to a human food system, maladaptive for all life on Earth, in which the growth of a sector has been predicated upon capital(isation) rather than human health or the flourishing of other species. The aforementioned struggle to place human–animal relations on the climate agenda unsurprisingly involves the highly politicised debate over emissions; animal agriculture could be responsible for up to one in five of all greenhouse gas emissions. (I cover this debate in Chapter 4.)

Opponents frame this as an example of “trojan horse” politics, in which activists are trying to exploit the climate crisis for an “animal rights agenda”.<sup>19</sup> However, this view can only be maintained if one denies the presence of human–animal relations in the emergences of, effects of and responses to the climate crisis. As I cover in Chapters 3 and 4, there is a broad scientific knowledge base pointing to both

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16 This builds upon my earlier work on the animal-industrial complex (Twine 2012; 2013b). I define it in more detail in Chapter 2 and devote much of Part II of the book to enhancing its theorisation.

17 These data are from the Food and Agriculture Organization of the United Nations (FAO) and are collated in Orzechowski 2022. The figure is an underestimate, because it only includes the major farmed species of chickens, pigs, sheep ungulates and cattle ungulates. It excludes other species like goats, turkeys and rabbits, those that die before slaughter and the trillions of fishes and other aquatic life killed each year. For contrast, a total slaughter number of land animals for 2021 is given as 83.58 billion by *Our World in Data* 2023.

18 These are 2019 data from the FAO and are visualised in Ritchie 2019.

19 This was the position taken in 2021 by conservative politician Lord Deben (John Gummer), chairperson of the United Kingdom’s Climate Change Committee (Davies 2021).

systemic climate change impacting other species and vegan eating practices being the lowest emitting. The climate crisis is unavoidably and demonstrably also a question of the ethics of human–animal relations. Denying this can be seen as protective not only of vast profit-making industries but also of an especially elevated human self-image vis-à-vis other species.

For this book, the questioning of this anthropocentrism is pivotal to tackling the climate crisis. Firstly, such questioning assists the understanding of the place of human–animal relations in the enormous remaking of the planet’s land mass in recent centuries and the continued influence of the animal-industrial complex upon the climate, biodiversity and other environmental crises. Also, it makes clearer how broader systems of fossil capitalism, in energy and transport, for example, have developed without regard for the value of ecosystems and other species.<sup>20</sup>

To perform a critical analysis of anthropocentrism, this book turns to specific knowledges in the social sciences and humanities of recent decades which can enhance the climate (social) sciences and the frame of climate justice. I refer, in large part, to the so-called “animal turn” and the rise of animal studies, but more especially to that of critical animal studies<sup>21</sup> (CAS), as significant developments that have begun to contest the taken-for-granted, primarily human focus of disciplines such as sociology, literature, history, philosophy, geography, art, cultural studies and politics. The animal turn has involved building upon and innovating a broad range of ethical theory, and in my discipline of sociology, for example, has meant doing work to redress the conflation of society and the social world with the human, underlining the multispecies character of everyday life. Importantly, CAS and animal studies (C/AS) were prefigured by ecofeminism and other ecological theorising that questioned anthropocentrism. I have inhabited this space since the late 1990s, my work located broadly in this turn toward

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20 The term “fossil capitalism” is used to highlight the historical importance of fossil fuel extraction to the development of capitalism (for example, see Altvater 2007). It is somewhat reductive, because it marginalises the role of agriculture and associated land-use changes in the development of capitalism.

