

## When Species Meet

A discussion of *When Species Meet* by D J Haraway; University of Minnesota Press, MN, 2008, 423 pages, US \$75.00 cloth, \$24.95 paper (£46.50, £15.50) ISBN 9780816650453, 978081665060

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### Interdisciplinary conversations on interspecies encounters

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To kick-start discussions in advance of the 2008 RGS - IBG conference we gathered a group of geographers to engage with Donna Haraway's latest book *When Species Meet* (WSM). The following contributions resulted from this gathering and the subsequent conversations and connections it generated at the conference, where we conjoined a multidisciplinary crowd<sup>1</sup>. These events were peopled by sympathetic audiences who warmed immediately to the text. We revelled in its creativity, sincerity, and curiosity, and our conversations fast drifted towards celebratory hagiography. Such an account would be much deserved, though not we felt greatly desired. Instead, in the pieces that follow, we have tried to get into character, emulating Haraway to riff on and off the book, running (away) with concepts, making connections, and offering provocations in a style that aimed for reciprocity. There is so much treasure in the book that we hoped to offer a little in return. Donna Haraway was kind enough to accept these offerings and to respond, further fleshing out her figure of the companion species.

The six riffs that follow are diverse but not atomistic; they are linked by shared themes and concerns - three of which are worth foregrounding here. The first is - perhaps inevitably - a concern for space, place, and the difference these make to inter-species inter-actions; where species meet matters as much as when. This is by no means an omission from the book, but contributors draw out the importance of attending to the complex space - times and nonproximal connections realised in Haraway's encounters. Second, there is a linked concern to take Haraway's lively and relational ontology along paths that lead away from intuitive and benign encounters between stable, coherent, and large mammals. Here we learn of microbial companions

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<sup>1</sup> Details of these conference sessions can be found at [http://www.ggy.bris.ac.uk/hpgrg/species\\_meet\\_mingle.pdf](http://www.ggy.bris.ac.uk/hpgrg/species_meet_mingle.pdf). Gail Davies would like to thank the ESRC, grant number RES-063-27-0093, for their support of the programme of work on 'Biogeography and Transgenic Life' which was a key context for the organisation of this conference session and reading group.

that are not species, parasites that are not companionable, and modes of becoming that unsettle the identity and practice of the breed.

Underpinning this challenge is a shared desire to critically engage with the normative emphasis Haraway places on response-ability as a curious mode of engaging with nonhumans. The third shared concern, then, is how should we encounter and live well with others who are not at all like us, and might actively dislike us? Here authors sympathise with her emphasis on shared suffering, in place of the arcane abstractions of bioethics, as a guide to responsible conduct, but wonder at how to stretch it to pesky, monstrous, or bacterial companions? Reflexively, what does Haraway's critical praxis imply for our own research methodologies and politics? Productively the book poses questions, even as it provides some timely answers.

The spirit of reciprocity that runs through the pieces is expressed in the links each author makes with ongoing work in and around the disciplines in which they are based. Perhaps, the strongest connections identified are with more-than-human and nonrepresentational geographies and philosophies, where a concern for the character and consequence of nonhuman difference has become central. These fields share thinkers, methodologies, and concepts with WSM and we anticipate that it will be enthusiastically consumed and digested, providing fuel for creative moulding and future application.

## **Where Species Meet**

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Following bird spotters around the centre of a large city, looking for some of Britain's rarest species (black redstarts), something struck me. Bird watching in a city is different. Compared to the mostly serene atmosphere of a hide, where 'twitchers' sit for hours on end, directing their expert vision through large lenses, hardly moving a muscle, urban birding is a much faster and looser game. While thankfully the habit of shooting any unknown bird in order to identify it is long gone, the rural birders still resemble snipers, patiently waiting for their targets to wander into their field of vision before being tracked with skill and precision by the hidden lens-eye-body. My urban bird ecologists were, to carry the warfare metaphor a little further, more like urban guerrillas. We clambered over walls, trespassed on railway lines, rushed across roads, carried kit that was altogether more mobile and more modest, and together with the birds, we competed with the sounds and movements of a city waking up for another day of rushing about. Once one of the important species that could affect a whole suite of urban development issues was glimpsed, we tried our best to follow our creature through derelict buildings, across car parks, and over roof tops. We hoped for characteristic flight shapes or for a movement through the long urban shadows and diffuse dawn light that would provide the flicker of colour which would add to the evidence used for an identification. The limited lines of sight in a city and the different spatial mappings that birds and people can perform made urban bird watching an exercise in learning to appreciate another's mapping of a city (Hinchliffe 2007). Yes, when I think about it, any form of bird watching is about more or less

subtle movements and making oneself available (Despret 2004) in order to find appropriate responses to the world of the bird, but urban bird watching taught me that the movements and responses necessary if species are to get to know one another take in more than the one-to-one relation. Each party is already enacted within and through many 'knots' of becoming, and place is enacted as part of this process.

The mundane point I want to make is that *where* species meet can matter, and, going further than this all too obvious point, there might be many wheres involved or folded into species meetings.

*When Species Meet* is a wonderful resource – it clears up so many problems I have had with thinking through individuals and swarms (and Deleuze and Guattari), through rights, sacrifices and sufferings, power and non-power (Derrida) and through phenomenology and being (Heidegger). Haraway's book is about *how* species meet, how to meet (and eat) well, who and *what* species can become (companion species range in the book from dogs to walking sticks, they can be computer mice as well as onco-mouse... it's the mode of address that matters, the relation rather than the relation *per se*...). But Haraway's book also makes me think about spatial matters - as mundane as *where* things happen and as complex as how spaces are made as species meet, and as tricky as trying to think about more than one meeting and more than one companion species.

Haraway has taught us to think, along with science studies colleagues, of the complex time-spaces which go to make species intra-actions<sup>2</sup> possible (Barad 2007). Her accounts of species histories - spanning continents and centuries, taking in wars, agricultural shifts, human and nonhuman migrations –are exemplars of a form of spatial imagination that has real effects and possibilities (don't expect a herding dog to be happy retrieving sticks, but don't underestimate what can be done once species learn to make themselves available to one another). Likewise distances and proximities are made through the virtual workings of e-fora as well as through the co-present dances of agility training. Indeed, what transpires from the pages of this book is that species meetings are more than face to face meetings, they take place in many locations, in parallel worlds with bifurcations which can prove eventful, and involve a wide range of texts, limbs, tissues, gestures, accounts and so on. To train, and train well, with a dog folds together daily exercises, internet discussions, magazines, competitions, dog breeding networks, negotiations of work and family and so on. This is a wonderful telling, and echoes so much of any field worker's experience in understanding achievements (be they a bird spotter who skilfully assembles field guides, lenses, on line chat and bodies to *make* an identification, a captive breeding programme for elephants (Whatmore and Thorne 1999) or a programme to combat avian influenza (Bingham and Hinchliffe 2008)). To do something is to assemble many wheres, and many practices, and to do it well is to respect the difference that others (including other species) and other places make. To be clear, assembling isn't easy – indeed, there's a politics here as trainers fret over issues of purity and breed, for example. But, and it's a but that relates to emphasis rather than an omission in *When Species Meet*, assembling and intra-action do not necessarily produce a coherent outcome and not all achievements are to be judged by their 'togetherness'. I am thinking here in particular of the work of those in science studies who have tried

