What Can an Animal Liberation Perspective Contribute to Environmental Education?

Abstract

This paper discusses three contributions an animal liberation perspective can offer to environmental education theory and practice. These include an approach to socioecological justice that accounts for speciesism, a framework for challenging humanism, and support for humane food choices that consider the experiences of other species and the environmental impact of a standardized, meat-centric diet. Humane education—as an advocacy pedagogy that is grounded in an intersectionalist vision of social justice and that foregrounds human-animal relations—is discussed as one possibility for environmental educators to incorporate an anti-speciesist perspective in their practice.

What can an animal liberation perspective contribute to environmental education? This is a question I pondered as a graduate student who embraced a vegan politic, while entering an academic program with a strong environmental education focus. Although I could identify convergences between the discourses of environmental education and animal liberation, I struggled to understand if, or how, the latter had a place in the field. Having reflected on this question over the past years, while coming to better understand the intersectional nature of environmental, animal, and social justice issues (or rather, how environmental and animal issues *are* social justice issues), I have gained awareness of some of the ways that animal liberation, as a standpoint, theoretical body, and lived reality can productively contribute to environmental education.[1] My goal in writing this paper is to discuss some of these contributions, and explore how a more rigorous interrogation of the "animal question" can enhance environmental education in theory and in practice.

[1] I use the term "animal" to refer to those beings who fall outside of the *Homo sapiens* category. I employ this language for ease of reading—given that I refer to "animals" so frequently, I find the use of the alternative "nonhuman animal" cumbersome and not without its own drawbacks, as "nonhuman" continues to privilege humanity by defining other animals in a negative sense. I recognize, however, that in reserving the term "animal" for all beings outside of humans I am eliding the fact that humans are animals, too. For further reflections on the complications of language and speaking about "animals," see Dunayer (2001).

In writing about animal liberation, I am referring to a vision of the abolition of other-than-human animals' exploitation and oppression. I contextualize this struggle within an intersectional framework of socioecological justice that encompasses human, animal, and ecological communities together. Kahn and Humes (2009) label this approach to teaching a "total liberation pedagogy"—that is, an attempt to "work *intersectionally across and in opposition to all oppressions* (including those of nonhuman animals) and *for ecological sustainability*" (pp. 182-183, italics in original). While keeping this holistic vision of a liberatory pedagogy in mind, in this paper I specifically discuss the relevance of dismantling *speciesism*—understood as discrimination against or domination over other animals, based on the assumption that humans are the superior species—as a tenet that an animal liberation perspective can contribute to environmental education praxis.

Animal liberation, as I am defining it here, is an ethic that brings forth practices in daily life. For many people in the Western world, a commitment to animal liberation means widening their circle of compassion to include other animals and making individual efforts to transform the dominant paradigm that positions those animals as inferior "others," without desires or purposes of their own. In neoliberal capitalist economies where our spending patterns might be understood as our "votes" for particular products or services, a dedication to animal liberation also involves being conscious to avoid supporting the industries that enact egregious forms of animal abuse and exploitation, including (although not limited to) factory farming, vivisectionist scientific practices, the fur fashion industry, and the use of animals for "entertainment" (e.g., in circuses and zoos). For many, this involves pursuing a plant-based diet and avoiding the purchase of products that have been tested on animals or for which animals have been killed for their flesh or body parts. In short, it means including animals in an enacted, intersectionalist politic of social justice, one that is ideally, and importantly, entwined with other anti-oppressive social justice movements.

The Rise of the Animal Question

Caring about animals and paying ethical attention to them is rooted in histories inside and outside the academy. Within academic contexts there has been a broad turn in the past two decades toward the "animal question," defined by Cavalieri (2001) as the moment that has arisen as a result of "more than 20 centuries of philosophical tradition aiming at excluding from the ethical domain members of species other than our own" (p. 3). While traditionally, the study of

animals was relegated to the natural sciences, in recent years a groundswell of thinking has emerged from fields in the social sciences and humanities including philosophy, ecofeminism, religious studies, sociology, literary studies, media studies, historical accounts and others. This turn has also seen the birth of newer disciplines that are unpacking human-animal relations and revis(it)ing our understandings of other species, including Critical Animal Studies (e.g., Best, Nocella, Kahn, Gigliotti, & Kemmerer, 2007; Corman & Vandrovcová, 2014; Sorenson, 2014) and posthumanism (e.g., Castricano, 2008; Pedersen, 2010; Wolfe, 2010).