21 For example, Best, Nocella et al. 2007; Taylor and Twine 2014.

animalising the social sciences, casting real doubt upon the sustainability of anthropocentric thinking. More specifically I have sought to theorise meat cultures, the animal-industrial complex and vegan transition and to work with intersectionality approaches interested in the specificities and overlaps between different relations of power, including human–animal relations. Nor are C/AS aloof from the natural sciences, with ethological knowledge (as well as lay knowledge of human–animal relations) important for comprehending the complexity and diversity of nonhuman animal subjectivities, something the long legacy of Cartesianism has held from view. This book is an exploration of what CAS can contribute to our understanding of the climate crisis but simultaneously an attempt to develop the field. CAS is especially suitable for contributing to analyses of the climate crisis, because it is the clearest field to question anthropocentrism, and for the three further reasons outlined below.<sup>22</sup>

Firstly, CAS advocates engaged forms of theory oriented both to lived experience and to radical social change.<sup>23</sup> The influence of ecofeminism on CAS is important, because that body of work when developing in the 1990s created a theoretical framework in which to understand connections between different forms of oppression beyond a humanist focus upon social class, gender and “race”.<sup>24</sup> Imperative to this theoretical inclusion of the more-than-human were the critical and historical analyses of dualism in illustrating how discourses of nature, the body, emotionality and animality have operated across gender, class, “race” and species to position nonhuman animals and animalised humans as separate from and inferior to an image of the human predicated upon constructs of masculinity, (self-)control, civility and whiteness.<sup>25</sup> This brought human–animal relations into the orbit of

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22 For a broader discussion about differences between animal studies and CAS, see Taylor and Twine 2014.

23 Taylor and Twine 2014, 6.

24 This is not to disparage other influences upon CAS, such as anarchist political philosophy, but reflects more my own personal trajectory, which began with a focus in the 1990s on ecofeminism and related bodies of work. An important goal for my book with Nik Taylor (Taylor and Twine 2014) was to recuperate the ecofeminist influence on critical animal work, which we felt had become largely lost in the early formulations of critical animal studies.

theorising class, gender and “race” but also made clear that the animalisation of nonhuman animals was itself based upon ideological constructions and generalisations of the category “animal”. Ecofeminism and then CAS are historically significant because they question the claims around (and quests for) humanisation, which, for example, class-based, feminist, disability and civil rights movements have in some cases been based upon.<sup>26</sup> They also counter the way animalisation has worked through such oppressions to argue instead that nonhuman animals themselves should be liberated from human exploitation.

CAS broadens out the social imaginary of critical theory and the social sciences by making the case that nonhuman animals deserve justice for being caught up in a war of endless human capitalisation and for being exploited as a foil, via notions of animality, for a “human” elevated and deemed separate from “nature”.<sup>27</sup> CAS also acts as a corrective to the relative silence on other species exhibited within and between the climate social sciences and climate justice perspectives, equipping these approaches to more radically question how discourses of the human naturalise a hierarchical relation over other animals.

There is a further important point to be made here about the uncritical use of justice discourses in ideas of climate justice and just transition. Ecofeminists have long critiqued the abstractness and dualistic aspects of principle-based ethics such as justice frameworks for their inattention to context, relationships, emotions and lived experience. Indeed, such inattention may make the exclusion of nonhumans more likely. In contesting this, ecofeminists have drawn upon the “ethics of care” tradition<sup>28</sup> and, more recently, a notion of

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25 Plumwood 1993 analysed the gendered and racialised history of culture/nature, reason/emotion and mind/body dualisms, which hyper-separate these domains and devalue the latter terms.

26 Essentially, they question whether it is liberatory to seek membership of the “human” when that has been historically constituted in dualistic and masculinist ways.

27 For an explicit application of the idea of justice to nonhuman animals, see Garner 2013, and for an elaboration of multispecies justice, see Celermajer, Chatterjee et al. 2020.

28 Donovan and Adams 2007.

“entangled empathy”<sup>29</sup> to better understand how other animals come to matter. This highlights a need, as Gruen argues, to move beyond reason/ emotion dualism, integrating abstract calls for justice with considerations of context, relations, care and empathy.<sup>30</sup>