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<sup>2</sup> The term is Barad's, and put to great use in the book.

to nudge us to consider not only the complex past or histories of objects, species and assemblages, but also to emphasise their complex presents. For example, Mol's *Body Multiple* helps us to understand the need for doctors to deal with more than one enactment of a patient's body if they and their patients are to achieve better care (Mol 2002). Learning to live with this non-coherence (Law 2004) is necessary for good care. Indeed, the realisation through Haraway's writing, that companion species are made in many places, practised in various ways and with many things results in companion species taking shapes rather than taking shape. And it is the handling of shapes, of a companion species multiple, that prompts us to consider not only the natural and social histories of species, but their sometimes fraught geographies. Donna Haraway's auto-ethnography helps us to realise that to articulate and articulate well involves a complex knot of wheres – a complex geography of intractions. And it should, I hope, prompt geographers and others interested in spatial multiplicity to explicitly interrogate the wheres of species meetings and the ways in which we can intervene at various locations to make for better meetings.

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## Meeting with the Microcosmos

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My current research attempts to build a microontology – engaging with sciences of the microcosmos – within bio-philosophy (Hird 2009). It is enlivened by Donna Haraway's contemplation about what can happen *When Species Meet* (2008). In this short review, I hope to build on Haraway's important insights to contemplate

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Bacteria sustain the chemical elements crucial to life on Earth – oxygen, nitrogen, phosphorous, sulfur and carbon and some twenty-five other gases – through ongoing (re)cycling processes that enable flora and fauna to thrive (Sagan and Margulis 1993). Bacteria not only evolved all life (reproduction, photosynthesis and movement) on Earth; they provided the environment in which different kinds of living organisms *can* exist (Smil 2002). Bacteria also invented symbiogenesis, the process through which the cells that make up our human bodies were formed (Margulis 1981). All eukaryotic cells are heterogenomic (their genomes have more than a single type of ancestor). Genetically and morphologically, eukaryotic cells are communities rather than individual entities.

Moreover, and as Haraway's earlier quote suggests, of all the cells in a human body, ten percent are eukaryotic (derived from bacteria) and ninety percent are bacteria (Sapp 2003, 235). So, turtling all the way down means that we are, ancestrally, made up of bacteria. It also means that any given human/animal body is a symbiont: 600 species of bacteria in our mouths and 400 species of bacteria in our guts, and the countless more bacteria that inhabit our orifices and skin (Lingis 2003). Indeed, the number of bacteria in our mouths is comparable to the total number of human beings that have ever lived on Earth (Margulis and Sagan 2007). The number of microbes in our bodies exceeds the number of cells in our bodies by 100 fold. The human distal gut contains more than 100 times as many genes as our human genome (which has 2.85 billion base pairs). Every living thing that exists now, or has ever lived, is a bacterium (Gould 1996; Sterelny 1999). Asking what bacteria have to do with humans is, in other words, asking the wrong question, or as Cary Wolfe puts it referring to humanism, 'the "human" that we know now, is not now, and never was, itself' (2003, xxiii).

This latter consideration means that meetings with the microcosmos must somehow recognize that these species-defying organisms do precede relating. These meetings must also somehow recognize that 'I' am bacteria and that our symbiotic and symbiogenic ancestry means that it is *symbionts all-the-way-down*. Microontologies further recognizes that the vast majority of microbial intra-actions have nothing to do with humans. Humans do not even know about the vast majority of intra-actions that take place on Earth. Moreover, symbioses are obligate for animals but not bacteria. Putting this in larger evolutionary perspective, 'if you wiped out all multicellur life forms off the face of the earth, microbial life might shift a tiny bit... If microbial life were to disappear, that would be it – instant death for the planet' (Woese in Blacklee 1996). Our all too human insistent focus on biota 'big like us' obscures the rich diversity of living structures and processes through which the biota, including animals like us, thrive.

I am curious about what this microontology might mean for Other encounters. Derrida theorizes Other-ethics in terms of how to 'eat well' (1991). Pollan identifies eating as a site par excellence which entangles human/animal, species, technologies, living and nonliving, naturecultures:

...the way we eat represents our most profound engagement with the natural world. Daily, our eating turns nature into culture, transforming the body of the world into our bodies and minds... Our eating also constitutes a relationship with dozens of other

species – plants, animals, and fungi – with which we have co-evolved to the point where our fates are deeply entwined... It defines us (2006, 10).

We may think of eating in a literal sense: how organisms ingest, use or otherwise transform living/nonliving matter. All animals are, by definition, consumers (heterotrophs must use ready-made organic compounds). Many bacteria, by contrast, do not ‘eat’ (they ‘fix’ or otherwise convert the elements on which all living organisms depend). As producers, these bacteria engage in a different economy of eating and relating with the world. This difference invokes a metaphoric sense of ‘eating well’ – an ethics through which ‘care, respect, and difference can flourish in the open’ (Haraway 2008, 287) at the same time that humans face the ‘omnivores’ dilemma’ (Pollan 2006). Human ‘eating well’ intimately depends upon bacterial encounters and entanglements: bacteria produce the food we eat; bacteria inhabit the food we eat; and if not for our bacterial gut companions, we could not digest what we eat. The beef empire would not exist without bacteria (Smil 2002). As Derrida observes:

One never eats entirely on one’s own: this constitutes the rule underlying the statement ‘one must eat well.’ It is a rule offering infinite hospitality. And in all differences, ruptures and wars (one might even say wars of religion), ‘eating well’ is at stake. Today more than ever. One must eat well – here is a maxim whose modalities and contents need only be varied, ad infinitum ... A discourse thus restructured can try to situate in another way the question of what a human subject, a morality, a politics, the rights of the human subject are, can be, and should be. Still to come, this task is indeed far ahead of us (1991, 109).

Reflecting upon what it means to ‘eat well’, the final chapter of *When Species Meet* is devoted to ‘parting bites that might nourish mortal companion species who cannot and must not assimilate one another but who must learn to eat well, or at least well enough that care, respect, and difference can flourish in the open’ (2008, 287). Haraway asks ‘What do they [species] contribute to the flourishing of the land and its critters (naturalcultural in that sense)? That question does not invite a disengaged “liberal” ethics or politics but requires examined lives that take risks to help the flourishing of some ways of getting on together and not others’ (288-289, original emphasis). Microontologies partakes of further parting bites: who do we invite and who do we overlook when we meet the other in ethical encounters? How might human/animal/bacteria meet-with in the context of the current environmental crisis affecting animals? How does our current concern with human-animal relations obscure bacterial intra-actions that have nothing to do with humans, and are beyond human recognition? Eating well with bacteria, for instance, complicates animal rights discourse, vegetarianism and veganism. This task is indeed far ahead of us: we must somehow survive humanism, if we are to survive at all.

