

Animal geographies I

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Henry Buller

Exeter University, UK

Abstract

Animal geographies has emerged over the last 15 years as a lively and provocative area of current human/ non-human geographical research and scholarship. Yet, while the 'animal turn' has arguably impacted widely across a range of social sciences and the humanities, for 'human' geography it offers what is potentially a far more fundamental and profound reconfiguration of the discipline's traditional ontological and epistemological reach, not least given the challenge that the 'animal' brings to the exclusivity of geography's adjectival humanism. This article is the first of three reports on animal geographies. It sets out the development of the subdiscipline, from the mid-1990s onwards, and charts the emergence of what has become a distinctive and innovative field with increasing interdisciplinary connections.

Keywords

animal geographies, cosmopolitics, human geography, non-human, posthumanism, research

I Introduction

In this country the animals have the faces of animals.

Their eyes flash once in car headlights and are gone.

Their deaths are not elegant.

They have the faces of no-one. (Atwood, 1976: 48)

To the basic question 'What is animal' we cannot claim to be any closer to a final answer – but this is because the question is not one of the kind that admits such an answer. The purpose of asking it is that it forces us to be more explicit about the assumptions that we carry into the search for answers to other, more limited questions, of a kind more amenable to empirical investigation (Ingold, 1984: xviii).

A gathering swarm, a swelling herd, a flock or a vast shoal; animal geographies has, over the last

15 or so years, become an increasingly present, dynamic and potentially innovative subfield of geography (to the point at which some hesitate now to refer to a solely 'human geography'). In 1995, the resolutely human social science journal Environment and Planning D: Society and Space (Elden, 2011) published a theme issue entitled 'Bringing The Animals Back In'. Chastising human geography for its 'deafening silence about non-human animals', the guest Editors at the time (Wolch and Emel, 1995: 633) made a strong, if not universally accepted, case for a new animal geography to go beyond taking animals as merely 'signifiers' of human endeavour and meaning. One paper in that initial collection (Philo, 1995), followed later by the introductory essay to a second animal

Corresponding author:

Henry Buller, College of Life and Environmental Sciences, University of Exeter, Rennes Drive, Exeter EX4 4RJ, UK. Email: H.Buller@exeter.ac.uk

geography theme issue, this time in the journal *Society and Animals* (Philo and Wolch, 1998), sought to draw out the heritage of this emerging field from both early 20th-century biogeography (or 'zoogeography') and a more contemporary cultural geography tradition. A critical task of the new animal geography was therefore 'to explore the complex nexus of spatial relations between people and animals' (Philo and Wolch, 1998: 110), a task that required at least some acknowledgement not only of the agency of the animals themselves, but of the way that agency is differentially constructed or understood in time and place.

In 1998, Wolch and Emel (1998) published their stage-setting edited collection entitled Animal Geographies: Place, Politics and Identity in the Nature-Culture Borderlands, claiming that this was now the 'animal moment'. Two years later, Philo and Wilbert (2000a) published their ground-breaking volume Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations, arguing that any social science ignoring the importance of human-animal relations and the 'differential constitutions and implications' (Philo and Wilbert, (2000b: 4) of that relationship for both parties was, in some way, deficient. In 2004, the French geographer Xavier de Planhol published his magisterial Le paysage animal: une zoogéographie historique, in which he defended a geography that accounts more fully for the presence of animals both materially and immaterially in the life, memory and culture of humanity. Most recently, with a more deliberate focus on the physical and conceptual 'places' of human-animal interaction, we have Urbanik's (2012) Placing Animals: An Introduction to the Geography of Human-Animal Relations (see also Emel and Urbanik, 2010).

Between these publications, a rapidly growing number of animal-themed sessions have appeared at major academic Geography conferences, such as the annual meetings of the Royal Geographical Society (with the Institute of British Geographers) and the Association of

American Geographers, the latter now having its own Animal Study Group. Moreover, animal geographies has reached out to a range of other disciplines in which animals are beginning, at last, to make their presence (or absence) felt and matter. New journals have been established, old journals have had to rethink their uniquely human focus, and a vast number of 'animal studies' books, and even entire book series, have appeared on the shelves (from the wonderful Reaktion collection to the latest lists from Columbia University Press, Penn State and the University of Minnesota). Others are promised, including forthcoming 'Handbooks' from at least two major publishers. Literary studies (McHugh, 2011), cultural theory (Castricano, 2008), anthropology (Knight, 2000; Marvin, 2012), biopolitics (Shukin, 2009), politics (Cochrane, 2010), sociology (Peggs, 2012), history (Fudge, 2002; Landes et al., 2012) philosophy (Calarco, 2008; Wolfe, 2008), the arts (Aloi, 2011; Baker, 2000, 2013), the humanities (Armstrong, 2008; Fudge, 2006), studies (Burt, 2004) and others are also enjoying their own successive 'animal turns' (Wheeler and Williams, 2012); and, increasingly, geographers are both drawing upon their scholarship and writing and contributing to these turns.