If tackling the climate crisis means reassessing the human place in nature, overlapping knowledges such as CAS and ecofeminism appropriately question longstanding assumptions around what it means to be human and how such assumptions have acted to maintain a status quo of exploitation. Given their history, CAS and ecofeminism ought to espouse an intersectional understanding of the climate crisis<sup>31</sup> and one that does not repeat the anthropocentric mistake of excluding the more-than-human in its theorisation. This means framing the climate crisis as unfolding historically through a series of complex intersecting relations of power that are hierarchical along lines of social class, gender, species, colonialism and “race”, and it is within *these relations* that the rising greenhouse gas emissions of recent centuries can be understood. My own positionality should be noted here, since I am a middle-aged, middle-class white man in the Global North, and it is my demographic that is disproportionately privileged and responsible for blocking change. Wholly mitigating this privilege is beyond the control of the individual, but my approach has been shaped by the empathy of the sociological imagination; by Connell’s idea of exit politics, which refers to creative practices of refusing (male) privilege;<sup>32</sup> and by supporting the careers of others from a different positionality. Exiting from meat consumption over 30 years ago, then becoming vegan in 2005, and choosing the bike over the car are examples of how I have contested both anthropocentrism and carbon consumerism.

The second reason that CAS is a suitable perspective from which to contribute to climate analyses is its perspective on social movements. It refuses the societal (and sometimes academic) disparaging of activism. Activists are part of social movements and civil society, and these constitute, in a sociological sense, vital parts of societal reflexivity.

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29 Gruen 2015.

30 Gruen 2015, 34–35.

31 See Kaijser and Kronsell 2014.

32 Connell 1995.

While social movements can be objects of critique for social science, they have also unmistakably shaped the history of academic knowledge production. In addition, it is problematic to denigrate the contribution of civil society from the perspective of democratic participation. Climate politics are blighted by forms of denialism and vested economic interests, and this only emphasises the importance of inclusion and open debate.

For CAS, scientists of all hues do better science when they are upfront about their positionality and their own social imaginaries. This is preferable to knowledge construction that either seems unaware of its own framings or tries to conceal its own interestedness. Furthermore, in this way of thinking, the identity of the scholar-activist has more integrity than that of the scholar who fails to change their practices in light of what they know – in this case, about the climate crisis. CAS is a body of knowledge and analyses that are anti-racist, pro-feminist, pro-animal and anti-capitalist, and this is reflected in a community of researchers committed to social change via practices such as veganism and involvement in social movements that reflect these values.

These politics are cross-cutting. For readers unfamiliar with CAS this does entail acclimatisation to a critical framing of animal exploitation as partly shaped by classed, gendered and racialised relations, as this book explores (especially in Chapters 1 and 2). For example, CAS is pro-feminist in order to address gendered societies and oppressive gender-based violence and disadvantage but also because of cultural hegemonies of masculinist values which denigrate emotional attachment to other species. CAS is anti-racist because racism is similarly unequivocally unjust. It understands conceptually that embedded discourses of animalisation have been used to justify white supremacy,<sup>33</sup> that colonialism was and is accompanied by large-scale exploitation of nonhuman animals and that in the era of recent globalisation, “development” has often been understood, in part, via the meatification of diets. The anti-capitalism of CAS centres on the way this economic system has facilitated and intensified the mass exploitation of other animals but is directed toward all those subjected

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33 See Bennett 2020; Boisseron 2018; Montford and Taylor 2020.

to animalisation, including exploited precarious human workers directly involved in the slaughterhouses of the animal-industrial complex. Expropriation cuts across the species boundary. This take on capitalism has relevance for debates over sustainability and capitalism, getting to the heart of one of the central questions of the climate crisis: is capitalism a system that can meet the challenge of climate change, or does it need to be replaced?

Finally, CAS is a relevant perspective from which to approach the climate crisis because of the work it has done to generate and refine concepts that speak to the relations between humans and other species.<sup>34</sup> Having underlined an aim of foregrounding a critique of anthropocentrism, it is necessary to define this term, beyond a literal human-centredness. CAS philosopher Matthew Calarco has understood the concept in the following way:

Anthropocentrism is the view that human beings (in opposition to animals and other nonhuman beings) are of supreme importance in ethical, political, legal, and existential matters. ... Among the primary characteristics of anthropocentrism are: (1) a narcissistic focus on human exceptionalism; (2) a binary account of human–animal differences; (3) a strong moral hierarchy that ranks human beings over animals and other nonhuman beings; (4) a tendency to de- and subhumanize certain populations; and (5) institutions that aim to protect and give privilege to beings deemed fully human.<sup>35</sup>

This articulates how anthropocentrism incorporates dualism, creating a sharp divide between the human and all other animal species. When philosopher Jacques Derrida critiqued the word “animal” itself, as a form of conceptual violence in which a vast array of difference is homogenised, he had a point.<sup>36</sup> Anthropocentrism then is embedded in human languages and, as Calarco’s fifth

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34 This work has been done by those working across the distinction between animal studies and CAS.