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## **Ladies and Gentlemen, behold the enemy!**

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The biophilosophies of Deleuze (and Guattari) get a mixed review in *When Species Meet*. In the main they interweave and overlap with Haraway’s approach and she explicitly acknowledges her indebtedness to them (and others) for providing us with the radical conceptual resources for thinking in terms of assemblages (314). A great deal of the theoretical framework outlined in WSM chimes with their amodern, rhizomatic ontology and its disavowal of genes as codes, its emphasis on symbiogenetic involution, rather than linear models of evolution, and its appreciation of the uncertain, promiscuous and ‘rambunctious’ nature of human-nonhuman becomings.

Where she parts company is in her thinking on the place, role and status of individual organisms in evolution and ethics. This is expressed most clearly in her discussion of Deleuze and Guattari’s ‘becoming-animal’. She pillories this notorious intervention for its elevation of the sublime, its opposition to all things domestic and its (seemingly hypocritical) relegation of pet keeping to a ‘foolish’, sentimental and bourgeois habit:

Despite the keen competition, I am not sure I can find in philosophy a clearer display of misogyny, fear of aging, incuriosity about animals, and horror at the ordinariness of the flesh (30).

In beholding 'the enemy' thus Haraway retreads familiar ground (Baker 2000). However, she goes further by exploring the intersections between Deleuze's biophilosophy and Margulis and Sagan's theory of symbiogenesis. She identifies their shared disavowal of the ontological priority of the individual organism. She explores the emphasis they place on the inventive and promiscuous processes of becoming, differentiation and flourishing, while at the same time attending carefully to the tensions these vitalist tendencies create with orthodox (humanist) approaches to animal studies, bioethics and environmental politics.

She does so most convincingly through her figure of the companion species, crafted to avoid the romantic excesses of Deleuze to forge a mundane more-than-humanism that recognises both the relational, material duration and trajectory of any individual being and its lived experience – companion species are here understood as the feeling realisations of material 'past-presents' (the links with Bergson are not made explicit here). This is a courageous endeavour that propels thinking in this field forward by a significant leap. The book is joyfully inventive, personal and a pleasure to read. However, Haraway's innovations raise as many questions and provocations as they answer; no bad thing. In this short piece I want to outline just a few that emerge if we attempt a Deleuzian rejoinder, exploring what happens when we push at the boundaries of her figure of the organism and the implications of this manoeuvre for critical praxis – especially in relation to recent trends in wildlife conservation.

As Ansell-Pearson argues, Deleuze's Bergsonian biophilosophy gives primacy 'not to the organism or the species but to the flows of vital intensities and the becoming of durational forces' (1999, 145). Deleuze is at best ambivalent about affording the organism any ontological priority and instead prefers to emphasise processes or vital tendencies operating on a 'plane of immanence'. For him the organism is a necessary actualisation of the inventive force of life; a vehicle for the expression and duration of difference but also one that can exert a conservative force on differentiation by 'organising' or 'territorialising' the immanent tendencies through which life proceeds. Deleuze (and Guattari's) ideal model of 'the body without organs' could really be understood as a model for organs or vital tendencies without an organism. They argue that approaches to evolution that focus on species serve to essentialise and spatialise the real and thus efface the dynamic power of the virtual. A great deal of *A Thousand Plateaus* (1988) is given over to attacking such models of the organism. Accordingly, Deleuze has very little to say about individual animal welfare.

In contrast WSM is all about the welfare of species, breeds and individual animals. We learn a great deal about companion species in the round and in particular one subset – dogs – incarnated in Cayenne, Haraway's pure-bred Aussie with whom she lives and races. Through rich and compelling autobiography she traces how 'every species is a multi-species crowd' (165) and that 'species is about the dance linking kin and kind' (17). She expresses a strong political commitment to unravelling the fraught histories of her canine companions and articulates an ethics grounded in the notion of difference as future potential. The organisms we encounter here are undoubtedly

relational and dynamic and the emphasis throughout the text is on an ethics of flourishing; the connections with Deleuze are clear.

Haraway asks 'if saving the endangered [fill in the blank] means personally and collectively cleaning the rivers so that earth's always emergent kin can drink without harm or shame, who could ask for anything more?' (157). This is an attractive appeal. However in much of WSM the dynamism this flourishing suggests is framed within the biopolitical regime of the 'breed' and breeding. This troublesome category establishes the kinds her companion kin may become. Haraway defends the idea of breeds in the face of both the perils and pains of inbreeding and the threat posed by future political-ecological change and at one point goes so far as to equate the disappearance of domestic animal animals and their way of living and dying with people with 'human murder, genocide, racism and war' (106).

When it comes to preserving her pure breed, the hygienic practices she employs are strict. This is exemplified by her passionate protection of Cayenne. No monstrous sexual couplings are allowed, only a bit of heavy inter-species petting and asexual intermingling. There is little risk here of Aussie degeneration for her well-trained and neutered animal. The personal and collective cleaning she advocates for Cayenne and dog breeds more generally is clearly orientated towards future, pain-free flourishings, but these are confined within and orientated by a trajectory of inherited identity – the elusive character of the breed. The echoes of eugenics are both interesting and alarming and might lead us to caution against the generalisation of this figure for the formation of *autre-mondialisations*? Whither the promise of monsters?

In contrast, I imagine that Deleuze would have found the idea of a 'breed' and the regime of breeding problematic, preferring instead nomadic, feral and mongrel packs of animals breeding promiscuously across breeds as far as and even beyond the limits of species barriers – creating monsters. Shedding Deleuze's romantic preoccupation with wild wolves might we find more fluid companion species in urban seagulls, razorback pigs or even certain invasive species combinations – like the inventive ruddy/white-tailed duck hybrids, while disagreeing with the fascist, homogenising influences of mink or knotweed?

As Haraway makes consistently clear throughout WSM, these tensions have important political ramifications. I read this book partly with a view to what advice it might offer theorists and practitioners of wildlife conservation; a field in which the role and status of the organism is continually under consideration and (often heated) deliberation. Post-war nature conservation has been obsessed with managing extinction; with preserving the existing collection of documented species and habitats against the ravages of modernisation – here form and identity have been primary. However, in recent years a shift appears to be underway in conservation prioritisation and practice towards processes. This is being driven by new thinking around towards biodiversity, nonequilibrium ecology and rewilding and in reaction to broader trends within global political ecology, such as dealing with 'invasive' species, adapting to climate change and the threat and promise of biotechnology (Taylor 2005). Many of these shifts chime with the biophilosophical orientation of WSM.