If nothing else, this new cross-species regard has prompted a new and highly fertile crossdisciplinary engagement through such bodies as the British Animal Studies Network, the British Sociological Association/Royal Geographical Society Animal Human Studies Group, the Animal and Society Institute, the Australian Animal Studies Group or the Groupe de Travail 'Etudes Animales' of the Association Française des Sociologues de Langue Française. Every week brings a new animal 'call for papers' to nourish the growing multiplicity of events, meetings and conferences across the world. Even the New York Times, in a piece published in 2012, paid tribute to the energy of the emerging field of 'Animal Studies', arguing that animals were no longer the exclusive province of the sciences: 'Exit the Humanities, pursued by a bear' (Gorman, 2012: 1).

How might we account for this sudden visibility of the animal within our erstwhile anthropocentric geography, and likewise in the (human) social sciences and the human-ities? What has moved, what has migrated, what has crossed over? With what (scientific) legitimacy do we 'speak' for, to and with animals or demand a radically different biopolitical or cosmopolitical engagement with human and non-human experience alike? Have we, following Wolch and Emel's (1995) call, merely 'let the animals back in' to accounts of our own space-making, or is this something more profound, some broader acknowledgement of an altogether different, less one-sided ontology of both (human and non-human) knowing and being? This is the first of three progress reports on animal geography for Progress in Human Geography. Its broad objective is to trace the subfield not as an exercise in boundary-making, nor as the basis for a renewed taxonomy of multi-species relations and spatial reconfigurations. Rather, it is to position this subfield as a porous, shifting and eclectic heterogeneity of ideas, practices, methodologies and associations within a morethan-human life/world: an 'emergent scholarly community' (Desmond, 2012, in Gorman, 2012: 1), one in which animals matter individually and collectively, materially and semiotically, metaphorically and politically, rationally and affectively; one in which the 'social' of our social science is not a purely human domain nor a collection of disciplines, not an object nor a subject or a phenomenon, but rather, as Latour (2005: 5) would have it, a 'type of connection'; one in which both the conceptual and material spaces and places of those connectivities are not always pre-structured by normative human orderings/otherings (not the least being the most fundamental of all, that between human and non-human animal). Nevertheless, 'there is still a problem', maintains Serres (1995: 4), 'of finding out how relation is transformed into being and being into relation'. In this area, geographical inquiry, with its enduring concern for the 'vital connections between the *geo* (earth) and the *bio* (life)' (Whatmore, 2006: 601), or for the 'lively biogeographies' (J. Lorimer, 2010: 491) that take issue with an undifferentiated, singular or foundational 'Nature', has much to contribute.

II Troubling metaphors

John Berger (1980), in a seminal essay, argued that 'animals first entered the imagination as messengers and promises' (p. 2). 'If the first metaphor was animal', he stated (p. 5), 'it was because the essential relation between man and animal was metaphoric'. From the prehistoric animal paintings of Lascaux (Lewis-Williams, 2002) to the animal modelling simulacra of contemporary bioscience (Shanks et al., 2009), the multiple animals have been the enduring foil to the singular human and, as such, bear the dominant imprint of the human mind; surely the very essence of metaphor. As many have pointed out, the question of the 'The Animal' has first and foremost been an autobiographical question: it is to ask what it is to be human. Yet, while the 'natural' sciences have, through evolutionary biology, 20th-century ethology and, more recently, vitalism, increasingly come to terms with the material communality or continuism of human/animal experience and selforganization (Lash, 2006), thus partly defining themselves against humanism's imperialism, the social sciences have largely continued, in Noske's (1990: 66) words, 'to present themselves pre-eminently as the sciences of discontinuity between humans and animals'.

It certainly would not be fair to claim that animal geographies (and animal studies) has emerged from exclusively humanist concerns. However, we might argue that the initial emergence of the figure of the animal in these disciplines has been predominantly and conceptually metaphoric. Reviewing the

nascent animal geographies in 2002, Emel et al. (2002: 408) identify, in particular, the role of animals in the 'social construction of culture and individual human subjects' as well as 'the ways in which ideas and representations of animals shape personal and collective identity'. Anderson (1997: 467) equally seeks to investigate 'how notions of animality came to inform concepts of "human" identity': animals as, in Lippit's (2008: 182) phrase, 'fleshy photographs' who make the category of the human possible by defining its boundaries. It is arguably that capacity of animals to inspire totemic and metaphorical thought within humans, in other words to be, in Levi-Strauss' (1962) oft-quoted terms, 'bonnes à penser' ('good to think with'), that initially piqued our interest in them. Animals offer new ways of exploring, understanding and laying bare ourselves (Franklin, 1999): 'L'animal nous regarde, et nous sommes nus devant lui. Et penser commence peut-être là' ('The animal watches us and we are naked before it. And thinking perhaps begins here': Derrida, 1999: 279). Animals become, in Whatmore's (2006: 604) term, 'agents provocateurs' for thinking by, and about, ourselves.