Given this flourishing attention, it is not surprisingly that environmental educators, too, have been grappling with the animal question (see for example Fawcett, 2014; Kahn, 2008; Kahn & Humes, 2009; Lloro-Bidart, 2015; Oakley et al., 2010; Pedersen, 2011; Russell, 2005; Spannring, 2017; Timmerman & Ostertag, 2011; Warkentin, 2009; Watson, 2011).[2] This growing body of literature illustrates an ongoing commitment in environmental education to overturn humanistic paradigms with replace them with ecological, interspecies ones.

Research within and outside the environmental education field has explored what has been incorrectly understood about animals in the Western tradition. Historically, conceptualizations of other species have relied on assumptions of animals as lacking something the human community possesses, be that language, emotions, self-awareness, rational thought, tool usage, or culture, for example (Steiner, 2005). The discourse of the "animal-as-lacking" has served to support animals' reduction to a category of beings to whom people owe little or no ethical consideration, while simultaneously propping the human up on an anthropocentric pedestal. As Best (2009) writes, the Western world has traditionally "fracture[d] the evolutionary continuity of human/nonhuman existence by reducing animals to (irrational, unthinking) "Others" who stand apart from (rational, thinking) human Subjects" (p. 16). This dichotomous division contributed to the damaging Western myth of human superiority, and the flawed conceptualization of animals as beings who do not warrant our ethical attention.

An animal liberation perspective interrupts anthropocentric thinking by proposing a different starting point, one that takes seriously the notion that animals have interests and that a desire for freedom from domination must be among them (cf. Hribel, 2010). In collapsing the constructed divide between humans and other species, a liberation perspective acknowledges

[2] See also the 2011 *Canadian Journal of Environmental Education* issue, themed "Animality and Environmental Education," and the 2011 *Environmental Education Research* journal, themed "The Media, Animal Conservation and Environmental Education."

explicitly that we are not the only ones who think, feel, and care what happens to us. It prompts a reconsideration of what has passed in the Western tradition as knowledge about animals, starting from different ontological positions. Through a vision for a world in which animals are recognized as agents and the cultural, political, economic, legal, and historical projects of their oppression are eliminated, it encourages transformative thought and action.

Contributions to Environmental Education Praxis

The vision of extending social justice beyond the human boundary is already familiar to environmental educators, who recognize the necessity of educating for improved relations with what Abram (1996) termed the "more-than-human world," including plants and animals. In this way, the animal liberation ideology already shares an alliance with environmental education theory and practice, as individuals in both movements work toward ameliorated human-nature partnerships. There are other specific contributions an animal liberation perspective can highlight in environmental education praxis, however. While this is certainly not an exhaustive list, three contributions I address here include an approach to socioecological justice that accounts for speciesism, a framework for challenging humanism, and support for humane food choices that consider the experiences of other species.

Confronting Speciesism

> Speciesism is a form of oppression that parallels and reinforces other forms of oppression. These multiple systems—racism, classism, sexism, speciesism—are not merely linked, mutually reinforcing systems of oppression: *they are different faces of the same system*. (Gaard, 2001a, p. 20, italics added)

The mantra, "an injustice against one is an injustice against all," speaks to the interconnected nature of oppression and the need for coalition-building among social justice movements. After all, environmental injustices rarely stand on their own: consider, for example, how the communities of Indigenous peoples and people of colour are often targeted for toxic waste disposal sites (demonstrating how racism and environmental contamination intersect), or how, on a global scale, women and children suffer most from the adverse health effects of environmental degradation (demonstrating the interplay of environmental and sexist oppressions) (Gaard, 2001b; LaDuke, 2002; Warren, 1999). Other research has compellingly shown why our

work toward addressing the ecological crisis implicates other social justice issues, including oppressions relating to gender (Gough, 2013), class and ability (Newbery, 2003), colonialism (Cole & O'Riley, 2010; Root, 2010), body size (Russell & Semenko, 2016), and heterosexism (Gough et al., 2003; Russell, Sarick, & Kennelly, 2002)—highlighting how seemingly disparate forms of oppression are, in fact, bound up with one another. These intersections reveal that environmental justice cannot be realized in isolation of other movements for liberation; "single-issue" politics are short-sighted.