The figure of the companion species provides us with a powerful figure for thinking about and engaging with this new mode of conservation, flagging up the always

awkward ontological politics of cutting up the world into practical units for auditable policy. First, as the concluding chapter to WSM suggests, companion species help trace the ‘past-presents’ of species and the ecological assemblages they constitute. It foregrounds the material political ecologies of their organisation and sensitises us to other possible actualisations within and beyond the confines of inherited identities. Second, this figure chimes with ongoing work developing ‘more-than-human geographies’ of conservation that draws similarly on Stengers, Latour and contemporary ethologists to develop cosmopolitical forms of environmental governance that take seriously the claims and expertise of diverse actors – both human and nonhuman – in modalities that are open to their future becomings (Hinchliffe et al, 2005; Lorimer, 2008).

Third, the model of flourishing – extended beyond the confines of the breed – opens up the temporalities of conservation governance cast off from the modern certainties of a singular static Nature. Haraway’s model is explicitly not a laissez-faire regime, built around a hands-off anarchic biogeography that gives all to the flux of (neoliberal) processes and rapacious global swarms. Instead it provides some foundation for an assertive and future orientated biogeography which polices the enemies of differentiation while preserving the potential for nonhuman difference in a changing world. The status of the organism and the organisational work it does remains always open to experimentation. The challenge is to recognise the responsibilities inherent to an anthropocene in which privileged humans increasing condition the basic biopolitics of nonhuman breedings, right across the wild-domestic continuum.

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## From ethical principles to response-able practice

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Chapter three of *When Species Meet* opens with a fictional encounter between a laboratory animal caretaker and the guinea pigs he works with. The laboratory is used

to research sleeping sickness in cattle. As part of the experimental process, guinea pigs are shaved and placed in tight little baskets, wire cages filled with biting flies are placed over them, and their skins are painted with poisons to see if these sicken the flies. During a discussion with an observer (a young girl), the animal caretaker puts his arm into the cage. His arm is immediately covered by flies and starts to swell up. The man explains he does this to learn what the guinea pigs are suffering (69). For Haraway, this moment captures a very different sense of what is meant by ethical practice, what she terms *sharing suffering*. Rather than looking towards higher guiding principles and rights to justify the pain and suffering felt by animal subjects during the experimental process, the ethical response she urges is about entangled subjectivities ‘opening to shared pain and mortality and learning what that living and thinking teaches’ (83).

Haraway’s move here resonates with other moments where geographers, among others, have produced cartographies for a relational ethics. Firstly, because it shifts the focus of ethics away from a singular Cartesian ethical subject, an autonomous individual capable of making rational ethical choices. For Haraway, abstract discussions of ethical principles are limited by working with human or animal individuals, ‘the wrong units’ (70). In contrast Haraway’s concept of sharing suffering begins not with the expressed wishes of an individual, but with a relationship between the animal caretaker and his guinea pigs which seeks to share suffering. Sharing suffering is a collective, not an individual achievement. As Jane Bennett might put it, this is a kind of agency which is ‘distributed across multiple, overlapping bodies, disseminated in degrees – rather than the capacity of a unitary subject of consciousness’ (Bennett 2007, 134). Similarly, the geographer Whatmore (1997) suggests that any ethical issue cannot be confined to one person, place or procedure (like an informed consent), but needs to be ‘situated’ in relation to a whole series of locations and agents.

But in WSM Haraway also moves beyond a call for a more situated appreciation of ethical decision-making. In her chapter on *sharing suffering* ethics seems to take on more *performative* dimensions. The scientist in her opening vignette does not just think about the practices entangling his subjectivity with others, he performs them through sticking his hand in the cage and through the everyday practices of caring for and working with the guinea pigs. Here WSM is perhaps closer to some of the arguments made by non-representational theory and its imperative to be attentive to processes exceeding the moment of (ethical) representation. Within geography, Derek McCormack’s (2003) empirical account of a Dance Movement Therapy class – a therapy principled on a relationship between emotion and motion – also describes a performative ethics. Here, rather than focusing on representing different ethical interests through a procedure (such as the signing of a consent form) ethics is articulated through touch, gesturing hands and bodily movement. McCormack’s account fleshes out what Haraway’s ethic of *sharing suffering* might entail as an empirical practice, as felt and exchanged through the bodies of significant others (of all kinds).

This attention to the performance when bodies meet marks a sharp separation between Haraway’s approach and more conventional bioethics discourses and practices. For example, the abstract and expert forum of the conventional research ethics committee, because of its focus on ethical principles, effectively excludes all those who are

unable to articulate their views in a rational, human voice (including animals, babies and children, and some of those with psychological or physical disorders) and represents them by proxy. The pain and suffering of these non-Cartesian, individual subjects might be acknowledged, but is not felt or shared. Sharing suffering demands more than representation, it demands active co-presencing. It demands not closing ourselves off (often a coping strategy for the distasteful) from research subjects. Instead we must cultivate sensitivity towards the other (through our bodies and the somatic expertise of others). Haraway terms this kind of ethical comportment 'response-ability' (71). Thus, rather than establishing the ethical rights and wrongs of an experiment *a priori* members of ethical committees, who do 'caring at a distance', perhaps should be tasked with letting their imagination be forced to articulate, feel, be open and receptive to the suffering which emerge as a result of the experimental process. This is a challenge of working with Haraway's alternative ethical paradigm. Haraway's emphasis on co-presence for ethical relating creates a tension between the proximity and practical experiences often necessary to allow us to 'share suffering', and the way in which ethics in large institutions, such as universities, is all too often practiced by ethics committees and procedures 'caring at a distance'. This is a dilemma elsewhere looked at in geographies of ethical consumption (see Barnett *et al.* 2005).

Sharing suffering also demands particular kinds of skills and competencies. Unlike bioethics, such skills as an ability to sense, 'share' and respond to suffering are learnt through embodied practice. Here again we find echoes of other calls for researchers to be more attentive to bodily comportment, to the physical as well as intellectual dimensions of our encounters with research subjects (see Bennett 2001; Thrift 2008). For us, the most compelling example of what this might mean in practice can be seen in the highly acclaimed work of Temple Grandin (2006) in the global meat industry. Faced with the horrific environment of many slaughterhouses, Grandin's response was not to engage in ethical debates about the right and wrongs of killing animals for human consumption. Instead she employed her somatic sensibility to design slaughterhouses that would reduce the stress, anxiety and suffering of the animals passing through them. Here the emphasis is not on establishing ethical principles, but on a responsibility to remain sensitive to intra-actions with (animal) bodies in terms that work with sentient affectivities and energies. Grandin's slaughterhouse designs, among other examples, we believe illustrate human capacities to actively learn from animals by drawing upon shared somatic sensibilities between sentient, suffer-able beings. Grandin began to learn her shared somatic sensibilities from realising she, like cattle, found relaxation from being held in a cattle-holding chute. She found the particular intensities of her autism enable her to readily share suffering with animals. This sensibility may be less ready for non-autistic people but it is within our sentient somatic capacities and is, we believe, what Haraway wants us to turn towards.

