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kinship across species: learning to care for nonhuman others

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abstract

This essay responds to Donna J. Haraway's (2016) provocation to 'stay with the trouble' of learning to live well with nonhumans as kin, through practice-based approaches to learning to care for nonhuman others. The cases examine the promotion of care for trees through mobile game apps for forest conservation, and kinship relations with city farm animals in Kentish Town, London. The cases are analysed with a view to how they articulate care practices as a means of making kin. Two concepts are proposed, 'learning from' and 'facing' the Other, which are thickened through discussions of how caring takes place in each case in relation to a particular category of nonhuman other: animated tree and urban farm animal. Thus while attendant to situations of care involving a specific nonhuman subject, the cases also broker thinking on learning from and facing (the) other kinds of trees and animals, and the interspecies dynamics of which they are a part. The intersectional implications of the practice sites and participants are elaborated, to complexify and affirm situated but also reflexive approaches to caring. In doing this, the authors attend to their own positionalities, seeking to diversify Western-based ecofeminist engagements with caring, while asking what their research can do for the nonhuman other. They formulate and apply a collaborative methodological approach to the case studies, developed through cultivating attentiveness to the nonhuman subject of research. The authors consider in particular how attentiveness to the nonhuman other can facilitate practices of knowing that further a non-anthropocentric and non-innocent ethic of caring. By further interconnecting situations of caring for nonhuman animals and plants, the authors advocate for practices of care that antagonise how species boundaries are drawn and explore the implications for learning to care for nonhumans as kin.

keywords

care; kinship; nonhuman; facing; learning; multispecies

introduction

This essay explores creative and critical means of learning to care for nonhuman others as sentient kin. We engage with Donna Haraway's (2016) timely challenge of 'staying with the trouble', of learning to live well, with and in relation to nonhuman others, who are kin in the sense of 'something other, and more than entities tied by ancestry or genealogy' (Haraway, 2015, p. 161). Extending Haraway's provocation, we suggest staying with the trouble by affirming care as a non-anthropocentric and non-innocent ethic and practice. We ask, in what ways is 'to care to stay with the trouble' (Slater, 2016, p. 127), and how, in turn, might caring make kin?

In response to ecofeminist critiques for more practice-based ethical interventions, our paper examines two cases of caring within two rather different spaces of play and learning: promoting care about trees through digital gameplay and being with animal others on a city farm. Each case is drawn from a larger study, seeking to position the nonhuman as ethical subject. Our discussions of the cases in turn attend to various troubles of caring understood in terms of 'learning from' and 'facing' the nonhuman other as sentient kin. Through a reflective analysis, the studies become critical and practical resources for contesting interspecies boundaries. They dwell upon moments of relating that could make possible a recognition of the other as kin, through inventive and thoughtful interventions into manners of knowing and attending to the other. These moments suggest how

thinking with and practising care and interspecies kinship might contribute to human and nonhuman cohabiting in livelier multispecies worlds.

The essay begins by reviewing relevant scholarship at the intersection of feminist and environmental studies that has sought to make apparent, as well as antagonise, boundaries drawn between humans and nonhuman others in theory and practice. We propose a reflexive immersion in care practices oriented around the challenges of learning how to care while respecting the nonhuman other as an other kind, a kind whom/that calls for our attention as ethical subject. We build on feminist and educational theory to develop the notions of 'learning from' and 'facing' the other, upon which we draw to read the cases, suggesting ways to productively, if sometimes conflictingly, care, and reflect on the implications for making kin. We then outline our methodological approach, which asks what our research can do for the nonhuman others we study and the humans who care, or are involved in learning to care, for them. Each case further situates the respective researcher and empirical materials, and elaborates on the method used for that study. We discuss linkages in how the two cases demonstrate learning to care, and conclude by revisiting our introductory questions of how to stay with the trouble of caring and how practices of care might make kin.

feminism and ecological ethics

Feminist engagements with ecological ethics have been particularly fruitful for critiquing dualistic and hierarchical frameworks (Twine, 2001, p. 7), which normalise human and patriarchal privilege and marginalise the needs and interests of such varied subjects as women, indigenous peoples, subjugated groups, the poor, and nonhuman animals and plants (e.g., Mies and Shiva, 1993; Plumwood, 1993; Warren, 2000). We wish to further a practice-based discussion of situated ethical thinking, which we consider to be a hallmark of this work, while drawing attention to how ecological issues involve 'grappling with how one's own bodily existence is ontologically entangled with the well-being of both local and quite distant places, peoples, animals, and ecosystems' (Alaimo, 2016, p. 130).

Whereas situated ethics lays emphasis on the encounter(s) between and among actual, heterogeneous subjects (King, 1991, p. 77; Gruen and Weil, 2012, p. 479), we also consider how social and epistemological categories intersect to enliven particular types of relations among humans and nonhumans, and how these relations may be debated and negotiated 'across the boundaries of race, class, gender, sexuality, species, age, ability, [and] nation' (Gaard, 2011, p. 44). The Orangutan Project,[1] for example, responds to the problem of unsustainable palm oil production, which is used to produce 'first-world' vegan products (Gaard, 2016, p. 276), resulting in deforestation and the deaths of orangutans and other nonhuman animals as they lose their habitats. As Greta Gaard (ibid.) argues, this project is an 'important [example of] intersectional activism', one which involves thinking across species: the project advocates for various nonhuman species, as well as nearby human residents, all of whose livelihoods are detrimentally implicated by an industrial process designed to cater to the appetites of affluent human consumers.