35 Calarco 2021, 18. For an important earlier discussion of the concept, see Plumwood 1996.

characteristic highlights, is institutionalised in politics, the media, law, education and academic knowledge, constituent parts of the animal-industrial complex. Human/animal dualism confers an exaggerated difference between all humans and all other animals and interprets that difference hierarchically. Calarco also alludes to the operation of anthropocentrism and its associated human/animal binary in processes of dehumanisation, which I alluded to earlier. For CAS, the promise of transcending anthropocentrism and the cultural practices which embed it is found in the prefiguration of spaces that no longer exploit nonhuman animals or the myriad humans who are animalised.

Probyn-Rapsey is right to highlight anthropocentrism *within* C/AS which partly contests the view that it is possible to transcend in any straightforward way.<sup>37</sup> For example, in basing the moral considerability of other animals on similarity to the human, the human is centred as a yardstick, and often focus is upon rational and cognitive capacities, a point made by numerous C/AS researchers. Moreover, in making political claims for the value of nonhuman animal lives, humans inevitably speak for these beings and apply human notions such as exploitation, freedom or justice. Yet moral considerability can also be based upon shared emotionality, mortality and indeed difference, with the last emphasis often also being effective in underlining limitations in *human* capacities. The potential risks in speaking for other animals can be balanced by recognition of their capacities for communication and resistance,<sup>38</sup> and I do not think there is any great anthropomorphic mistake being made when it is assumed that other animals have an interest in their own freedom or when practices of animal exploitation are identified.

The Calarco definition also alludes to the related concept of human exceptionalism. Gruen defines this as “the view that we do not have

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36 Derrida 2008. Consequently, it is an imperfect writing practice to continue to use the word “animal”. This book attempts to counter this by underlining the diversity of animals affected by the climate and biodiversity crises (see Chapter 3).

37 Probyn-Rapsey 2018.

38 Hribal 2010; Meijer 2019.

ethical responsibilities to other animals”,<sup>39</sup> a position shaped by the dualism of anthropocentrism. In reality, very few people adopt strong human exceptionalism; most have a selective, discriminatory perspective on animal ethics. This takes us to speciesism, a much-used concept in CAS dating back to the work of Richard Ryder, who evoked the idea to “describe the widespread discrimination that is practised by man [*sic*] against the other species”, which he compared to racism in the sense of its denial of similitude and of the interests of others.<sup>40</sup> Subsequent theorists have offered similar understandings, such as Cary Wolfe’s definition pointing to “systematic discrimination against an other, based solely on a generic characteristic – in this case, species”,<sup>41</sup> which is useful for extending its meaning from an interpersonal prejudice to an ideology that emanates from a broader set of anthropocentric ontology and values. It is also useful for highlighting arbitrary (albeit historical, cultural and economic) inconsistencies around the human attribution of moral considerability, such as valorising dogs over pigs.

This book employs the concepts of anthropocentrism and human exceptionalism but uses speciesism more sparingly, because it is also a limited concept in the sense that it aggregates species and might imply questionable moral equivalences. Since its emergence in the 1970s there has also been debate about what it might imply about the interests of plants.<sup>42</sup> Unfortunately, abstract philosophy, in which much of the debate around speciesism takes place, can fall foul of the same modernist logic of anthropocentrism in failing to see interdependencies, and it is important for CAS not to falsely abstract nonhuman animals from their environments and ecological relationships, which consist of a multitude of animal–plant interactions. In understanding the extinction threat of the climate crisis to nonhuman animals it is also vital to understand these relationships and threats to plant species.