In this way, some of the first manifestations of contemporary and critical animal geography drew principally upon cultural geography in offering an appreciation of the manner in which animals, as exemplars of 'Nature', have been variously incorporated, represented and defined as 'other' presences and bearers of meaning within our own cultural spacings and placings, and also in the discourses that create and enforce such spacings-placings, be they landscapes (Procter, 1988), cities (Jerolmack, 2008; Philo, 1995; Wolch, 2002), the wilderness (Whatmore and Thorne, 1998), spaces of conservation and biogeography (J. Lorimer, 2008a, 2010), taxonomies (J. Lorimer, 2007) or even the TV documentary (Davies, 2000). Hence, in an early example of the emergent 'new' animal geographies, Anderson (1995) writes:

the zoo is a cultural institution which reflects not nature itself – as if such an unmediated thing exists – but a human adaptation of the ensemble of life forms that bears the name 'nature'. In terms of its changing animal composition and visual technologies, its exhibition philosophy and social function, the zoo inscribes various human representational and material strategies for domesticating, mythologizing and aestheticizing the animal universe. (Anderson, 1995: 276)

The corollary to these deliberative strategies is the inherently geographical notion of the 'animal' as being somehow 'out-of-place' or 'improper', a transgressive being that, in its occupation of 'in-between' spaces (Philo and Wilbert, 2000b: 21), causes conflict with human users, human intentions and human categorizations. Many 'wild' animals live in cities leading us to argue – paraphrasing Richard Leakey's famous response to Jane Goodall's observations of chimpanzee tool use - that we must now redefine 'city', redefine 'wild' or accept such animals as citizens. Cities and the non-human world are, claim Lynn and Shepherd (2004: 54), 'inseparable in thought and in practice'. Such an acceptance underlies Wolch's notion of 'Zoopolis' (1998: 120), an 'urban theory that takes animals seriously' (see also Hovorka, 2008), allowing the animal residents of urban spaces to come out of the shadows (Braun, 2005). Alternatively, these 'beastly spaces' can become, in their turn, metaphors for human marginality (Brownlow, 2000) or more classic forms of urban sociospatial division (Feldman, 2009). Other more recent geographical examples of this approach to exploring the varying cultural and discursive constructions of animals within multiple 'human' spaces can be found in Yeo and Neo's (2010) paper on macaques in a Singapore Nature Reserve, in Franklin's (2006) book on the place of animals in the construction of modern Australia, in Lulka's (2008) paper on the US bison industry, in Srinivasan's (2013) paper on dog control in the UK and India, in Thomson's (2007) 'thinking with'

the bats of urban Melbourne, and in Urbanik and Morgan's (2013) dog park tales.

III Contested divides and contentious others

However, it has never been enough for animal geographers merely to accept, on the one hand, the unchallenged anthropocentric historical, cultural, taxonomic and moral placings of animals and, on the other hand, the accompanying biopolitics, which combine to locate them unequivocally on one side only of that 'hyper-separated dualism, or incommensurable, hierarchical and oppositional difference' (Bird Rose, 2012: 103) between nature and culture, animal and human, object and subject. Recognizing, like Castree (2003: 207), that 'in a cognitive and political sense, the "otherness" of the non-human has barely featured in the research of contemporary geographers', the radical problématique of animal studies has encompassed three needs: first, to recognize and demonstrate impacts of the purposefulness and agency of animals both on our co-habited worlds and in resistance to them; second, to thereby destabilize hitherto accepted dualistic approaches through a more fluid, turbulent and relational human/animal ontological reconfiguration of cultural practice, spatial formations and ultimately de-centred (and exclusively human) subjectivities; and, finally, to create a more radical politics that might accommodate all of this complexity and the inherent variations within it.

Of the first of these needs, Johnston (2008) writes:

taking the nonhuman seriously needs to be more than a matter of recognition of the ways in which animals affect the lives of human beings (Philo and Wilbert, 2000), it requires the very cry of the nonhuman to be heard. (Johnston, 2008: 636)

Hearing that 'cry' – and not merely its cultural representation and anthropomorphized

interpretation coming, as it were, from the 'other side' – has been a major challenge for new animal geographies, as Johnston (2008) points out. Can it indeed ever be done within the domain of the social sciences, asks Kohler (2012a)? The response has been both ontologically heterotopic and epistemologically experimental. From the outset, the key phrase in this emergent subfield has been 'human-animal relations', a common postcolon subtitle that stretches from Philo and Wilbert (2000a) to Urbanik (2012). In animal geographies, these 'relations' take on many meanings and operate at many scales. At one level, they are co-constitutive, the emphasis being on:

excavating the kinds of networks of human animal relations ... tracing their 'topologies' (Whatmore and Thorne, 1998) and showing how the spaces and places involved make a difference to the very constitution of the relations in play. (Philo and Wilbert, 2000b: 5)

At another, they resonate with a post-Darwinian acknowledgement of, if not cosanguinity, then at least a common sense of recognizable human/animal vitality, shared kinship and embodied finitude (Wolfe, 2008) from which, arguably, the possibilities of more-than-linguistic empathy and understanding are nurtured (de Waal, 2009). Yet, at the same time, this focus on relations very much rejects the natural sciences' extension of radically materialist accountings of animal behaviour into sociobiological explanations of human social and individual behaviour (including behaviour towards animals).