In this sense, intersectional thinking across species is also sensitive to wider social and systemic structures of injustice as, for example, the situatedness of both humans and nonhumans within systems of economically motivated exploitation. The case of the Green Belt Movement, spearheaded in the 1970s by Kenyan environmental and women's activist Wangari Maathai, is exemplary. The use of covert afforestation throughout Kenya by mostly women activist-planters, derailed the attempts of Kenya's male, militant government to re-establish dominion through

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[1] The Orangutan Project, 'Palm oil', https://www.theorangutanproject.org/about-orangutans/palm-oil [last accessed 11 October 2017].

deforestation. Tree planting was instrumental in 'interrupting the cycle of poverty' maintained through denying political representation to women and despoiling forests (Nixon, 2011, p. 137).

Sentience, interspecies boundaries and kinship

These examples highlight intersections pertinent to our explorations of how humans are with and face nonhuman others. We are particularly interested in axes of difference and bases for knowing that help unravel how and why interspecies distinctions gain legitimacy and break down. A binary anthropocentric line may be redrawn, for instance, where beings become sufficiently unlike us to matter, based upon notions of our capacity to feel empathy (Gruen, 2015, pp. 72–74), or exhibit forms of consciousness resembling human structures of thought (Plumwood, 1999, pp. 198–202).

In view of an expanding field of multidisciplinary research on plant agency, communication and intelligence within both Western and non-Western cultural contexts (e.g., Jones and Cloke, 2008; Hall, 2011; Kohn, 2013), we aim to think kinship across species boundaries by moving away from both zoocentric and anthropocentric perspectives. As Gaard (2016, p. 277) insists: 'A paradigm-fracturing shift is needed here, one that acknowledges human inter-identity, inextricable from and supported by a web of relations with sentient, intelligent kin across species'. Taking forth the view that humans are 'immanent within an ecological system' on which they depend, we do not make 'hierarchical distinctions between human and more-than-human' (Phillips and Rumens, 2016, p. 2), staying, instead, with the complexity and trouble of interspecies relations. We feel that the 'moral task of developing an adequate ethical response to the non-human world' (Plumwood, 2002, p. 169) means acknowledging 'difference as much as continuity in the attempt to break through the species barrier' (King, 1991, p. 79). We find Haraway's (2016, p. 2) notion of kinship vital here, because it expands bio-evolutionary conceptions of kinship to emphasise co-evolutionary and ongoing dynamics: 'Making kin as oddkin rather than, or at least in addition to, godkin and genealogical and biogenetic family'. This conceptualisation of kinship allows us to trouble the issue of responsibility, which feminist scholarship has helped reframe as a 'response-ability' (Haraway, 2012) to 'the multiplicity of the world, and for our relations to and with it' (Zylinska, 2014, p. 140). This faces us with unsettling and difficult questions, such as, 'Who lives and dies, and how, in this kinship rather than that one?' and 'What must be cut and what must be tied if multispecies flourishing on earth, including human and other-than-human beings in kinship, are to have a chance?' (Haraway, 2016, p. 2).

These questions impart some sense of the radically unfamiliar response-abilities needed to learn to care about and for others who may not necessarily seem like us. The possibility of 'nonmimetic caring and robust otherness' (Haraway, 2008, p. 123) does not involve idealised subjects or universal ethical principles, but flourishes through a reflexive, worldly quality of attention to how practices of care can make kin, and make kin matter. Kin therefore refers to fleshy individuals we encounter and come to know as like us but not human (Charles, 2014), as well as those we may not know personally but to whom we learn to attend and respond. In the next section, we consider and weigh in on some of the conceptual and practical provocations of an ethic of learning to care for nonhuman others as sentient kin.

learning to care to make worlds of/for kin

We start by addressing some criticisms and risks of defending an ethic of care, distinguishing our understanding of care as a form of making and living in worlds of and for kin. We further explain our focus on learning to care and introduce two concepts, 'learning from' and 'facing' the other, to analyse moments of care that emerge within our cases as holding out possibilities for kin-making.

Care

Carol Gilligan (1993 [1982]) first proposed the notion of care to stress the role of relationships and context in moral decision-making. Some feminists have rightly cautioned against uncritically inheriting Gilligan's understanding of care because of the essentialist tendencies of her research, which suggests that girls tend to be naturally more caring than boys and, moreover, is based on a middle-class, white sample. In contrast to early theorisations of care ethics that draw on this work (e.g., Noddings, 1984), more recent ecofeminist positions have resisted conflating caring with women's practices and issues in order to avoid reinforcing gender stereotypes and biases (e.g., MacGregor, 2006, pp. 4–7, 58–65) and equating care with devalued women's work (Adams and Donovan, 2007, p. 3). In the context of ecological feminism, we agree that 'asserting that woman = mother, woman = feminine, mother = nature, feminine = caring is not a good idea theoretically and practically' (Cuomo, 1998, p. 126).

We conceive care as a dynamic, dialogical, embodied practice (Curtin, 1991, p. 64; Plumwood, 2002, p. 169) based in an empathic response attuned to the other as other, which manifests through embodied communication (Despret, 2013, p. 71). This attunement involves learning to 'cultivate the ability to care about earth others ... as earth others' (Warren, 2000, p. 121), without reducing them to being-for humans. We nevertheless advocate a 'non-idealized vision of care' (Puig de la Bellacasa, 2012, p. 197), steering clear of elements within any feminist ethic of care that in our view establishes rigid principles, or sets up a hierarchy of care based upon Western values and parochial understandings of nonhumans. Living in multispecies worlds asks us to face the basic realities of enfleshed existence, facing, indeed, how earth kin 'have unequally distributed life-and-death consequences' (Haraway, 2008, p. 126). Situated care practices for kin-making further require facing the demands of living in a particular place, which may press themselves upon kin relations, as for example depicted in the nineteenth-century Finnish epic poem Kalevela,[2] which grants plants as beings with voice and agency, yet does not deny the practice of felling trees in eastern Finland for human survival (see discussion in Hall, 2011, pp. 129–131). We need to explore and discover other ways of coexisting; to creatively antagonise current ways of life is with what we feel the process of learning to care can contend, rather than insisting that relations must play out in a certain way. We are wary of imperialist or essentialist judgements (Twine, 2014, p. 199) and consider, furthermore, that through focusing our attention upon relations and practices—by taking seriously the call to learn from and to face the other, which we will discuss shortly—the chances of cruelty and practices insensitive to the nonhuman other, such as mindless consumption, are greatly reduced.