Acknowledging this reality makes it clear that falling silent on the animal question means leaving some forms of domination unchallenged. This silence equates to an inconsistency in working to dismantle the interlocking forms of oppression: what Gaard (2001a) calls the "different faces of the same system" (p. 20). Certainly, this is not to suggest all oppressions are the same, but there remains a need to recognize that a shared root of all forms of oppression lies in hierarchical modes of thinking that award some groups elite power while other groups are marginalized and oppressed. Ecofeminists have demonstrated this point well, with some acknowledging explicitly that animals—particularly those incarcerated in industrial, vivisectionist, and other exploitative confinement systems—must be counted among the marginalized and oppressed (e.g., Adams, 1995, 1999; Gaard, 2001a; Kheel, 2004). Speciesism needs to be recognized as a product of hierarchical thinking and a form of oppression that, like others, demands critical attention.

In acknowledging speciesism, environmental educators can confront interconnections between the domination of animals and domination in human and ecological communities. Some examples of these interlocking oppressions include the rampant mistreatment of animals and workers alike in slaughterhouses (Schlosser, 2005), the linkages between animal abuse and women-battering in the domestic sphere (Adams, 1999), and the devastating toll of factory farming on the bodies of animals and their surrounding environments (D'Silva & Webster, 2010; Garnett, 2009). Racist and speciesist discourses have also been shown to be intertwined, for example in the pervasive portrayals of Indigenous peoples as "wild," "bestial" or "savage" (Rider, n.d.), or in the disturbing linkages between the enslavement of Black people in the Antebellum South in the United States and the enslavement of animals in vivisectionist and factory farm contexts (Spiegel, 1996). Examples such as these underline why compassion for people and compassion for animals cannot be separated into mutually exclusive categories.

Instead, an incorporation of speciesism into socioecological justice acknowledges the reality that all movements for liberation need to work together to dismantle the pervasive, interlinked systems of oppression, what Hill Collins (1990) called the "matrix of domination."

It is worth noting that animal liberationists are already often allies in the environmentalist movement, making choices in their daily lives that extend to the well-being of the environment and other species (Sorenson, 2010). Some ecological educators, too, embrace an intersectionalist politic by incorporating a stance against speciesism in their critical teachings (e.g., Kahn & Humes, 2009). Adopting an integrated approach enables educators and allies to expand their advocacy work to a paradigm that is inclusive of human, animal, and ecological worlds together.

Challenging Anthropocentric Humanism

> Like a fish in water, the environmental education field rarely discusses anthropocentrism explicitly—it is the taken-for-granted water in which we all swim. (Fawcett, 2014, p. 409)

The human-centred belief that people are superior to nature is a central part of the problem of environmental degradation and the oppression of nonhuman life (Bell & Russell, 2000; Evernden, 1999). While anthropocentrism may rarely be acknowledged explicitly, the underlying framework of perceived human superiority has created a distancing from the natural world and fostered a resourcist attitude toward it, contributing to its devaluing and degradation. The deep roots of this problem can be brought into focus by considering Western histories of human-animal relations.

Historically, the favoured philosophical traditions inherited from the Enlightenment positioned humans as "above" other animals—different from and superior to them—and owing them little or no moral consideration. For example, several Western philosophers addressed the question of what makes humans distinct from animals and came to anthropocentric conclusions: Aristotle argued that animals exist to serve man [sic], Kant wrote that animals are a means to an end and that end is man [sic], Augustine argued that animals are not self-aware and are therefore inferior to self-aware humans, and Aquinas forwarded that it is pointless to extend charity to animals because they are not rational creatures, and the order of nature is for "irrational" beings to serve "rational" ones. Perhaps most famously, Descartes argued that animals lacked souls and were therefore *mechanisms*, as opposed to *beings*, and as such he believed that having an ethical

stance toward them was unwarranted (Steiner, 2005). These ideas contributed to an intellectual tradition that assumed human interests mattered the most—or were the only interests that mattered at all.