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39 Gruen 2011, 2.

40 Ryder 1975, 16.

41 Wolfe 2003, 1.

42 For example, see Kagan 2016; P. Singer 2016.

A final useful CAS idea on which this book draws is Annie Potts' notion of meat culture. This refers to the centrality of meat in many cultures but specifically is concerned with the shared cultural representations, discourses, practices and beliefs about the consumption of other animals.<sup>43</sup> Potts draws upon Joy's notion of carnism,<sup>44</sup> which refers to the habituated belief system that naturalises animal consumption and underpins meat cultures. Whether they are called "carnism" or just conceptualised as part of the aforementioned anthropocentrism, the cultures of meat are an integral part of the wider animal-industrial complex, which in turn is a significant part of contemporary global capitalism. One notable impact of the climate crisis has been to fuel the questioning of meat cultures, with many countries presently living through a particular "fleischgeist", a "growing cultural trend of meat consciousness"<sup>45</sup> "fuelled simultaneously by ethical considerations and instrumental logic"<sup>46</sup> and reflected in cultural forms such as literature and film, and a media fascination with meat, but also with veganism and cultured meat. It has attained cultural omnipresence, visible in daily media and regional flare-ups, such as the 2022 contestation of Spanish meat culture.<sup>47</sup> This fleischgeist may be experienced as discomfiting, because it brings to the fore violent aspects of the food system which have been partly repressed, treated as what I later refer to as a "cultural secret", a taboo that conflicts with cultural pretensions of civility. The fleischgeist can be read as a complex mixture of meat culture being contested *and* defended, a hegemony being exposed.<sup>48</sup> It is one example of the ways in which the climate crisis is inciting reflexivity to the meanings of the human, again a major concern of CAS, animal studies and ecofeminism, in their overlap with critical posthumanist work that similarly questions dominant discourses of the human.<sup>49</sup> These knowledges favour a

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43 Potts 2016, 19.

44 Joy 2010.

45 Standen and Wizansky 2007.

46 H. Singer 2016, 184.

47 Burgen 2022.

48 Exposure and visibility are not sufficient for social change; indeed, one way meat culture deflects critique is through brazen visibility (Parry 2010).

49 Twine 2010b; Wolfe 2010.

rejection of fixed essentialisms of the human as a means to reimagine human being and to reject the normative anthropocentrism that has denied human ecological interdependency and partly shaped the emergences of the climate crisis. This book offers the direct undermining of anthropocentrism as an unavoidable and necessary strategy for effectively tackling the climate crisis, albeit one that must be exercised alongside broader, overlapping politics. Indeed, this book emphasises how many of the attempts to understand and tackle the climate crisis end up reproducing anthropocentrism.

Part I is concerned with establishing that human–animal relations deserve their place in analyses and accounts of the emergences, effects and potential ways out of the climate crisis. Chapter 1 connects CAS to broader social science work critical of the concept of the Anthropocene as a means to clarify the nature of the climate crisis. Exploring arguments that the Anthropocene mystifies the climate crisis by being ahistorical and apolitical and by reinforcing rather than questioning anthropocentrism, the chapter argues for a synergy between CAS and Jason Moore’s work on the alternative concept, the Capitalocene.<sup>50</sup> This concept properly situates the climate crisis in a historicisation which importantly defines capitalism as extra-economic, delineating its emergence from the 15th century onwards as bound up in colonialism, the oppression of women and the exploitation of nonhuman animals. Moore’s world-ecology approach to understanding capitalism is also valuable, as it avoids anthropocentric society/nature dualism by conceptualising capitalism as embroiled in the web of life, as productive of nature. The Capitalocene framework allows us to see the climate crisis not only as a crisis of capitalism but also as a crisis of patriarchy, colonialism and anthropocentrism, relations of power integral to capitalist accumulation strategies which have prefaced the rise in greenhouse gas emissions. The task for Chapter 2 is firstly to improve the Capitalocene framework by detailing the classed, racialised and gendered dimensions of the climate crisis and then, significantly, to begin to historicise the development of the animal-industrial complex and enhance the framework’s explanation of human–animal relations as integral to capitalism and the climate crisis. The theoretical affinities

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<sup>50</sup> For example, see Moore 2017; 2018.

identified in the first two chapters contribute to both CAS and the Capitalocene framework but, more importantly, signpost a more accurate and meaningful characterisation of the climate crisis, affording a view of its constituent relations of power and pointing to the transformational change necessary to oppose them.