Through caring, we make worlds in which certain kin encounters, lives and relations (but not others) become possible. Understanding how care makes kin and worlds, means discerning how different kinds of caring privilege particular things, events, histories and beings (Slater, 2016, p. 116). We feel this discernment is supported by learning to care in ways both reflexive and 'tangible and situated in time and place' (Russell and Bell, 1996, p. 176), and can open into other ways of relating to the other based on practices of 'learning from' and 'facing' the other, both of which guide our case discussions.

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[2] For a full English version, see Crawford (2016 [1888]).

learning from the other

We draw on our understanding of care to think about the notion of learning from the other as a mode of learning that attends to the other (Pacini-Ketchabaw et al., 2016). Val Plumwood (1999, p. 207, 1993, pp. 142, 154–155) argues that 'emotional and dispositional forms of care for nature' and 'more-than- instrumental' relations with nonhumans are furthered through a notion of the self as 'a self-in-relation'. Through stressing 'learning from' as a direct mode of relating to the other, we distinguish it from 'learning about', which we regard as a mode of learning which can have the effect of distancing human learners from the environment and nonhumans through pedagogical materials such as textbooks (Russell and Bell, 1996, p. 176).

Learning, in our view, does not mean passively acquiring information about others. We believe, rather, that it should situate activities such as gathering information and observation within a context of life experience. As ecofeminist educator Constance L. Bell (1996, p. 176) explains, 'direct sensory access to the skies, trees, rivers, and wildlife' can imbue important but often abstract issues, such as deforestation and animal rights, with an immediacy that can help build personal connections with an other or a situation. In this way, through being in place, 'learning from' can be furthered by being proximate with the other, drawing attention to the corporeality and situatedness of encounters that come with 'being of the world' (Haraway, 2016).

Facing the other

Another vital aspect of learning to care about the other as kin is implied in the term 'facing'. Kin relations are not 'especially nice', but 'full of waste, cruelty, indifference, ignorance, and loss, as well as joy, invention, labor, intelligence, and play' (Haraway, 2003, p. 12). We understand that to face the other as kin means respecting their differences from us, while simultaneously facing the lived histories and moments both memorable and painful that make up, and inform, how we are co-produced alongside them. This may include, as Josephine Donovan (2006, p. 308) notes, remote or distant situations presented to us, for these others and other places are also real, and may contain elements of a more proximate or familiar situation to which we would respond. Thus, rather than insisting that caring practices (e.g., Noddings, 1984; Curtin, 1991, pp. 67–68) require face-to-face proximity, we favour a more capacious understanding of 'facing' as being with not only that other, but also the times, spaces, places, histories and nonhuman beings with which that other is 'in intimate connection' (Rose, 2008, p. 166).

In 'facing' the other, we are also faced with facing ourselves and the 'complexities' of how we are entangled with these others 'we cannot fully know' (Gruen and Weil, 2012, p. 482). Through learning to face ourselves, we are also changed, as we are by the encounter with the other. Lori Gruen and Kari Weil (ibid.) write, 'The 'difficulty of ethical responsibility' is that we must accept it in the face of uncertain changes'. We cannot face the other, or care for others, without accepting that we (and they) will change. This is a move away from attempting to control how we—or they—will change; facing the other calls upon us to set aside what we think is good, or right, entering into the relation openly as a commitment to learning how to care.

This commitment bleeds into the way we choose to conduct our case studies as well. The next section shares how we approached the case studies with a view to our own positionalities, which are implicated in how we propose to care in each case. In doing this, we try also to articulate how 'learning from' and 'facing' the other became ways of being with the research as for another's sake, to affirm that interests other than ours also matter.

methods/situating

Our case studies endeavour to rethink nonhuman sentient others as kin subjects of care within two distinct informal learning settings: digital gameplay and a city farm. Both settings invite human participants to engage imaginatively with nonhuman others. Our cases reflect on this differently, based on our perspectives as researchers. Reflexively we identify as an Indian woman from the US and a white woman from England. In some ways this makes us similar, both being from Anglo, Western, middle-class societies, with histories of patriarchal, white, English-speaking rule. In other ways, we are very different, ethnically and in terms of social experiences we have had, and the kinds of nonhuman others around whom our lives have been organised. We consider that our everyday experiences, and practices, identified through standardised labels are therefore not fully able to express our perspectives. Richard Twine (2014, pp. 198–199) writes, 'Those arguing from an intersectional or ecofeminist perspective cannot simply take the concept of culture as read'. By speaking in relation to distinct North American and Western European middle-class experiences and framings of human-nonhuman entanglements, we hope to contribute to diversifying Western-based ecofeminist engagements with caring.

Our explorations of multispecies care practices are also reflexive challenges concerning how each of us engages with care in our research and praxis. Thus we perform our research as a situated praxis (Haraway, 1988, pp. 581, 588–589) through which the concepts we draw on and develop, and our style of researching, find a resonance in each other and respond to one another's challenges (Stanley and Wise, 1990, p. 27).

Through how we analyse and present our cases, we articulate an approach to the practice of learning to care from and with, which involves paying a certain kind of attention to the other as a research subject. Gruen (2015, p. 35) notes, ''Attention' is one of the central features of care ethics'. Both cases explore attention in particular ways suited to each situation, following the notion that '[i]t matters what relations relate relations. It matters what worlds world worlds. It matters what stories tell stories' (Haraway, 2016, p. 35). We consider that each case produces 'off-the-beaten-path practices' (ibid., p. 127), and that through our commitment to an attention based upon 'learning from' and 'facing', different stories and knowledges emerge within and through the texts and empirical cases. In this way, we present these cases as a manner of reading encounters with nonhumans understood as practices for attending to kin.