Being firmly rooted in a humanist tradition makes it difficult to question philosophical models where the criteria for inclusion in the moral community is predicated on notions of rationality, autonomy, agency and the "speaking subject" (Russell, 2005; Pedersen, 2004; Wolfe, 2010). Yet herein lies a key tenet of what an animal liberation perspective calls for: an overhaul of traditional ways of thinking about who is a "subject" in this world and what criteria have been used to come to this conclusion. Traditional models of Western liberal thought will never do justice to the moral standing of animals because animals are *de facto* excluded from them, and this highlights the need for a reconceptualized understanding of subjectivity that is not based on the abilities that (some) humans possess, such as speech. Rather, an inclusive model of subjectivity might be based on compassion for all living beings and the recognition that "subjects-of-a-life" (Regan, 2004) come in many shapes, forms, and ways of being in the world.

An animal liberation perspective contributes to a clearer understanding of anthropocentrism by blurring the boundaries that have been used to separate humans from other species. For example, while language has traditionally been understood as the exclusive domain of humans and a marker of subjectivity, if we move outside of a human framework we can see that many animals communicate using a language of sorts, although theirs may be based on scent or vibration or songs rather than words. By the same token, all animals have their own versions of rationality and intelligence; as Bekoff (2002) writes: "[I]t is not very useful to ask if cats are smarter than dogs or chimpanzees are smarter than wolves, for each individual has to do what she or he needs to do in her or his own world" (p. xx). As scientists and ethologists continue to overturn what were once thought of as exclusively human traits—discovering, for example, an awareness of mortality among elephants (McComb, Baker, & Moss, 2006), tool usage among species of ants (Fellers & Fellers, 1976), the use of American Sign Language among gorillas (Haraway, 1989), personality traits in salamander larvae (Sih, Kats, & Maurer, 2003), and culture among humpback whales who even express regional "dialects" within their pods (Whitehead, 2004)—the once clear-cut differences presumed to exist between humans and other animals have become increasingly blurred, leaving us with the realization that anthropocentric notions of subjectivity are rooted, quite simply, in human chauvinism.

An animal liberation perspective calls this chauvinism into question. It demands that we pay ethical attention to other species and our relationships to them, critically considering our treatment of those who are suffering on factory farms, tucked away from our view in laboratories as objects for scientific scrutiny, performing for us in zoos or encaged in aquaria, or extirpated from our environments because of a loss of habitat we have authorized to serve human purposes. In the process, poignant questions about anthropocentrism arise: How do we justify it? What are its outcomes for human *and* animal subjects in this world? What alternative discourses and guiding ethics are available to us? These are important questions for environmental educators who want to challenge the Western disconnect from the natural world.

The Choices on our Plates

> Veganism is not just a personal choice but a political one. It is the ... outcome of the recognition that animals are not property but individual beings who have their own interests, which should be considered. It is an ethical commitment, a symbolic gesture and a statement of principle, the rejection of hierarchy, domination and oppression, an acknowledgement of the inherent value of other beings. (Sorenson, 2010, p. 174)

Following a plant-based diet for ethical reasons can be understood as an enactment of the recognition that animals are subjects. Given Adams' (1995) assertion that the most common way Westerners interact with other animals is by eating them, a vegan diet can represent a political act of challenging hegemonic forms of human-animal relations. Further, while what is on one's plate is a complex matter, influenced by factors of culture, bioregion, socio-economic class, individual preferences and identity (Stapleton, 2015), it is also very much an environmental one. This becomes evident in considering the incredible environmental toll enacted by standardized meat production.

As the industrial factory farming model has expanded to a worldwide standard, the environmental results have been devastating. The outcomes of this model include: the destruction of the Earth's forests for crop growth and cattle ranching, a deeply inefficient cycle of growing cereal and soybean crops primarily to feed livestock (in a time when hunger is facing upwards of a billion people who could use the lands and crops to feed themselves), and the alarming enormity of the water footprint associated with meat-eating in comparison to a plant-based diet (Cassuto, 2010; Clark & Tilman, 2017; D'Silva & Webster, 2010; Garnett, 2009). The

fact that livestock production accounts for more greenhouse gas emissions than transportation shows why veganism can be understood as an environmental act and why, as D'Silva and Webster (2010) write, "most of us [in the Western world] could do more for the climate by cutting our meat and dairy consumption rather than our car and plane journeys" (p. 2). Shifting dietary patterns away from meat and dairy-centric diets is key to environmental sustainability (Clark & Tilman, 2017; D'Silva & Webster, 2010; Stănescu, 2010; Weber & Matthews, 2008).