In this, the 'new' animal geographies draws heavily upon a series of topical literatures and schools of thought widely deployed within human geography today for their collective critique of modernist structures, divisions and orderings. These sources would include feminism (for example, Adams, 1994; Deckha, 2012; Donovan and Adams, 2007; Haraway,

1989), Marxist scholarship (Benton, 1993; Fitzsimmons, 1989) and what we might loosely group together as poststructuralism; the latter incorporating, as ubiquitously referenced starting points, Foucault's challenge to the idea of autonomous or individual human will, Derrida's interrogation of the shifting juxtaposition 'self and other', and Deleuze and Guatarri's (1993) complex notion of 'becoming animal' (see, for example, Calarco, 2008, or Atterton and Calarco, 2004, for useful summaries).

These key conceptual referentials have been extended to embrace the sociology of science (Despret, 2006; Law and Lien, 2012), postcolonialism (Armstrong, 2002; Dejohn Anderson, 2004; Nyman, 2003), 'dwelling' (Ingold, 1994; Johnston, 2008; H. Lorimer, 2006), affordances (Warkentin, 2009), ethics (Lynn, 1998), 'actor networks' (Jones, 2003; Thorne, 1998), hybridity (Lulka, 2009; Whatmore, 2002), non-representational theory (H. Lorimer, 2008; Roe, 2010), ethology (Despret, 2008; H. Lorimer, 2010) and posthumanism thought in general (Castricano, 2008; Wolfe, 2009). Thus:

Animal studies ... stretches to the limit questions of language, of epistemology, and of ethics that have been raised in various ways by women's studies or postcolonial studies: how to understand and give voice to others or to experiences that seem impervious to our means of understanding; how to attend to difference without appropriating or distorting it; how to hear and acknowledge what it may not be possible to say. (Weil, 2012: 4)

Animals thereby offer, through the diverse panoply of their multitudinous (and in many ways dissonant and paradoxical) relations with humans, a set of destabilizing tropes for both the conceptual, practised and ethical engagement with a more-than-human understanding of lives-in-the-making that are performed rather than dealt (Higgin and Buller, 2009). 'The concern here', writes Jamie Lorimer (2011: 200) 'is

less for what is said: more for what is done – attending to gesture, comportment, affect and behaviour – to witness multispecies becomings' (for example, Buller, 2012; Hinchliffe et al., 2005; J. Lorimer, 2010). This claim has certainly come at a good time both for animal studies and for (human) geography. Whether it has come at a good time for animals (and their relations with us) is a moot point that I shall come back to in a later paper. Nonetheless, by dint of these heritages, animal geographies has come to claim a central position within human geography's broader 'relational' (Jones, 2009) and 'materialist' turns (Whatmore, 2006).

Moving from 'the animal' as conceptual device from which to interrogate the human, through 'animals' as figures in our cultural spaces, we arrive at a more intimate and experienced set of lived and dwelt encounters with actual 'critters', be they dogs (Haraway, 2008), pigeons (Jerolmack, 2008), bison (Lulka, 2008), corncrakes (J. Lorimer, 2008b), seals (H. Lorimer, 2010), cows (Kohler, 2012b), pigs (Porcher and Tribondeau, 2008), alien big cats (Buller, 2004), whales (Cloke and Perkins, 2005), wolves (Brownlow, 2000; Buller, 2008; Lynn, 2010), birds (Hinchliffe and Lavau, 2013), rats (Davies, 2012) or salmon (Law and Lien, 2012). Describing her relationship when playing with her dog Cheyenne, Haraway (2008) – whose own work charts this progression from the scientific construction of primate otherness (Haraway, 1989) to lived accounts of embodied and trans-species biosociality (Haraway, 2003) – writes of their co-constitution of events, places and behaviours. Arguing that 'play can occur only among those willing to risk letting go of the literal', she talks of:

those wonderful, joy-enticing signals like play bows and feints [that] usher us over the threshold into the world of meanings that do not mean what they seem ... the world of meanings loosed from their functions is the game of co-presence in the contact zone. (Haraway, 2008: 240)

It is perhaps here, in the experimental movement towards genuine 'trans-species methodologies' willing to combine cognitive ethology, social anthropology and ethnomethodology (Franklin et al., 2007: 51), that ('posthuman') animal geographies (and animal studies in general) has recently been at its most innovative. Animal behaviour-and-'knowledge' human and behaviour-and-knowledge become relationally (and culturally) intertwined (H. Lorimer, 2010) in what Lestel et al. (2006) have called 'ethnoethology' - or, taking it one step further, a combination of ethology, ecology and ethnology (Lescureux, 2006). Here, accepting the relational status of multi-species encounters, we extend the phenomenon of 'culture' way beyond the purely human sense of that word (H. Lorimer, 2008; see also Wells, 2012). This extension, predicts Lestel (2006: 152), could be 'one of the most dynamic areas in the social sciences'. In a similar vein, and arguing that novel understandings of human/animal relations are revealed through 'ordinary circumstances', 'life outdoors' and the 'elemental phenomena of life', Hayden Lorimer (2010: 74) advocates a new 'calibration' of ethology and phenomenology to comprehend better 'life's on-going occurrence'. For Despret (2004), anthropomorphic and zoomorphic experience is best seen as a shared experience. Speaking of the ethologist Konrad Lorenz's work, she writes:

While asking what matters in a goose's or in a jackdaw's world, in making his own body articulate this question the way he does, Lorenz not only raises the question *from* the point of view of the one to whom the question is addressed. He does more than that: he activates this point of view, and therefore he activates his object as a subject, a subject of passion, a subject producing passions; a subject of questions, a subject producing questions. (Despret, 2004: 131)

I now come finally to the potential for a more radical politics that animal geographies might or can imply. Politics is rarely absent in our engagement with the non-human, even though, as Stengers (2010) points out, its very definition might ultimately doom political theory. However, while the ethical and political debate over animal rights – and notably the place and treatment of animals within the industrialized capitalism of the modern food industry (for example, Shukin, 2009) – has always been a key concern of the nascent animal geographies (Wolch and Emel, 1998), and certainly continues to be a vital driver within much current animal scholarship, it is the political expression and mobilization of this emergent relational ontology that has attracted a number of recent animal geography writings.

In their original paper, Philo and Wilbert (2000b: 25) set out a political agenda for animal geographies: to respect the inherent territoriality bound into animal lives as part of a new mode of human-animal geographical co-existence, and to refrain from binding animals rigidly to our own spatial orderings; in effect, to 'grant them more room'. Five years on and Hinchliffe et al. (2005) and others are questioning not only the very existence of such purified 'non-human spaces' (particularly within the context of urban Britain), but also the sort of 'representational politics' that might define and restrict such territorialities. This is not to say that 'giving them more room' is not still important (current policy debates over allometric bases for calculating farm animal densities in transport being one case in point: Petherick, 2009). Rather, what is being advocated, drawing heavily on Stengers' notion of 'cosmopolitics' (Stengers, 1997, 2010), is an interspecies contact or symbiogenesis based upon a more convivial, less fixedly human and more risky approach to boundaries, to political actors and to political outcomes that inherently challenges what it means to 'belong' or to 'pertain' (Latour, 2004; see also Haraway, 2008; Mendieta, 2012).

To end then, animal geographies is part of an important shift. The question of the animal has long been a central preoccupation within philosophy (De Fontenay, 1998). Yet, as Kohler (2012a) points out and Derrida (1999)

demonstrated, the very notion of the 'animal' as a philosophical concept is extraordinarily limited: a generic and undifferentiated foil, as suggested above, to the human. Metaphysical philosophy struggles in the absence of language (Lippit, 2008): we can never know what it is like to be a bat and can only imagine what a lion would say. Ethical philosophy too has its sentiers bâtis. Yet 'there is no rational or natural dividing line that will settle the life and death relations between human and non-human animals', argues Haraway (2008: 297). She goes on to maintain that response-able cosmopolitanism cannot arise from any 'final peace' of a uniform yet predetermined accord. It is to the social sciences, then, and – among them – to animal geographies and their multiple, troubling, conflicting and discordant human-animal relations, that we must increasingly turn in order to reveal the multispecies social practices that are generative of both ethical practices and response-able cosmopolitanism in-the-making: 'When we use humans as the reference point, we end up talking only about humans ... We curtail cosmopolitics before we even begin' (Bird Rose, 2012: 104).

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References

- Adams C (1994) Neither Man nor Beast: Feminism and the Defence of Beasts. New York: Continuum.
- Aloi G (2011) Art and Animals. London: I.B. Tauris.
- Anderson K (1995) Culture and nature at the Adelaide Zoo: At the frontiers of 'human' geography. *Transactions of the Institute of British Geographers* 20: 275–294.
- Anderson K (1997) A walk on the wild side: A critical geography of domestication. *Progress in Human Geography* 21(4): 463–485.
- Armstrong P (2002) The postcolonial animal. *Society and Animals* 10(4): 413–419.
- Armstrong P (2008) What Animals Mean in the Fiction of Modernity. Abingdon: Routledge.

- Atterton P and Calarco M (eds) (2004) *Animal Philosophy*. London: Continuum.
- Atwood M (1976) The animals in that country. In: Atwood M *Selected Poems 1965–1975*. New York: Houghton Mifflin, 48–49.
- Baker S (2000) The Postmodern Animal. London: Reaktion.Baker S (2013) Artist Animal. Minneapolis, MN: Minnesota University Press.
- Benton T (1993) Natural Relations: Ecology, Animal Rights and Social Justice. London: Verso.
- Berger J (1980) Why look at animals. In: Berger J *About Looking*. London: Pantheon Press, 1–26.
- Bird Rose D (2012) Cosmopolitics: The kiss of life. *New Formations* 76: 101–113.
- Braun B (2005) Environmental issues: Writing a more-than-human urban geography. *Progress in Human Geography* 29: 635–650.
- Brownlow A (2000) A wolf in the garden: Ideology and change in the Adirondack landscape. In: Philo C and Wilbert C (eds) *Animal Spaces, Beastly Places*. London: Routledge, 141–158.
- Buller H (2004) Where the wild things are: the shifting iconography of animals in rural space. *Journal of Rural Studies* 20: 131–141.
- Buller H (2008) Safe from the wolf: Biosecurity, biodiversity, and competing philosophies of nature. *Environment and Planning A* 40: 1583–1597.
- Buller H (2012) Animals as movement. *Etudes Rurales* 189: 139–154.
- Burt J (2004) Animals in Film. London: Reaktion.
- Calarco M (2008) Zoographies. New York: Columbia University Press.
- Castree N (2003) Environmental issues: Relational ontologies and hybrid politics. *Progress in Human Geography* 27: 203–211.
- Castricano J (ed.) (2008) *Animal Subjects*. Waterloo: Wilfred Laurier University Press.
- Cloke P and Perkins H (2005) Cetacean performance and tourism in Kaikoura, New Zealand. *Environment and Planning D: Society and Space* 23(6): 903–924.
- Cochrane A (2010) An Introduction to Animals and Political Theory. London: Palgrave.
- Davies G (2000) Virtual animals in electronic zoos: The changing geographies of animal capture and display. In: Philo C and Wilbert C (eds) *Animal Spaces, Beastly Places*. London: Routledge, 243–267.
- Davies G (2012) Caring for the multiple and the multitude: Assembling animal welfare and enabling ethical