The cases gesture to different ways of engaging with practices of care situated across disciplines, utilising differing media and research conventions. Thus we connect pieces from our larger studies, which fit together not because they subscribe to a common disciplinary framework. Both cases share, rather, the particular attention each of us brought to both her and her co-author's case, in critically engaging with it. Hence we could have chosen different cases, attending to them in a resonant manner as we do to the ones here.

We narrate our research in this way with particular attention to 'practical implications for the welfare of the one who is cared for' (King, 1991, p. 85; see also Birke, 2009, p. 1). In doing so, we acknowledge our starting points and presences as human observers, seeing them as 'an opening for getting involved in multispecies worlds' (Tsing, 2013, pp. 30, 34). We aim to discover human ways of engaging with nonhuman others needing care through becoming more present to them as ethical subjects. Here we extend the question of how to benefit nonhuman animals through researching them (Gaard, 2016, pp. 272–273; e.g., Birke and Hubbard, 1995) to interspecies relations, proposing attention as a means 'to study and improve conditions and interspecies relations among plants, humans, and animals' (Gaard, 2016, p. 273).

In taking a relational approach, we pay attention to how it matters how humans make nonhuman kin across different intersections of interspecies connections, which we draw out further in both our

cases and the comparative reflections. Thus we attempt to attend to the nonhuman sentient other as a differentiated category, mirroring our attempts to differentiate our own researcher-identities.

learning to care: two cases

Promoting care about trees with mobile game applications

The first case we discuss explores how forest conservation games promote ethical encounters with trees through providing a space for imaginative interactions. The author of this case has familial ties to north- west India but an upbringing predominantly in the south-eastern US. As a researcher now based in London, this case study continues her investigation into the differences in portrayals of tree others that derive from distinct ecocultural perspectives.

The study is excerpted from a multimodal ecocritical analysis of digital campaigns for mobile game applications ('apps'), which are designed to fundraise for reforestation and afforestation projects, while spreading awareness about the role of trees in sustaining ecosystems. Numerous games of this kind are being marketed under the genre 'serious games': games aiming to promote positive social and environmental change through fun and engaging gameplay (Lazzaro, 2012). In this case, we consider how such games might serve as informal learning spaces, which 'influence human environmental understanding' (Chang, 2016, p. 290) in ways that encourage 'inhabiting' human-environmental relations in an exploratory and constructive manner (ibid., pp. 72, 78).

Forest conservation games offer insight into the challenges of fostering these relations at both local and global scales. This is not only because, arguably, '[f]orest well-being is one of the most urgent priorities for flourishing—indeed, survival—all over the earth' (Haraway, 2016, p. 73), but also because games and their promotions can travel between and across cultural and geographical contexts. Take the example of Tilt World (TW), which markets itself as 'an educational game about carbon & the environment'.[3] Gameplay involves manoeuvring a frog character named Flip the Mighty Tadpole to catch tree seeds in his mouth. Seeds that Flip swallows generate funds to help 'rejuvenate the green Blighted ooze that was once Shady Glen',[4] an in-game allusion to the desertification of Madagascar, where trees are being planted through a partnership with the non-profit organisation Trees for the Future.

Madagascar is one of the most troubled places of remaining native forest today. Ninety per cent of Madagascar's nonhuman species are endemic (Hannah et al., 2008, p. 590), their lives complexly intertwined with the integrity of forests, between 40 to 50 per cent of which have been felled in the last half-century (Irwin et al., 2010, p. 2352). Lemurs, for example, of which nine of ten species exist only in Madagascar, have been found to play an important role in seed dispersal in rain forests, while being reliant themselves on fruit trees for reproduction (Wright, 2007, pp. 386, 392–393). The effects of tree felling on these species last for several generations. With evidence that the frequency of droughts is increasing, coupled with increasingly fragmented forest ecosystems, lemur populations will find it difficult to recover (ibid., p. 393). Disturbances of this 'delicate balance between plants and lemurs mediated by climate' (ibid., p. 385) are also affecting the livelihoods of local rural farmers who are

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[3] Tilt World, Twitter post, https://twitter.com/TiltWorld/status/178879381865897984 [last accessed 9 October 2017].
[4] Tilt World website, http://www.tiltworld.com [last accessed 9 October 2017].

scarcely surviving. With fewer opportunities available, these rural poor, who make up 'the large majority of Madagascar's human citizens' (Haraway, 2016, p. 72), are in many cases turning to charcoal for cooking fuel and income, though frequently still falling short (Onishi, 2016). Life in Madagascar is an interspecies dynamic of interdependence.

Haraway (2016, p. 73) writes that multispecies contestations in this region 'matter'; they are not optional, but 'a necessity'. Games like TW present players a choice to engage with forest conservation as more than mere 'child's play'—indeed, as play of a particularly impactful kind. When TW launched in 2010, it was the top-ranked iPhone game in China, with a top-five ranking in the US,[5] and much of its gameplay continues to occur in both North America and Asia.[6] However, it is not just forest and related species conservation that is being impacted; it is also perceptions of why trees matter in such places as Madagascar that are being impacted. These perceptions matter as they popularise a certain notion of trees in the context of multispecies living, as well as why trees should matter to the human players, for the sake of helping other, distant human kin and nonhuman kin, such as lemurs.

To investigate how forest conservation games encourage interaction with trees as particular kinds of nonhuman beings in the wider context of environmental change, the games and their campaigns were treated as 'environmental texts' (Chang, 2011). The texts, images, videos and audios used to promote games were analysed; these data were collected from games' websites, social media feeds (e.g. Twitter, Facebook) and user reviews on iTunes and Google Play.