But perhaps the most challenging stage in Haraway's implicit argument is that rather than reject practices productive of human and animal suffering, we should undertake them knowing suffering will result. Haraway rejects Derrida's conviction that we should not make animals killable (2002) with a recognition that 'there is no way of living that is not also a way of someone, not just something, else dying differentially' (80). This echoes her earlier conceptualisation of extended ethnography through which the researcher is placed 'at risk'. Like sharing suffering, 'to be at risk is not the same thing as identifying with the subjects of study' (Haraway 1997, 190-191), it is

not about empathy, or even compassion. Or to put it another way it's not about trying to put yourself in your research subject's shoes – or to transplant your research subject into yours (as an animal rights activist might seek to do). Instead it is about facing-up to the challenge that your way of being is dependent on the suffering of others (and yourself), and live with that by seeking less painful practices and ways of being. In this sense we might suggest that sharing suffering has more in common with the approaches of animal welfare – and its drive to reduce, refine and replace animal subjects in experiments (Russell and Birch 1959) – than with bioethics. Sharing suffering is a practice of somatic responsibility, a responsibility to constantly tinker (Mol 2008), to find better, more careful ways of undertaking research in the face of a situation where there are no easy, fair or right solutions.

What might it mean for geographers to become more response-able to our research subjects? Presently, the social sciences seem set to follow the medical traditions, in seeking ever more elaborate and codified ethical review committees that lack specific and relevant expertise to both define and regulate research practice. Yet there is a sense in which the tools for such practices, like the informed consent form, serve to displace response-ability onto a piece of paper or committee meeting. Haraway's notion of *sharing suffering* is more demanding for it makes the welfare, rather than the rights, of our research subjects our whole concern. It is an ethical response that acknowledges that research can and will cause harm. But, rather than seeking to displace responsibility for this procedurally, we should be prepared to share in that suffering, take responsibility for the harms as well as the benefits inflicted by our research and remain open and responsive to the needs of our subjects – or rather co-workers – in research.

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## Jumping hurdles with mosquitoes?

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The encounters with her fiery dog Cayenne take centre stage in Donna Haraway's most recent worldly intervention. Beautifully the two show us how dog-human relations can be practised, thought of and written about. But how to engage with less cosy species – such as mosquitoes, bugs, viruses or parasites? In the face of (deadly) diseases transmitted by such species we tend to be less curious about whom and what we touch (3) or 'sharing suffering' (chapter 3), we might instead be more inclined to ask: How to survive?

Rather than wanting to seduce mosquitoes into jumping hurdles with us, those pesky creatures tend to enrol humans in unwanted night time activities: zzzz – swat – zzzz – swat – zzzz. Instead of co-learning with such species, much thinking is invested in avoiding intimate encounters with mosquitoes. Hence, at first sight the academic endeavours of dog and mosquito people seem far apart. However, if one looks closer mosquito and bug people might well have more in common with Haraway's concerns than one would expect – her take on the capacity to respond and the question of killing responsibly are suggestive.

In the development of her concept of *response-ability* and the connected obligation to learn to *kill responsibly* Haraway engages with Derrida's contribution to the question of differences and boundaries between humans and other-than-humans.<sup>4</sup> Crucial to the argument in Derrida (2002) is his neologism 'animot', which consists of the French 'animal' and 'mot' (word). Further, if one pronounces 'animot' in French it sounds exactly like 'animaux', which is the plural of animal. Thus, 'animot' plays with two meanings; it rejects a depiction of animals in the singular authoritative form of 'the Animal' and it brings the worlds of animals and language in contact. It is important, however, that this move is not about giving animals a (human-like) voice, but recognizing them as from 'wholly other origin' (ibid, 382).

To Derrida, it is the binary established through the Animal that renders animals killable, transforms them into an object in the logic of sacrifice, where only humans can be murdered; the Animal, however, never able to respond only to react, can be killed (or in contemporary policy language: culled).

Haraway's book argues for and beautifully shows the complications of response – both of humans and – in Haraway speak – critters. Following Derrida, Haraway argues that taking response seriously means to not render animals killable; she refigures 'thou shall not kill' in 'thou shall not make killable'. With this move Haraway emphasises the process of relating and asks us to pay attention to *how* we kill. She wants us to learn to *kill responsibly*, because:

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<sup>4</sup> Haraway disagrees with Derrida's engagement with his cat, she claims he 'failed a simple obligation of companion species; he did not become curious' (20), but she still finds his philosophical elaborations useful and re-works them for her intervention.

The problem is actually to understand that human beings do not get a pass on the necessity of killing significant others, who are themselves responding, not just reacting. (...) Try as we might to distance ourselves, there is no way of living that is not also a way of someone, not just something, else dying differentially. (...) It is not killing that gets us into exterminism, but making things killable (80).

If one understands that animals are not killable, there is an obligation to respond; to realise that there might be a necessity, but that there is never sufficient reason to kill (81). For Haraway – philosophically and practically, it is hence all about the ability to respond, about *response-ability*. This response, however, is not to be taken as symmetrical, ‘response cannot emerge within relationships of self-similarity’ (71). It is to allow for and acknowledge response and to find ways of ‘sharing suffering’.

As already hinted at in the first paragraph ‘sharing suffering’ might be of less concern when we think about mosquitoes than ‘ending suffering’.<sup>5</sup> With an estimated 250 million cases and nearly one million deaths per year worldwide malaria is the most important mosquito-transmitted disease.<sup>6</sup> Clearly (and in Haraway’s own spirit), responsible engagements with more unpleasant species, such as mosquitoes, look very different in practice than meetings with pets. For instance, mosquito bites as such are simply unpleasant; in the case of malaria it is the plasmodium parasite travelling with the anopheles mosquito that poses a threat to human health. Hence, meeting a mosquito is often not a one-to-one but a one-to-many encounter requiring different thinking as well as engagements.

Regarding malaria control the interesting question is not so much if we should or should not kill. The more relevant questions are rather concerned with *how* do we kill, *who* is the we and how do we react to the *mosquito’s response*? In the following I attend to Haraway’s proposition by briefly discussing mosquito-human encounters in malaria control and hereby exemplify some differences and similarities in the meetings of species.

One malaria control intervention aimed at mosquitoes that has regained prominence over the last years is ‘indoor residual spraying’ – the spraying of indoor walls with insecticides. The target is mosquitoes resting on the wall after their blood meal, and the aim is to reduce the mosquito population significantly in order to stop malaria transmission. Spraying initiatives show impressive and fast (but often short-lived) success and were influential in malaria control in the 1940s-60s, then lost popularity for some decades but made their (WHO facilitated) comeback in 2006. Since then indoor residual spraying against mosquitoes has spread more and more widely in malarial areas.