The environmental costs of meat production are alarming and demand a response, but cannot be considered in isolation from the tremendous *ethical* costs and enormity of animal suffering brought on with intensive confinement models. Industrial agriculture models deny animals their most basic desires, including the desire to move around, to form social bonds, to procure their own food, to create their own homes, to live outdoors, and to raise their offspring. With pigs raised in stalls barely larger than their own bodies, chickens in cages with less than a square foot of floor space per bird, and dairy cows spending most of their lives tethered at the neck, it is no surprise that factory farmed animals suffer physical pain and extreme psychological distress. Unable to exercise and bred to be abnormally large, many become crippled and obese during their short lives. In addition, the high levels of ammonia the animals breathe from the urine and feces that collects below them commonly results in eye infections, breathing problems, and illnesses such as pneumonia. Psychological problems are evident as well; in response to the deprivation that characterizes their lives, many intensively farmed animals exhibit stereotyped behaviours such as thrashing back and forth, ongoing vocalizations, self-mutilation, and "sham chewing" (chewing the air) (Montgomery, 2000; Regan, 2004; Sorenson, 2010). Animal liberation-themed videos make the disturbing realities of factory farming evident to anyone who cares to search for them online.

In writing about diets, it is not my intention to be prescriptive. Rather, my goal is to continue the dialogue about the high cost of meat-eating to humans, animals, and the health of the planet. As carnivorous appetites increase globally, one of the most important messages coming from an environmental perspective concerns the need for people—particularly those in the most developed countries—to eat less meat. Present patterns of meat consumption are unsustainable regardless of the source: small-scale farms could not expand laterally to accommodate current and forecasted patterns of meat eating; there is simply not enough land for this to be possible (Stănescu, 2010). Sadly, the factory farm model is the "answer" to the

growing global desire for meat, but given the extreme costs of this "solution," an animal liberation perspective offers a valuable reminder of the positive ethical, environmental, and health outcomes of opting for plant-based fare.

Environmental Education for a More Humane Future

How might environmental educators incorporate an anti-speciesist perspective in their practices? Humane education deserves mention as an advocacy pedagogy grounded in an intersectionalist vision of social justice that foregrounds human-animal relations (e.g., Fawcett, 2013; Humes, 2008; Selby, 1995, 2000; Pedersen, 2004; Unti & DeRosa, 2003; Weil, 2004). As a field that investigates "how we might live with compassion and respect from everyone ... for all people ... for all animals ... and for the Earth itself" (Weil, 2004, p. 4), humane education seeks to promote understanding of various forms of social (in)justice, from human oppression to animal exploitation to environmental degradation, to approaches to minimizing all three. As such, it is an inherently intersectionalist pedagogy that ensures animals do not end up as a theoretical blind spot, as they too often do in critical theory approaches concerned primarily with human rights and interests.

Humane education offers environmental educators an entry point for exploring issues of animal advocacy and their interconnections to environmental and social justice issues. As Fawcett (2014) notes, humane educators address concerns including "factory farming, international trade in animals, fur farming, and trapping … [which] all harm individuals and have significant holistic environmental impacts" (p. 410). Humane education theory and practices enable educators to holistically consider environmental and animal-related concerns in tandem. For example, one suggested humane activity for younger students outlined by Weil (2004), entitled "Cast Your Vote," demonstrates how consumers shape the political economy as our spent dollars are, effectively, our votes in favour of particular practices and products. Similarly, another activity, entitled "True Cost," sees students analyzing a variety of products (e.g., a can of Coke, a wool sweater, a container of ammonia) and researching the effects of the products on themselves, other people, animals, and the environment. A third activity, "Alien in the Ethical Universe," asks educators to pretend to be alien a fact-finding mission about Earth and its inhabitants, and to ask students thought-provoking questions about animal species such as, 'How are you supposed to treat _____? Is it ever okay to harm _____? Why or why not?' Through