From an ecocritical perspective, it was also important to analyse gameplay—the kinds of animations used to engage players and what understandings of trees and human-environmental relations these animations popularise. Of particular interest for the author of this case was how games might experiment with critical animist sensibilities to bring the other to life, and in this way 'demand a certain suspension of ontologies and epistemologies' (Haraway, 2016, p. 88), in order to show how the digital storying of worlds is implicated in practices of kin-making (see ibid., pp. 86–89). Such an experiment is amply suggested in games that ask players to care for a digital tree, such as Tree Story Game (TSG), conceived by the Los Angeles-based US company Zig Zag Zoom.[7] In TSG, players 'care for' saplings until they grow into mature trees by being attentive to metres indicating the percentages of thirst/water, hunger/ satiety, sunlight and love/life the digital tree is experiencing.[8]

Player reviews published on iTunes and Google Play generally applaud the game as an engaging strategy to reach individuals in their everyday lives and provoke caring about trees. However, the peculiar ways of caring for trees strike some players as inappropriate. One disappointed player shares:

I really wanted to play to help plant trees. ... All you do is water the tree, feed it food that trees do not eat (why are we feeding them burgers and french fries?? Would rather learn about trees and the kinds of fertilizers they need) tap to turn the sun on, and poke it for affection. ... The cause is great, but the game itself is not.[9]

In expressing frustration at the lack of insight into the actual needs of trees, this player is highlighting that learning about trees is not the same as learning to care about trees. This player is aware that their tree requires care, and in a way not facilitated by the game. As the player's lament

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[5] Tilt World, Twitter profile, https://twitter.com/tiltworld [last accessed 9 October 2017].

[6] Tilt World, Facebook personal communication, 26 March 2016.

[7] Zig Zag Zoom, 'Tree Story: best pet game', Google Play, https://play.google.com/store/apps/details?id=com.ZigZagZoom.TreeStory&hl=en_GB [last accessed 9 October 2017].

[8] Illustrative screenshots of Tree Story Game are available on Google Play; see Footnote 7 for web address.

[9] 'Tree Story Game review', iTunes, https://itunes.apple.com/US/app/id975741387?mt=8 [last accessed 31 December 2016].

at the game's lack of environmental realism suggests, the purpose of gameplay is not to equip players with scientific ecological knowledge. In this case, caring about does not immediately prompt caring for because of insufficient information such as, for example, appropriate soil conditions. Instead, players are encouraged to care about trees by learning about them and contributing to game-design decisions. Facebook and Twitter posts regularly showcase various tree species around the world (e.g., 'Tuesday Trees Around the World') and invite players to debate which tree species they would like to see in the game (in 'Treebates'),[10] while the game interface provides information about the tree species that a player is caring for (e.g., elm, pine, magnolia), such as typical growing climates and regions.

The game would seem to reaffirm a boundary between laypeople; the players, who can only care emotionally; and experts and professionals, such as arborists and foresters, who are entrusted with the responsibility of caring practices because of their specialised ecological knowledge. This distinction can be regarded intersectionally, as it situates the player-virtual tree-corporeal tree relation within a hierarchical epistemological framework that privileges specialised ecological acumen over other forms of knowing-care practices, interwoven within wider speciesist hierarchies. In predetermining ways for players to attend to the tree other, this framework does not leave room for dialogue between the two (and other) kinds of knowing how to care.

Furthermore, although learning about trees may spark an individual's attention to and curiosity in trees beyond gameplay, the app and the campaign do not appreciably challenge framings of trees as instrumentalised agents of, and passive participants in, environmental change. The makers of TSG allegedly 'wanted to create an anthropomorphic tree that you can make a connection with, that people would care about' (TSG Chief Executive Officer quoted in Brightman, 2015). In the game, this intent translates into the animation of a tree that not only appears similar in kind to humans, but also has needs and desires similar to those of humans (e.g., wearing clothes, eating fast food, playing with toys). In striving to foster an endearing attitude toward trees, TSG presumed that representing trees as particular others who emulate the human form would be the most likely way to move humans to become interested in and interact with trees. Yet this emulation prevents an encounter with the tree, denying 'a sense of the living, material trees as nonhuman nature that cannot be contained with human paradigms of representations' (Alaimo, 2016, p. 76). The reluctance to represent trees as precisely nonhuman also constrains the motivation to care, by basing it on facing an anthropomorphised other, thereby occluding the possibility of 'nonanthropomorphised caring' (Haraway, 2008, p. 126).

An area of further development for games might be to rethink the presumed ownership of trees that is implied in appeals to care for 'adorable virtual pet trees'[11] akin to the mass-marketed Tamagotchi toys popularised in the 1990s that involved tending to a virtual animal pet (see Allison, 2006, pp. 170–176). Although the feeling of owning a tree might prompt players to care about the tree, mediating care through the language of ownership reasserts a species hierarchy based on anthropocentrism, reducing the caring relation to one based specifically on human obligation or sympathy. It also overlooks the many forest-dwelling communities and cultures in which trees are not objects to be possessed, but to be thanked and used with care because of the ways of living they make possible (e.g., Knight, 1998, pp. 208, 210). In such cultures, the lives of trees are consciously

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[10] For example, see 'Tuesday Trees Around the World', Twitter post, https://twitter.com/treestorygame/status/692035656357404672 [last accessed 1 March 2018]; 'Treebates', Facebook post, https://www.facebook.com/treestorygame/photos/a.960180040682800.1073741828. 914820161885455/1045738652126938/?type=3 [last accessed 1 March 2018].
[11] See Footnote 7.

interwoven with those of humans (ibid., pp. 203, 205). The voices and understandings of these cultures and peoples could enrich gameplay.[12]