However, killing mosquitoes is not easy. Well actually, killing one mosquito is easy – *swat* – the challenge comes in if you want to diminish a mosquito population. One anopheles mosquito on average lives 10-14 days and lays between 50- 200 eggs per

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5 This is not to argue that an impetus of ‘sharing suffering’ is to be rejected when it comes to mosquitoes, but rather that it might not be a good starting point for responsible engagement in this case. The importance of ‘sharing suffering’ for geographical thought is nicely elaborated by Greenhough & Roe (this issue).

6 The figures are taken from the recent WHO World Malaria Report 2008 and have to be read as rough estimates.

oviposition (Service & Townson 2002, 68) which enables a population to both evolve and reproduce quickly. Mosquitoes are thus biologically very dynamic and adaptive, and today insecticide resistance in anopheles mosquitoes poses a constant challenge to spraying initiatives.<sup>7</sup> Ongoing monitoring, surveillance and adaptation of intervention strategies to changes in the mosquito population are required and the most stable characteristic of mosquito control might well be its changeability. Mosquito control is a game of intervention and response – under the motto of 'who can bite back faster?' However, what is less clear in this game is who plays with whom and if rendering mosquitoes killable is a fruitful strategy in the long run.

But not only inconvenient and sometimes unexpected responses from mosquitoes complicate malaria control. The question *who* kills mosquitoes is also less straight forward than one might expect. Insecticide spraying especially in African countries is often (at least partly) conducted by international malaria control organisations. One prominent actor here is the US President's Malaria Initiative (PMI) currently conducting malaria control activities in 15 African countries. Ghana is one of them;<sup>8</sup> spraying started in 2008 and the project implementation is headed by a US American organisation contracted for all spraying related activities in the 15 project countries.<sup>9</sup> While some countries in which PMI is working might not have the local (scientific) capacity to head the operational part, this is surely not true for Ghana. But still, international comparability gets prioritised over local project partners, who no doubt have more knowledge about local mosquito-human dynamics.

Hence, malaria is not only a multi-species but also a complex intra-human encounter, in which white men in Washington often have more influence over how and where mosquitoes get killed than the people encountering the mosquitoes.

The relations between dogs and people hence have different textures than meetings between humans and less cosy species. Meetings that result in malaria are in various ways a game of many rather than a process of co-learning between two creatures. Untying the knots of multi-species encounters thus requires careful attention to the specifics of the meeting, and not every species might qualify easily as companion species.

But the obligation remains: in order to be response-able, we have to expose ourselves to learn, un-learn and re-learn our relationships with the world, rather than getting lost in hasty engagements. Haraway's book goes beyond conceptualising a relationship between herself and relatively cosy dogs. Her meditation enriches thinking about 'pesky nonhumans' too. It is not restricted to positive encounters of humans with

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7 There are of course many more aspects of insecticide spraying that would deserve analytic attention such as the unintended killing of other insects and bugs, its effects on ecological balance as well as the contested health impacts for humans and other bigger mammals (see e.g. the famous debate on the insecticide DDT following Rachael Carson's book 'Silent Spring' published in 1962).

8 I take Ghana as an example here, because this is where I have conducted research on malaria control interventions in 2007/2008. In this context one also has to say that insecticide spraying is one of many activities of PMI in Ghana. The initiative also supports the National Malaria Control Programmes' efforts in various other, important ways.

9 PMI collaborates with local partners and also subcontracts them. However, the final decisions over project design etc are with the US contractor as I learnt from several of my interview partners. See also: PMI Malaria Operational Plan Ghana, 2007.

other-than-humans, but teaches us a more basic lesson about the 'politics of conviviality' (Hinchliffe & Whatmore, 2006).

For Haraway response-ability is being curious, is engaging. It is learning and un-learning, exposing oneself and admitting failure. And this she enacts through letting us take part in her very own practice with dogs, in making us familiar with the itches and twists of agility training. She takes the risk to not just *write about*, but to *show* us one way of practising responsibility in a more-than-human world. To creatively rework her proposition for other encounters will be the task of mosquito and bug people for the years to come.

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## On the politics of lapdogs, Jim's dog, and crittercams

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*When Species Meet* is a deeply political book. It is also a book consisting of lengthy discussions about dog-agility training. These two claims will not sit comfortably with some. So, in this review, we reflect explicitly on the demonstration of politics emerging through the book, above all in Donna Haraway's approach to researching, writing and engaging with the world. From the first page, Haraway makes the scope and location of her political project clear. She is concerned with "nurturing a more just and peaceful other-globalization" that begins from "grappling with, rather than generalizing from, the ordinary" (p.3). Both a critique of the existing world and a sense of the political possibilities emerging from "becoming with as a process of becoming worldly" are implied in her approach. In subsequent experiments with ways of connecting the two, the book both illustrates a situated, feminist form of inquiry and is a radical transformation of a philosophy of praxis. We suggest the book can productively be understood as a methodological demonstration, addressing questions of where we look, what we look at and the kinds of perspectives we adopt in both our research and our hopes for a better world. Throughout, Haraway's responses to these questions are lively and evocative. We also acknowledge they are,

at times, frustrating. What, for example, are we meant to do with a 20-page collage of e-mails in Chapter 7? Quite how do these intimate encounters between dogs relate to the practices of doing politics? But, perhaps this is Haraway's point: these serve as invitations to think about why we engage in this way. As we conclude, wondering why one would dismiss these forms of relating can be a political provocation in itself.

In moving towards this point, we borrow a trope from Haraway herself: the potential of thinking with narrative figures. The central figure in this book is the dog as companion species. Yet it appears here in forms more varied than in the *Companion Species Manifesto*. We pick up encounters with lap dogs, Jim's dog and crittercams before returning to review the political task Haraway seeks alongside her more familiar companions. We suggest these figures illustrate how to move arguments about dogs into other forms of relating. This was a central challenge in the *Companion Species Manifesto*. Heidi Nast, in her review, both quotes and questions Haraway on the wider implications of remaking subjectivities through dog agility training: "both dog and handler have to be able to take the initiative and to respond obediently to the other. The task, is to become coherent enough in an incoherent world to engage in a joint dance of being that breeds respect and response in the flesh, in the run, on the course. *And then to remember how to live like that at every scale, with all the partners*" (in Nast, 2005, p. 120, original emphasis). While appreciating the encounter, Nast holds back on the recuperative politics of companion species, especially given the way pets are enmeshed in post-industrial commodity circuits. The range of figures animating *When Species Meet* offers some response to Nast's questioning, through their multiplicity, mobility and sometimes their indeterminacy. These less literally doggy figures provide more diverse ways of tracing how other-globalisations might be possible through this joint dance of being.