- critique. Environment and Planning D: Society and Space 30(4): 623-638.
- Deckha M (2012) Toward a postcolonial, posthumanist feminist theory: Centralising race and culture in feminist work on nonhuman animals. Special Issue: Animal Others. *Hypatia* 27(3): 527–545.
- De Fontenay E (1998) *Le silence des bêtes, la philosophie à l'épreuve de l'animalité*. Paris: Fayard.
- Dejohn Anderson V (2004) Creatures of Empire: How Domestic Animals Transformed Early America.
 Oxford: Oxford University Press.
- Deleuze G and Guatarri F (1993) *A Thousand Plateaus*. Minneapolis, MN: University of Minnesota Press.
- de Planhol X (2004) Le paysage animal: une zoogéographie historique. Paris: Fayard.
- Derrida J (1999) L'animal que donc je suis (à suivre). In: Mallet M-L (ed.) *L'animal autobiographique*. Paris: Galilée, 251–302.
- Despret V (2004) This body we care for: Figures of anthropozoo-genesis. *Body and Society* 10(2/3): 111–134.
- Despret V (2006) Sheep do have opinions. In: Latour B and Weibel P (eds) *Making Things Public: Atmospheres of Democracy*. Cambridge, MA: The MIT Press, 360–368.
- Despret V (2008) The becoming of subjectivity in animal worlds. *Subjectivity* 23: 123–129.
- de Waal F (2009) *The Age of Empathy*. New York: Random House.
- Donovan J and Adams CJ (eds) (2007) *The Feminist Care Tradition in Animal Ethics: A Reader*. New York: Columbia University Press.
- Elden S (2011) Society and Space: Writing its history. Open access version of introduction to *Environment and Planning D: Society and Space*. Available at: http://societyandspace.files.wordpress.com/2011/09/society-and-space-writing-its-history.pdf.
- Emel J and Urbanik J (2010) Animal geographies: Exploring the spaces and places of human-animal encounters.
 In: DeMello M (ed.) *Teaching the Animal: Human Animal Studies Across Disciplines*. New York: Lantern Press, 202–217.
- Emel J, Wilbert C and Wolch J (2002) Animal geographies. *Society and Animals* 10(4): 406–412.
- Feldman M (2009) Where the wild things aren't: Animals in New York City. *The Minnesota Review* 73–74: 231–242.
- Fitzsimmons M (1989) The matter of nature. *Antipode* 21: 106–120.
- Franklin A (1999) *Animals in Modern Culture*. London: SAGE.

- Franklin A (2006) *Animal Nation*. Sydney: UNSW Press. Franklin A, Emmison M, Haraway D, et al. (2007) Investigating the theorem with harafty of community animals.
 - tigating the therapeutic benefits of companion animals: Problems and challenges. *Qualitative Sociology Review* 3(1): 42–58.
- Fudge E (2002) A left-handed blow: Writing the history of animals. In: Rothfels N (ed.) Representing Animals. Bloomington, IN: Indiana University Press, 3–18.
- Fudge E (2006) Brutal Reasoning: Animals, Rationality and Humanity in Early Modern England. Ithaca, NY: Cornell University Press.
- Gorman D (2012) Animal studies cross campus to lecture hall. *New York Times* 3 January, Section D: 1.
- Haraway D (1989) Primate Visions: Gender, Race, and Nature in the World of Modern Science. New York: Routledge.
- Haraway D (2003) The Companion Species Manifesto:Dogs, People, and Significant Otherness. Chicago,IL: Prickly Paradigm Press.
- Haraway D (2008) When Species Meet. Minneapolis, MN: University of Minnesota Press.
- Higgin M and Buller H (2009) What are animals? Exploring the taxonomies of the sciences. Workshop Paper 1.Human/Animal Interactions, University of Exeter.
- Hinchliffe SJ and Lavau S (2013) Differentiated circuits: The ecologies of knowing and securing life. *Environment and Planning D: Society and Space*, forthcoming.
- Hinchliffe S, Kearnes M, Degen M, et al. (2005) Urban wild things: A cosmopolitical experiment. Environment and Planning D: Society and Space 23: 643-658.
- Hovorka A (2008) Transspecies urban theory: Chickens in an African city. Cultural Geographies 15: 119–141.
- Ingold T (1984) Preface. In: Ingold T (ed.) What is an Animal? London: Routledge.
- Ingold T (1994) From trust to domination: An alternative history of human–animal relations. In: Manning A and Serpell J (eds) *Animals and Human Society, Changing Perspectives*. London: Routledge, 1–22.
- Jerolmack C (2008) How pigeons became rats: The cultural-spatial logic of problem animals. *Social Problems* 55(2): 72–94.
- Johnston C (2008) Beyond the clearing: Towards a dwelt animal geography. *Progress in Human Geography* 32(5): 633–649.
- Jones M (2009) Phase space: Geography, relational thinking, and beyond. *Progress in Human Geography* 33(4): 487–506.