Chapter 3 demonstrates that climate change is already undermining life for a broad range of species and draws widely on conservation science to outline both the impacts of the Capitalocene and the precarity of life in the face of the warming that has already occurred. It is the necessary documentation of the lived experience of the climate crisis of individual animals across different species and spatial contexts. Attentive to ecological interdependency, the chapter is inclusive, for example, of a wide sample of microorganisms and insects as well as aquatic life, birds, reptiles, amphibians and mammals. The material inevitably incites reflexivity to the operations of the Capitalocene and the extinctions that will multiply without urgent change.

Chapter 4 is key firstly for detailing how the link between animal agriculture and climate change has been omitted or downplayed in such areas as social science, climate ethics, sustainability discourse, the media and non-governmental organisations (NGOs), and secondly for engaging closely with the politicised debate over the quantification of these emissions. Critical of the Food and Agriculture Organization of the United Nations' (FAO) work here and of its role in perpetuating an efficiency framing which prioritises protectionist policies of technical adjustment over larger transformations to the animal-based food system, the chapter presents a compelling evidence base in terms of both peer-reviewed research arguing for reductions to animal consumption and the demonstration of plant-based eating as a diet producing significantly lower emissions. A strong evidence base suggests the view that the climate crisis can be tackled by intentionally protecting the global food system from real change is a fantasy.<sup>51</sup> The chapter ends by

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51 As a study by Clark, Domingo et al. (2020, 705) found, "even if fossil fuel emissions were eliminated immediately, emissions from the global food system alone would make it impossible to limit warming to 1.5°C and difficult even to realize the 2°C target. Thus, major changes in how food is

describing three scenarios of transformative change: plant-based transition, vegan transition and intersectional veganism, primed for further consideration in the second half of the book.

Part II is organised around the theme of transforming meat cultures and turns once more to a wide range of social science research in an attempt to understand what is involved in such a transformation.<sup>52</sup> Given that anthropocentrism is embedded within many cultures, the second half of the book begins with a focus on childhood in Chapter 5. Here the interest is in how meat cultures are secured through what I call a “generational universalism”: the imposition of a set of meanings around animal consumption which construct it as habitual and normative for each new generation. Part of the aforementioned *fleischgeist* centres around childhood, controversies over meat-free Mondays in schools and vegan children and parenting. This is not surprising, since discourses of child development speak to our assumptions around human being. Following other CAS research that has taken the path into childhood studies, I argue that ideas of childhood innocence act to protect the reproduction of cultural anthropocentrism. Controversies over inadequate climate education imply that the crisis is being read, like the slaughterhouse, as taboo knowledge from which children should be protected, but the inherent issues of generational injustice that it amplifies weaken such taboos. The chapter reflects upon vegan climate activist Greta Thunberg as a killjoy of childhood innocence in this sense and points to CAS research on critical animal pedagogy as indispensable for creating post-anthropocentric cultures. Chapter 6 turns to specific social science theories of transition, many of which

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produced are needed if we want to meet the goals of the Paris Agreement’. Similarly, Hedenu, Wirsenius and Johansson (2014) concluded that reduced meat and dairy consumption is indispensable for limiting warming to a 2°C rise, and Ivanovich, Sun et al. (2023) found that global food consumption alone could add close to 1°C warming by 2100, with meat, egg and dairy production responsible for more than half (+0.5°C) of that.

- 52 Consequently, this book is more focused on mitigation than adaptation. This is not to downplay the necessity of adaptation policies inclusive of nonhuman animals.

have been used already either to explore meat culture or to theorise vegan transition. Drawing upon my own research employing a practice theory approach to vegan transition,<sup>53</sup> I argue that it affords specific advantages over other approaches. I then consider veganism in terms of what practice theory contends are the three elements of a practice: its associated competences, materialities and meanings.