In learning to be with trees differently, players would need to learn new ways of facing the tree. Such learning might appreciate trees as 'self-directing beings' with 'a capacity for individual choice in response to their conditions of life' (Plumwood, 1993, p. 135). Learning from trees might in turn be fostered by, for instance, imagining characters in ways that withhold certainty about tree others to contest the depiction of trees as existing for human others, for instance, as CO_2-guzzling engines. Tree labour is insinuated, for example, in an infographic on TW's website that visualises the aim of the game as planting trees to absorb tons of carbon and support (human) families.[13] Such visualisations effectively reduce trees to mere foodstuffs, as fuel for human consumption. Players could also be invited to learn about interspecies lines of connection, such as the multispecies entanglements in Madagascar's forests. It would seem fitting, for instance, to reconsider the choice of the nonhuman animal catching the seeds to more closely link with the critters who work with trees in Madagascar's rainforests, such as lemurs, ants or even fungi. A game like TW could also interweave human dependence on trees within a thicker, more realistic narrative of interdependence among the many nonhuman island inhabitants, including the climate.

Paying attention to how players are invited to know trees helps make apparent what Anna Tsing (2011), in another context, calls the 'arts of inclusion'.[14] We might say that analogous to how, in Tsing's analysis, different mushrooms call to particular human adorers of mushrooms, such as 'gourmets, herbalists' and 'wild mushroom foragers' (ibid., p. 6), so tree-planting games call to particular players to forge particular kinds of relations with trees. Arts of inclusion also matter because of the circulation and cross-cultural reach of games and their promotion on social media. TSG, for example, is not a purely American phenomenon. It supports planning planting projects outside the US (e.g., Brazil) and partners with Tree Planet (TP), a South Korean game. As the first game of its kind, TP is also the most impactful yet, having planted over half a million trees in southeast Asia and western Africa since 2010.[15] With gameplay thus spread across social contexts, attending to the heterogeneous cultural situatedness of game developers and players poses a valuable opportunity to make gameplay accountable to the embedding social context and to different ways of living with trees.

 Current animated portrayals of trees used to promote care and the selected populations of players who can participate in learning to care through gameplay, may or may not have the effect of 'consciously co- creat[ing] a sustainable future' (Klisanin, 2010, p. 1124) with kin, not merely (human) kinds. The discussion above suggests a few ideas for designing games to encourage players to face and learn from tree others. In acknowledging the limits of human understanding of trees (Rose, 2008, p. 159; see also Alaimo, 2016, pp. 76–77), these ideas up the odds that players will become participants in a critically animist storytelling in which 'learning to play' helps enable 'the resurgence of this and other worlds' (Haraway, 2016, p. 88).

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[12]A tantalising possibility is suggested by the game Never Alone, conceived from the perspective of and in active collaboration with the Inupiat, an 'Alaska Native community' (Kisima Innitchuna, 'Never Alone', http://neveralonegame.com [last accessed 9 October 2017]). In the game, an Inupiat girl and an 'arctic fox' team up 'to find the source of the eternal blizzard which threatens the survival of everything they have ever known' (Haraway, 2016, p. 87). The game reweaves knowledges of multispecies extinction through the Inupiat cosmology, which sees interspecies relations as co-constitutive and co-supportive.

[13] See Footnote 4.

[14] Tsing (2011, pp. 5, 19) contrasts the passionate immersion of fungi scholars within multispecies wild forests, where mushrooms grow abundantly and freely, often in mutual beneficial exchange with their tree hosts, with how mushrooms are manipulated and forced to grow by plantation owners lusting for a tradeable commodity. She asks, 'How [in such times of multispecies extinction] do lovers of fungi practice arts of inclusion that call to others?' (ibid., p. 6).

[15] Tree Planet website, http://map.treepla.net/find_forests [last accessed 28 February 2017].

Exploring kinship relations through co-breathing methods

The second case applied visual sociological interventions to explore how human participants understand subjecthood among nonhuman animals at a city farm in London. The researcher is a middle-class, white, female, cat-loving, urban-dwelling, artist and visual sociologist. She chose to work in field sites situated within her own locality and community, and of which she had personal experience as a cultural insider.

The overall research aimed to examine the ways that urban-dwelling humans experience living animals, and how those experiences affect human connections with nature more generally. 'Connection to nature' is a term utilised in environmental and conservation psychology to designate the extent to which humans feel a part of nature (Bragg et al., 2013). Within conservation science, connection to nature has been researched using quantitative questionnaires (Moss and Esson, 2013), which do not discern the affective, experiential qualities of human-animal relations (Evely et al., 2008). Consequently, questions concerning the kinds of connections that are formed between humans and nonhuman animals are occluded theoretically and methodologically within conservation and environmental public engagement projects.

The research was initiated as a response to the binary set-up that situates nature outside of the city within the disciplinary framing of environmental and conservation sciences. The aim, in part, was to antagonise the notion that while art may respond to nature, science produces knowledge about it. The research involved fieldwork at three locations in Camden, London: Kentish Town City Farm, The London Zoo and Camley Street Natural Park. These sites were chosen to enable a comparison of established categories and engagement practices of and with nonhuman animals, and furthermore to analyse how learning from and facing the animal other might be made apparent or possible. For the purposes of this essay, we focus upon a co-breathing experiment conducted at Kentish Town City Farm with a range of predominantly youth participants, between the ages of 8 and 15 years, during holiday playschemes from 2015 to 2016. This farm is a mainly white, but socially mixed multispecies organisation, run by and for the local working-class community who engage with the space. The city farm provides a safe place for people with nowhere much else to go, and aims to teach young volunteers about well-being through the routines and practices of feeding and caring for the animals.