- Jones O (2003) The restraint of beasts: Rurality, animality, actor network theory and dwelling. In: Cloke P (ed.) Country Visions. London: Pearson Education, 450–487.
- Knight J (ed.) (2000) Natural Enemies: People-Wildlife Conflicts in Anthropological Perspective. London: Routledge.
- Kohler F (2012a) L'animal qui n'en était pas un. Paris: Sang de la Terre.
- Kohler F (2012b) Blondes d'Aquitaine: Essai de zooanthropologie. *Etudes Rurales* 189: 155–176.
- Landes J, Lee PY and Youngquist P (2012) Gorgeous Beasts: Animal Bodies in Historical Perspective. Philadelphia, PA: Penn State University Press.
- Lash S (2006) Life (vitalism). *Theory, Culture and Society* 23: 323–329.
- Latour B (2004) Whose cosmos: Which cosmopolitics? *Common Knowledge* 10(3): 450–462.
- Latour B (2005) Reassembling the Social: An Introduction to Actor-Network-Theory. Oxford: Oxford University Press.
- Law J and Lien ME (2012) Slippery: Field notes on empirical ontology. *Social Studies of Science*. doi: 10.1177/0306312712456947.
- Lescureux N (2006) Towards the necessity of a new interactive approach integrating ethnology, ecology and ethology in the study of the relationship between Kyrgyz stockbreeders and wolves. *Social Science Information* 45(3): 463–478.
- Lestel D (2006) Ethology and ethnology: The coming synthesis. *Social Science Information* 45(2): 147–153.
- Lestel D, Brunois F and Gaunet F (2006) Etho-ethnology and ethno-ethology. *Social Science Information* 45(2): 155–176.
- Levi-Strauss C (1962) *La pensée sauvage*. Paris: Plon. Lewis-Williams D (2002) *The Mind in the Cave*. London: Thames and Hudson.
- Lippit A (2008) Electric Animal: Towards a Rhetoric of Wildlife. Minneapolis, MN: University of Minnesota Press.
- Lorimer H (2006) Herding memories of humans and animals. *Environment and Planning D: Society and Space* 24(4): 497–518.
- Lorimer H (2008) Cultural geography: Nonrepresentational conditions and concerns. *Progress in Human Geography* 32(4): 551–559.
- Lorimer H (2010) Forces of nature, forms of life: Calibrating ethology and phenomenology. In: Anderson B and

- Harrison P (eds) *Taking Place: Non-Representational Geographies*. London: Ashgate, 55–78.
- Lorimer J (2007) Nonhuman charisma. *Environment and Planning D: Society and Space* 25(5): 911–932.
- Lorimer J (2008a) Living roofs and brownfield wildlife: Towards a fluid biogeography of UK nature conservation. *Environment and Planning A* 40(9): 2042–2060.
- Lorimer J (2008b) Counting corncrakes: The affective science of the UK corncrake census. *Social Studies of Science* 38(3): 377–405.
- Lorimer J (2010) Elephants as companion species: The lively biogeographies of Asian elephant conservation in Sri Lanka. *Transactions of the Institute of British Geographers* 35(4): 491–506.
- Lorimer J (2011) Nature part II: The rise of multinaturalism. In: Agnew J and Duncan J (eds) *The Wiley-Blackwell Companion to Human Geography*. Oxford: Blackwell, 197–208.
- Lulka D (2008) The paradoxical nature of growth in the US bison industry. *Journal of Cultural Geography* 25: 31–56.
- Lulka D (2009) The residual humanism of hybridity: Retaining a sense of the earth. *Transactions of the Institute of British Geographers* 34(3): 378–393.
- Lynn WS (1998) Animals, ethics and geography. In: Wolch J and Emel J (eds) *Animal Geographies: Place, Politics and Identity in the Nature-Culture Borderlands*. London: Verso, 280–298.
- Lynn WS (2010) Discourse and wolves: Science, society and ethics. *Society and Animals* 18(1): 75–92.
- Lynn WS and Sheppard E (2004) Cities. In: Harrison S, Pile S and Thrift N (eds) Patterned Ground: Entanglements of Nature and Culture. London: Reaktion, 53–55.
- McHugh S (2011) *Animal Stories: Narrating Across Species Lines*. Minneapolis, MN: University of Minnesota Press. Marvin G (2012) *Wolf.* London: Reaktion.
- Mendieta E (2012) Interspecies cosmopolitanism. In: Delanty G (ed.) Routledge Handbook of Cosmopolitanism Studies. Abingdon: Routledge, 276–287.
- Noske B (1990) *Beyond Boundaries: Humans and Animals*. Montreal: Black Rose Books.
- Nyman Y (2003) *Postcolonial Animal Tale: From Kipling to Coetzee*. New Delhi: Atlantic Publishers.
- Peggs K (2012) Animals and Sociology. London: Palgrave.
 Petherick C (2009) Space allowances for confined livestock and their determination from allometric principles. Applied Animal Behaviour Science 117(1): 1–12.