First, we consider Haraway's lapdog/laptop analogy. It is a simple point, and like many of her analogies it is deliberately folksy, but it also marks the beginnings of a conversation between the fleshy being of dogs and the cyborg potential of the laptop, between nature and technology. As Haraway suggests, the pun "opens a world of enquiry" (p.9), embodied in the interactive and networked qualities of the book. There are opportunities to drill down through the narratives of becoming worldly with dogs, following links to theoretical arguments and communities of scholars in the footnotes. We are invited into breeding chat rooms, and get to eavesdrop on e-mail conversations between trainers. The codifications and exclusions through which all knowledge production proceeds are traceable in the book, both in reflections on the physical process of compiling a text and through the complex activities involved in weaving together a more worldly achievement, like responsibly maintaining a dog breed. It is a book which is generous to its sources, whilst also reflexive about its own potential use as source for all manner of knowledge practices – whether academic writing, or dog training. This attention to the connective, as opposed to the fixed, spaces of knowledge production means the book can be considered an addition to a small, but vital body of work on knowledge cultures which are virtual, social and material (See also Hine, 2006).

These connective spaces are also a crucial source of Haraway's optimism. Through working with a vast and differentiated community of others, one gains a clearer sense of the political possibilities of working together. In a different political moment, Marx writes enthusiastically of the formation of new political associations in Paris of

the 1840s. Formed to achieve a political end, these created a sense of a new need, the need for society. What appeared to be simply a means of achieving an end (associating) becomes an end in itself. This also happens when species meet and it is crucial to the emergent politics within the book and the tensions that began the review. Marx's Parisian socialist community is no longer one of predominantly male artisans: it is a rich entanglement of humans and non-humans, all becoming with one another. Haraway makes this move clear in the second chapter, reflecting on her complicated debt to Marx. For her, he "understood relational sensuousness, and he thought deeply about the metabolism between human beings and the rest of the world enacted in living labour" (p. 46). Still, he never managed to escape a human exceptionalism. His philosophy of praxis, rooted in the practical resolution of philosophical conundrums through everyday interactions is present throughout *When Species Meet*. Here, it is transformed through a wider sense of who or what is involved in these interactions. The tentative beginnings to Haraway's *Biocapital: Volume One* are both tantalising and provocative.

Potential participants in these interactions can be traced further in the figure of Jim's dog. This dog, whose shape is formed from the logs, mosses and ferns of the canyons of Santa Cruz, is the only colour illustration in the book, a vivid and living example of the contact zones between many species, digital technologies and friendship. Jim's dog works as the canine equivalent of Darwin's tangled bank, as an updated, situated and embodied metaphor of the lively entangled and personal networks of contemporary biology. Its relation to arguments about how units are defined in biology – whether individuals, communities or assemblages – resonates with Hird's review. Here, we add, it is a reminder of the potential for conversations with biological research practices, which are earthy, enquiring but also critical. As Haraway writes 'Jim's dog is a provocation to curiosity' (p.7). The transformation of research practices flowing from this are most clearly articulated in the footnotes. Haraway notes the development of her relationships with scientists to those of mutually generous suspicion: 'one of the most important epistemological virtues of companion species' (p. 213). In this figure, we find an invitation to engage with biology, in ways which are not reductive, historic and dependent on the closed narratives of science, but hopeful, engaged and forward looking, even if, in seeking such entanglements in practice "requires responses one cannot know in advance" (p.313).

A third, and not entirely unproblematic figure, is that of the Crittercam (chapter 9). Again, acknowledging in an inspiring and humble way the rich debt to her graduate students, Haraway reflects on the forms of situated knowledges possible through this view from below. Although bound up in the filmic magic of romanticising nature, Haraway links the spectacularisation of wildlife to the radical political potential within situated knowledges. Here, as in other works, Haraway demonstrates how situated knowledges are more than recognitions of positionality or calls to or from the oppressed: they are a political tool for more adequate knowledge, rooted in the messiness of the everyday. Perhaps this politics is clearest in her admiration for the work of dog-breeder CA Sharp. As a producer of more adequate knowledge of epilepsy in dogs, Sharp confronts the prejudices of both a scientific community, protecting its claims to knowledge production, and a hierarchically organised breeding community, who feel threatened by revelations of a genetic link to epilepsy in their own dogs. Sharp learns through doing and produces new knowledges for

making a more just world in which different species might flourish. These knowledges, in turn, are changed through the act of achieving this. Sharp embodies a radical and world-changing philosophy of praxis, based on these complexly situated knowledges.

So, we return to the central figure of the dog as companion species. This remains a grounding truth within the book as sensuous interacting bodies come to define new truths. Haraway is, of course, not the only scholar to use domestic animals in the search for new ethical or political realities. Derrida confronts his cat, Levinas encounters the dog, but these are philosophical exploration of otherness, which say less about the difficult everyday messiness of accommodating difference. Julie Ann Smith (2003) writes memorably of the day-to-day experience of living with house rabbits, as a demonstration of post-human ethics. However, without the saintly patience of Smith or the abstractions of philosophical discourse, such as those around rights, these practices may struggle to travel, relegated to personal domestic experiments. These questions remain in *When Species Meet*, yet they are questioned and refigured here as well. Figures like the lapdog, critter cam and Jim's dog, hint at the potential for spiralling entanglements of emancipatory politics. The book takes bodily ground 'truths' out of domestic contexts, into other spaces, into the laboratory, on the internet, into the texts of academic writing. Here they may be received with some discomfort or embarrassment. Such reactions remind us that boundaries between private and public spaces are actively negotiated and often gendered; that the politics of research is about not only where we look and what we look at, but also in how we write in the world. Thus, whilst this book may not have all the answers, it poses important political questions, moving companion species into considerations of philosophies of praxis and feminist methodologies. Derrida, despite standing naked in front of his cat, never took such a political risk.

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## When Species Meet: Staying with the Trouble

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It is a privilege—not to mention a joy—to receive reviews with such generous critical readings both to what I do and to what I failed to do or do badly in *When Species Meet*. These reviews are models of the “corporeal generosity” (Rosylyn Diprose) and “making available” (Vincanne Despret) to each other that Isabel Stengers's sort of cosmopolitics is about. Skirting the sucking quicksands of both humanism and

posthumanism, in an improbable concatenation of terran stomachs WSM ruminates the figures and fleshly realities of companion species in an effort to be responsible inside living and dying in knotted, mortal naturecultures and pastpresents.<sup>10</sup> The task of WSM is “becoming with” rather than “becoming,” at every interleaved scale of time and space, in materialsemiotic places (here, not there; there, not here; this, not everything; attachment sites, not case studies for the general; oxymorons, not examples), all the way down, without end but also without ever starting from scratch and never alone.