Ethnographic observations at the conservation-based field sites (The London Zoo and Camley Street Natural Park) had made apparent ways in which conservation organisations perform nature as a science, while rendering animals as specimens (Despret, 2010). For example, at Camley Street Natural Park, the

education and community engagement activities comprised mainly pond dipping and mini-beast hunting,[16] in a manner that field biologists might perform. These activities thus position nature and nonhumans as object-specimens with whom we engage, firstly through catching them (in a net or a specimen jar) and then through observation that involves noting their taxonomic features. This kind of engagement translates animal others as data amenable to analysis, leaving little room for considering how this analysis benefits the animals. Presenting fact-based learning as the overarching

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[16] Mini-beast hunts involved taking participants into a suitable area of woods with logs. The logs are lifted (using attached handles), and then the participants are asked to find 'beasts', such as woodlice and beetles, and place them inside a specimen jar, which has a magnifier incorporated into one face. The 'beast' is categorised through observation of legs, wings, antennae and other body parts, and then finally returned to its (approximate) place in the wood.

approach for becoming acquainted and interacting with animals, normalises a specific type of human-animal relation that situates the human outside of nature. Through positioning the human as the expert observer, knowing becomes articulated and valued within a particular positivist Western environmental and evolutionary science paradigm.

The notion of 'learning from' calls for a shift in this normative human-animal relation, in which humans seek to learn from the other as reflexively and openly as possible, thereby (it is hoped) loosening our preconceptions or registers of knowing. Field researchers such as ethologists often develop empathy with their research subjects (Crist, 1996; Despret, 2010), which is regarded as an anthropomorphic mistake by those who deny that nonhumans are capable of mindedness (Bekoff and Allen, 1997, pp. 313–327). Either way, empathy is not the aim of the field research, but a by-product of the ethological aims. Given this rather incidental role of empathy in field research (Root Bernstein et al., 2013), the co-breathing experiment was designed as part of a range of repurposed immersive ethological techniques, as methods specifically for exploring empathy and connection with nonhuman animal others in urban nature spaces. The methods were designed (by the author) as an inventive visual sociology response to the conservation-based field sites, where public engagement practices privilege learning about and the 'de- passion'-ing of knowing (Despret, 2004, p. 131) through distancing and objectifying tasks.

While the farm encounters are no less mediated or constructed than encounters at the other field sites, because the farm is not a conservation organisation, it does not produce animals as 'specimens' and does not aim to engender connection with nature or caring for the more-than-human world beyond individual relational farm care practices. Theoretically at least, city farm and zoo animals are conceived of and produced in similar ways by humans; for example, both sets of beings are immured. However, because visitor interaction at the farm is focused through care practices, such as mucking out and grooming, and because the organisation is primarily a community care farm, the productions of humans and other animals are made and remade through encounters. Caring through embodied communication (Despret, 2013, p. 71) has produced animals with mobile human categories. Many animals can be understood as being involved in multispecies companion relations, as well as performing their roles as city farm animals.

The experiment at first introduced an assemblage of tasks for participants to perform over several days and aimed to draw attention to the nonhuman as a subject. Each young participant was asked to choose a partner farm animal and to work with that animal for three days. Every two hours, the participant would find their animal, either in a farm enclosure or roaming around the yard, depending upon its type.[17] The participant would then follow her or map her movements at a distance, again according to type. This activity was combined with photography, drawing and taking notes, such as of weather conditions, in order to investigate both the human participant's and the chosen animal's responses to one another.

The repurposed methods were designed to create immersion and to foreground learning from the other by being integrated as forms of art, echoing the finding that art practices 'have proved good to think with about 'living with' in a multispecies world' (Helmreich and Kirksey, 2010, p. 556). In addition, asking the participants to follow the animal shifted the power relation and, through repeated mapping of where the animal went, a particular narrative of the other's lifeworld began unfolding upon the page. The participants were also asked to use their own bodies to co-breathe

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[17] Larger animals such as the pigs and horses are kept within enclosures and day meadows, whereas chickens and smaller animals spend their days walking freely around the farm.

with their partner animal in each observation cycle during the project. The co-breathing task offered a way of bringing the participants directly in contact with their own and their partner animal's corporeal bodies. The participants had to feel their own breath and then concentrate upon feeling both their own and the other's breath. This became a method for feeling the similarity and the dissimilarity between bodies breathing, and of experiencing emotion through breathing—of knowing the other both through feeling difference and through breathing 'as if' like the other (Despret, 2013, p. 71), thereby directly experiencing the other's rhythm as a form of being-with. Despret (ibid.) argues that this kind of knowing is not empathy but, rather, embodied communication: 'experiencing with one's own body what the other experiences: it is creating the possibilities of an embodied communication. The 'as if' constructs partial affinities between bodies, it is a creative mode of attunement', which loosens the grip of the human self as a fixed discrete being (Despret, 2004, p. 130). The following excerpts, from the experiments of breathing with a piglet, show how the participants reflected upon this attunement:

Their tails are straight. They are still. Their breathing is slow. They are eating pignuts. Tail is curled. They are breathing normal. (participant, aged 11)

Pooing and weeing, breathing good, slower than mine.
The weather is cold, sunny. The ground is muddy. The other pig is near to it. The pig is sleeping. They are breathing slow. (participant, aged 9)

Participants perceived changes in the 'pattern of breathing' as information not only 'about the general physical condition of the animal and human body but also about the emotional state, or even, in the case of human beings, about spiritual development' (Bakke, 2006, p. 15). Through the breath, internal experiences of the exterior are felt and heard. Multispecies co-breathing with other animals has the potential to make the other apparent as a breathing, living subject, while feeling into how that other being is experiencing being at that moment. We consider that the animal other also sensed something of the attunement during the concentrated attentive drawing and immersive practices. Within the framework of the experiment, it was not possible for the researcher to attend to the other's sense of this, although in a different enactment, this could perhaps be developed. For example, having a human witness to the overall encounter or engaging in deeper post-observation interviews with human participants may have revealed insights into the nonhuman animal's response.