- Philo C (1995) Animals, geography, and the city: Notes on inclusions and exclusions. *Environment and Planning D: Society and Space* 13(6): 655–681.
- Philo C and Wilbert C (2000a) *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations*. London: Routledge.
- Philo C and Wilbert C (2000b) Introduction. In: Philo C and Wilbert C (eds) *Animal Spaces, Beastly Places:*New Geographies of Human-Animal Relations.
 London: Routledge, 1–36.
- Philo C and Wolch J (1998) Through the geographical looking glass: Space, place and society-animal relations. *Society and Animals* 6(2): 103–118.
- Porcher J and Tribondeau C (2008) *La vie de cochon*. Paris: La Decouverte.
- Procter JD (1998) The spotted owl and the contested moral landscape of the Pacific Northwest. In: Wolch J and Emel J (eds) *Animal Geographies*. London: Verso, 218–240.
- Roe E (2010) Ethics and the non-human: The matterings of sentience in the meat industry. In: Anderson B and Harrison P (eds) *Taking-Place: Non-Representational Theories and Geographies*. Farnham: Ashgate, 261–280.
- Serres M (1995) *Genesis*. Ann Arbor, MI: University of Michigan Press.
- Shanks N, Greek R and Greek J (2009) Are animal models predictive for humans? *Philosophy, Ethics, and Humanities in Medicine* 4(2). Available at: http://www.peh-med.com/content/4/1/2.
- Shukin N (2009) Animal Capital: Rendering Life in Biopolitical Times. Minneapolis, MN: University of Minnesota Press.
- Srinivasan K (2013) The biopolitics of animal being and welfare: Dog control and care in the UK and India. *Transactions of the Institute of British Geographers* 38: 106–119.
- Stengers I (1997) *Power and Invention: Situating Science*. Minneapolis, MN: University of Minnesota Press.
- Stengers I (2010) Including nonhumans in political theory: Opening Pandora's box. In: Braun B and Whatmore S (eds) *Political Matter: Technoscience, Democracy And Public Life*. Minneapolis, MN: University of Minnesota Press, 3–34.
- Thomson M (2007) Placing the wild in the city: Thinking with Melbourne's bats. *Society and Animals* 15(1): 79–95.

- Thorne L (1998) Kangaroos: The non issue. *Society and Animals* 6(2): 167–182.
- Urbanik J (2012) *Placing Animals: An Introduction to the Geography of Human-Animal Relations*. Lanham, MD: Rowman and Littlefield.
- Urbanik J and Morgan M (2013) A tale of tails: The place of dog parks in the urban imaginary. *Geoforum* 44: 292–302.
- Warkentin T (2009) Whale agency: Affordances and acts of resistance in captive environ-ments. In: McFarland S and Hediger R (eds) Animals and Agency: An Interdisciplinary Exploration. Leiden: Brill, 23–44.
- Weil C (2012) *Thinking Animals: Why Animal Studies Now?* New York: Columbia University Press.
- Wells H (2012) The human-animal relationship: Research methodologies without words. Unpublished paper presented at the Minding Animals Conference, 3–6 July, Utrecht, The Netherlands.
- Whatmore S (2002) Hybrid Geographies. London: SAGE.
- Whatmore S (2006) Materialist returns: Practising cultural geographies in and for a more-than-human world. *Cultural Geographies* 13(4): 600–610.
- Whatmore S and Thorne L (1998) Wild(er)ness: Reconfiguring the geographies of wildlife. *Transactions of the Institute of British Geographers* 23(4): 435–454.
- Wheeler W and Williams L (2012) The animals turn. *New Frontiers* 76: 5–7.
- Wolch J (1998) Zoopolis. In: Wolch J and Emel J (eds)

 Animal Geographies: Place, Politics and Identity in
 the Nature-Culture Borderlands. London: Verso,
 119–138.
- Wolch J (2002) Anima urbis. *Progress in Human Geogra*phy 26(2): 721–742.
- Wolch J and Emel J (1995) Bringing the animals back in. Environment and Planning D: Society and Space 13: 632–636.
- Wolch J and Emel J (1998) Animal Geographies: Place, Politics and Identity in the Nature-Culture Borderlands. London: Verso.
- Wolfe C (2008) Flesh and finitude: Thinking animals in (post)humanist philosophy. *SubStance* 37(3): 8–36.
- Wolfe C (2009) *Posthumanism*. Minneapolis, MN: University of Minnesota Press.
- Yeo J-H and Neo H (2010) Monkey business: Humananimal conflicts in urban Singapore. *Social and Cultural Geography* 11(7): 681–699.