All those copulating-words-without-benefit-of-hyphen, all those resignified ordinary words: are they really necessary? Is the trouble they cause any help to staying with the trouble that terran critters, including people, must live? Staying with that kind of mundane trouble requires facing those who come before, in order to live responsibly in thick co-presents, so that we may bequeath something livable to those who come after.<sup>11</sup> How might it be possible for the varied denizens of technoculture to bequeath less wild (wild = not bearing the mark of the care of generations, in anglicized Australian Aboriginal idioms), more quiet (quiet = bearing the marks of the care of generations) country to those who come after? Fed with the joy and pain of relentlessly specific, never innocent, multispecies “becoming with”, WSM ruminates the question Deborah Bird Rose and Thom van Dooren ask in their new book-in-process titled *Unloved Others: Death of the Disregarded in the Time of Extinctions*, “What does it mean to live and die in a time of extinctions?” Or, I add, in the active time of exterminations? The Anthropocene, that hubristic but alarmingly accurate geological name for the time of the human, is woven from the intersections of love and extinction. Without human exceptionalism, that is the time that companion species must resignify through their practices of generative indigestion. How to get

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<sup>10</sup> Outlining a generous Deleuzian response to some of the arguments and figures of WSM, Jamie Lorimer’s review, “Ladies and Gentlemen, Behold the Enemy!”, notes that my use of the term “pastpresents” does not make explicit links to Henri Bergson’s notion of the past in the present or the simultaneity of past, present, and future. However, my pedigree for pastpresents is not Bergsonian, sympathetic as I now realize I am to his approach to duration and experience (and grateful to Lorimer for making me go there). My actual pedigree is rather the feminist theorist Katie King’s workings of networked re-enactments and the many sorts of makings of pasts that come together in present relatings (including in technology). Her subjects for this thinking were actual projects of historical re-enactment undertaken for television shows and museum installations. Knots of citations for me are ways of insisting on messy genealogies—lateral, vertical, and patterned in other sorts of cats cradle games—that might include canonical philosophers in the ties, but do not usually originate in their texts, or even know their terms until after the engagement from somewhere else makes me need to read them too. I think part of my own allergy to (too much of) Deleuze comes from years of being named as a Deleuzian, when my conversations are overwhelmingly with other folks (many of whom are or were graduate students), especially biologists, feminist theorists, geographers, anthropologists, and ordinary animal people (many of whom crowd the pages and endnotes of WSM). The textual reproductive technology of single parent self birthing—a major history-making apparatus of humanism—tends to insist on descent from fathers, a purebred eugenic breeding practice if ever there was one! The “popular sire syndrome” got named in dogland critiques of excessive inbreedings in the Galapagos Islands of so-called purebred, kennel-club regulated dog breeds, but I think the offspring of lineages of philosophers make a stronger case for the problem of the overuse of popular sires.

<sup>11</sup> Deborah Bird Rose, *Reports from a Wild Country: Ethics for Decolonisation* (Sydney, Australia: University of New South Wales Press, Ltd., 2004), especially “Recuperation,” pp. 11-33. In Australian Aboriginal Anglophone idiom “wild” = not bearing the mark of the care of generations, “quiet” = bearing the marks of the care of generations. “Country is multidimensional: it consists of people, animals, plants, Dreamings, underground, earth, soils, minerals and waters...it exists both in and through time...living things of a country take care of their own...those who destroy their country destroy themselves” (Rose, 153-54).

from the Anthropocene to a more ongoing quiet country? In short, WSM asks about just still possible flourishing through the study of multispecies dyspepsia, through which nourishment must always take place (Chapter 12, “Parting Bites”).

But, the alert reader of the actual book will note, WSM seems to have a lot of pages about rather pampered dogs and their well fed people in the contemporary United States. Who, on this planet, really get away with calling “work” “play” (e.g., Chapter 8, “Training in the Contact Zone”)? And in what sense are these sorts of critters “unloved,” “disregarded,” or living responsibly in a time of exterminations? And how can all that staying with kin and kind, breed and individual still claim political, intellectual, and fleshly sibblingship with the rhizomatic, queer, mongrel, pestilential, fungal, and microbial of the earth? How dare WSM write about non-mimetic sharing suffering (Chapter 3) when contemporary vertebrate animal-based research is enmeshed in global capital where Big Pharma and value-added biomedicine, not to mention biosecurity and public health, drives the breeding and use of many more hundreds of millions of biotechnologically retooled lab mice and rats than ever before, and no few dogs and many primates, not to mention ever-serviceable flu-susceptible chickens? And this at precisely the time when animal-based research has made it abundantly clear that those rats, mice, and birds are sentient, multi-talented, multi-kinded *someones*, not *somethings*? Not disposable models for humans, but innumerable subjects of lives and deaths. Or, how can the strong emphasis in WSM on the wonderful and terrible relations of domestic critters—people and other organisms entangled in the contact zones of breeding, agriculture, sports, war, pet relations, pastoralism, technology, medicine, and science—have much to offer the blasted ecologies of critters who have resisted or whose generations cannot tolerate domestic arrangements with people? How can there be so much joy in WSM when love in the Anthropocene is so deadly, and death so unjustly dealt? These are questions gently posed by my reviewers; they are also, urgently, the questions of my own soul.

They are the questions WSM poses to companion species rather than to posthumanism. Companion species are not limited to companion animals in any of their large, historical and contemporary domestic arrangements. Rather, *cum panis*, with bread, companions of all scales and times eat and are eaten at earth’s table together, when who is on the menu is exactly what is at stake, and where cobbled together pastpresent symbiogenetic doings are what make critters of all kinds to be kin, most often through something other than linear genetic descent, intentional acts, or cybernetic informational exuberance. To be kin in that sense is to be responsible to and for each other, human and not. Inherently oxymoronic, species is/are at once singular and plural, organic and not, referring to the relentlessly specific and to type and kind, an embalming compound of outmoded categories and the spice of ongoing life and curiosity.

As words and as realities, companion species together might be commodious enough to take seriously the question WSM starts with, “Whom and what do I touch when I touch my dog? and How is ‘becoming with’ a practice of becoming worldly?” (p. 3). Made of the accidental and biographical ordinary, this touch—this here and this now, not all the time everywhere—gloms us into sticky multispecies knots that track out and into worlds at stake, in all their durational and scalar complexity, where response and not reaction is required of all the players. WSM does not generalize, but it does

figure; it does propose attachment sites. It does tell stories, one after another, to keep the story going, to weave the tale of the care required of generations. As an actual aging overeducated white woman in early 21<sup>st</sup>-century California, I am consumed by curiosity in working and playing animal-human relations that get called domestic—in rodeos, zoos, pastures, labs, sanctuaries, farms, feedlots, agility courses, farmers markets, homes, festivals, cities, and slaughter houses. I am commanded by inheriting the histories of the more-than-human creatures of empire<sup>12</sup> of the U.S. west—cattle, sheep, pigs, dogs, chickens, grasses, trees, microbes—who made and make my life what it is, and so my debts what they are. This is a collective accident, where, as Myra Hird named it in her review, surviving humanism is the problem, in both senses. How can we together inherit these pastpresents; how can I, can we, stay with the trouble without the mad solace of yet another exterminism, another fix, perhaps in the tempting form of another right to life discourse, another return to amnesia, another disavowal of multispecies mortality and so vulnerable and irreducible responsibility not only for living and dying, but also for killing and breeding? Biopolitics or Biocapital, Volumes 1-3, hardly begin to name the work, play, narrative, and analysis we need in the contact zones of worldly companion species.

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<sup>12</sup> See Virginia Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (New York: Oxford University Press, 2004).