Chapter 7 continues these themes but begins with a more in-depth examination of the meanings of veganism, returning to the three transition scenarios introduced at the end of Chapter 4, and reflects upon competing definitions of veganism. After summarising understandings of veganism and animal consumption, and possible interventions, the chapter proceeds to engage with key debates in practice theory approaches to transition, examining how they understand power and can work at larger scales. To deliver the co-benefits of transforming and dismantling the animal-industrial complex, transition theories also need to work at large scales. I draw upon work on scale and power to strengthen my own pre-existing conceptual understanding of the animal-industrial complex,<sup>54</sup> pointing toward a practice theory approach which better theorises the animal-industrial complex and is able to generate intervention strategies for its demise.

In Chapter 8, I return to the question of the Capitalocene and capitalism. I begin with a detailed exploration of Chapter 4's scenario 1, noting how plant-based transition, as a social imaginary, is already taking place within pre-existing structures of capitalism. I survey the emergence of this plant-based capitalism, raising doubts over its potential for effectiveness, even as it might take on the veneer of transformative success. I then examine the ways in which capitalist political economy (seen in such practices as lobbying and subsidisation) maintains the dominance of the animal-industrial complex, to question a naivety within plant-based capitalism and to extend the aims of the previous chapter in developing both practice theory and the CAS conceptualisation of the animal-industrial complex. After rejecting scenario 2, I turn to the third scenario,

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53 Twine 2017; 2018.

54 Twine 2012.

intersectional veganism, also advocated in CAS, as the most promising imaginary, because of its attention to the broader complex of crises that underpin the climate crisis, but also because it has clear affinities with the broader climate justice movement *if* that movement can be convinced to incorporate more clearly counter-politics to anthropocentrism and reflexivity toward the limits of justice frameworks, as noted earlier. It is this sense of veganism that can constitute the most effective opposition to anthropocentrism and that better embodies a transformative ethico-political philosophy.

I turn to the work of Fraser and Jaeggi to locate and develop the CAS opposition to capitalism on functional, moral and ethical grounds and to illustrate how the animal-industrial complex is paradigmatic of capitalism in its prioritisation of capital accumulation as its overriding purpose, irrespective of the commodification of humans and other animals.<sup>55</sup> The remainder of the chapter draws upon a cluster of ideas, including prefiguration, to outline already existing examples of intersectional vegan practice which stress the need to overlap the food and climate justice movements and to advocate for the de-commodification not only of nonhuman animals but of the food system itself. In the short conclusion I summarise the contributions of the book and assess the prospects for tackling the climate emergency.

Other books broadly from within CAS and animal studies are also concerned with nonhuman animals and the climate crisis, including *Animal Crisis: A New Critical Theory*, by Alice Crary and Lori Gruen; *Food, Animals, and the Environment: An Ethical Approach*, by Christopher Schlotmann and Jeff Sebo; and *Saving Animals, Saving Ourselves: Why Animals Matter for Pandemics, Climate Change, and Other Catastrophes*, by Jeff Sebo.<sup>56</sup> I recommend them. They are written by philosophers, following very different formats from this book. This book differs not only in my background in the social sciences but in my diverse and detailed approach to the topic. This translates into a critical attentiveness to dominant narratives which have held sway in climate debates, drawing upon a wide multi-disciplinary range of (social) science research, including my own, contesting many framings

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<sup>55</sup> Fraser and Jaeggi 2018.

<sup>56</sup> Crary and Gruen 2022; Schlotmann and Sebo 2019; Sebo 2022.

and opening up much-needed new ways of approaching the problem. While this book will be of interest to those across the environmental social sciences and humanities, it should also be read by climate scientists. Beyond this it is intended to be accessible to students and the general informed reader deeply concerned about the climate crisis. It is with a questioning of what sort of crisis the climate emergency is that Part I of the book begins.