The participants had already developed standardising attitudes towards the photography and drawing practices, such as 'I'm good at this' or, conversely, 'I can't do this', which became apparent as an unforeseen additional distance between the subjects. However, the interweaving of the following and co- breathing tasks, of which the participants had no prior assumptions or experience, generated an overall ambiance of attention that affected all of the experiment tasks. These two methods therefore opened up the encounter-practices away from orthodox 'farm animal'-human interactions.

Over time, the participants noticed that the animal's breath changed according to the animal's actions, thus drawing attention to breathing as a process that is enacted (Goŕska, 2016, p. 30). For example, one girl who generally displayed quite a negative attitude towards the interactions with animals, engaged enthusiastically with the co-breathing experiment. She chose to mimic her piglet breathing excitedly when he was waiting to be fed, and then also noted that his breathing was slower than hers when he was resting beside his sister piglet. Through co-breathing, the children began to experience a strong sense of their animal and themselves 'being-in-the-world' (Ingold, 2000, p. 169), now understanding their chosen animal as a subject with its own routines and experiences. As 'beings-in-the-world', humans and other animals have agendas, intentions and concerns (ibid.). By experiencing the animal through its breath, the animal subjecthood and

experiences in relation to its actions—feeding, resting, playing—became (more) apparent than when associating the animal with a certain likeness, name or other visually and externalised identifying characteristics as is commonplace in, for instance, the London Zoo.

In addition to coming to appreciate the animals as both other-than-human and subject, joining in the breathing brought attention to the corporeal, visceral moments of being an animal in terms of bodily registers, such as touch and smell (see e.g., Haraway, 2008, p. 26). Contrary to the distanced mode of ethical obligation that accompanies learning about the animal other through scientific facts, the co- breathing experiment situates the ethical encounter in a being-with, compelling participants to face the animal other through unpractised and more fluid registers. The participants are drawn into the ongoingness of making kin, 'the thick and dynamic particularities of relationships-in-progress, that is, of kin and kind' (ibid., p. 134).

interconnecting situations of care: comparative reflections

The two cases, taken side by side, offer interesting points of connection and tension. These points of contact illuminate the complexities of how learning to care is enmeshed with learning how to know the other, that is, how a 'practice of knowing' may 'become a practice of caring' (Despret, 2004, p. 130). Marc Bekoff's (2002, pp. 10–11) understanding of the notion of ethical caring as incorporating the value of experience and retaining an openness to ongoing knowledges, helps to map the kind of attention we applied to our cases and which we found emerged through knowing developed from practice.

For example, the repurposed ethologist practices engaged the participants in a form of knowing the other based upon feeling and attunement through breathing, in which they came to care about the animal as a subject. This way of knowing invited the children into an open space of being-with, through which their own breath and sensations became important tools of knowledge to feel, and feel into, the other's presence.

By comparison, we felt gameplay could do more to explore ways of being with the tree other as a minded subject. Our methodological attention could be reworked through utilising the co-breathing and repurposed methods with trees. In a similar way, a comparative questioning of games, such as the farm- simulation game Hay Day (see Cole and Stewart, 2017), might offer further insights into interspecies knowing in a mediated context. Had such comparisons been possible, a productive set of new comparative data could have been produced. Such comparisons could help foreground our argument that data need to be understood in relation to the methodological tools through which they are produced, and through the practice of attention that binds together caring and knowing.

This raises a related issue of how attention and data mediate, and are mediated through, relations of distance and proximity. Although players may find it funny or entertaining to watch their pet trees consume human foodstuffs, such as broccoli and cheese, this design choice raises the question of what constructive knowledge this feeding might have taken the place of. While initially this can set up an environment of play in which the human player feels safe to engage as carer, it collapses the seeming distance between human and (pet) tree, yet providing no way to be proximate with the tree. Learning how to care is 'a risk-taking proposition' (Haraway, 2016, p. 87), where the parameters of knowing the other come under question, allowing 'possibilities [for learning] which are otherwise hidden' (Russell and Bell, 1996, p. 177). By attending to the incorporeality of gameplay, a sense of proximity may be developed, which we could think of as an 'embodied hereness' that is also attuned to an elsewhere, 'creating a social space in which a virtual intercorporeality may emerge' (Alaimo, 2016, p. 74). This proximity might also highlight intersectional linkages across distances, between the location and social positioning of the player

and the places and communities where trees are being planted. In contrast to the digital games, the co-breathing method and immersive mapping methods used in the second case were designed to develop sensate proximity between subjects. To further explore these proximate encounters, participants could share their individual experiences with particular animal partners and learn from one another. To an extent, the participant's own life contexts mediated these encounters, based upon their need and openness to feeling another's presence.

Both cases regard attention as a tool to learn in order to be present with the other, but also to attend to moments of relating in their intersectional complexities. Games are designed and played for no single audience, and they lead to planting in places distant and near. Exploring how people engage with animals in urban nature settings in London has transferable implications beyond the urban, working-class youth who participated in the research. So while we discuss learning to care from within and in relation to certain Anglo-Western contexts, we see them as implicated in how learning to care might be shaped in other situations of care.

conclusion

We wrote this essay to respond critically and inventively to Haraway's (2015, p. 162) affirmative claim that '[i]t matters how kin generate kin'. Through practice-based cases, we responded by paying attention to how we may learn to care for these others as kin inhabitants of multispecies worlds.

We aimed to contest caring within human terms, which does not require us to take seriously the work of dissolving ourselves (Gruen, 2015, p. 62), to consider reordering our own positions and moving outside of a self-referential frame of caring. So we asked how caring practices might take account of and mediate relations of kinship, in order to be attentive to nonhuman others as more than just beings referenced through our own desires. Our cases suggest ways of relating differently to nonhuman others (and to each other) through practices focused on how we can learn from and face the other. These practices provoke wider ethical questions and visionings that invite us to attend to nonhuman others as sentient kin.

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