students' responses to the questions, inconsistencies in our treatment of other animals are brought to light. Other humane education topics that can be addressed involve exploring the costs, and educational responses, to meat eating (e.g., Rice, 2013; Rowe, 2011) and animal dissection (Selby, 1995; Oakley, 2009). By peeling back the layers of speciesism and exploitation structured into cultural, political, and consumerist practices and ideologies, humane education activities can contribute to informed decision-making as individuals holistically consider a range of social justice issues and concerns. It is not a panacea (Humes, 2008), nor is it the only field to effectively address these issues, but it does provide an opening. With the goal of fostering critical and creative thinking, reverence and compassion, and a sense of responsibility and action to create a more humane world (Selby, 1995; Weil, 2004), humane education can assist environmental educators in exploring animal liberation concepts as part of a total liberation pedagogy (Kahn & Humes, 2009).

Whether educators draw on humane education or other fields to bring animal-related issues to the fore, I believe the most important point is for environmental educators to broach the topic *to begin with*. We share the planet with billions of other animals and as such, it behoves us to consider our relationships with them critically, materially, metaphorically, spiritually, and ethically. Our work might begin with challenging speciesism and attempting to dismantle relations of hierarchy, replacing them with relations of compassion and interconnection that emerge from the recognition we are not "above" other animals but are, of course, fellow beings alongside them. As Beston (1928) eloquently wrote of our animal neighbours: "They are not brethren, they are not underlings; they are *other nations*, caught with ourselves in the net of life and time, fellow prisoners of the splendour and the travail of the Earth" (p. 20). As environmental educators, that splendour, and our accompanying travails, can only be more fully realized when we incorporate other animals into our thinking, acting, teaching, and research efforts.

References

Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world*. New York, NY: Vintage Books.

Adams, C. J. (1995). *Neither man nor beast: Feminism and the defence of animals.* New York, NY: Continuum International Publishing Group.

Adams, C. J. (1999). Woman-battering and harm to animals. In C. Adams & J. Donovan (Eds.), *Animals and women: Feminist theoretical explorations* (pp. 55-84). Durham, NC: Duke University Press.

Bekoff, M. (2002). *Minding animals: Awareness, emotions, and heart.* New York, NY: Oxford University Press.

Bell, A.C. & Russell, C.L. (2000). Beyond human, beyond words: Anthropocentrism, critical pedagogy, and the poststructuralist turn. *Canadian Journal of Education, 25*(3), 188-203.

Best, S. (2009). The rise of critical animal studies: Putting theory into action and animal liberation into higher education. *Journal for Critical Animal Studies, 7*(1), 9-52.

Best, S., Nocella, A., Kahn, R., Gigliotti, C., & Kemmerer, L. (2007). Introducing critical animal studies. *Journal for Critical Animal Studies, 5*(1), 4-5.

Beston, H. (1928). *The outermost house: A year of life on the great beach of Cape Cod.* New York, NY: Henry Holt and Company.

Castricano, J. (Ed.). (2008). *Animal subjects: An ethical reader in a posthuman world.* Waterloo, ON: Wilfred Laurier University Press.

Cavalieri, P. (2001). *The animal question: Why nonhuman animals deserve human rights.* New York, NY: Oxford University Press.

Clark, M. & Tilman, D. (2017). Comparative analysis of environmental impacts of agricultural food systems, agricultural input efficiency, and food choice. *Environmental Research Letters, 12*. doi https://doi.org/10.1088/1748-9326/aa6cd5

Cole, P. & O'Riley, P. (2010). Coyote & Raven (p)re-visit environmental education, sustainability and runaway capitalism. *Canadian Journal of Environmental Education, 15*, 25-46.

Corman, L. & Vandrovcová, T. (2014). Radical humility: Toward a more holistic Critical Animal Studies pedagogy. In A. Nocella II, J.Sorenson, K. Socha, & A. Matsuoka. (Eds.), *Defining Critical Animal Studies: An introduction to an intersectional social*

justice approach to animal liberation (pp. 135-157). New York, NY: Peter Lang Publishing.

D'Silva, J. & Webster, J. (2010). *The meat crisis: Developing more sustainable production and consumption*. London, UK: Earthscan.

Dunayer, J. (2001). *Animal equality: Language and liberation*. Derwood, MD: Ryce Publishing.

Evernden, N. (1999). *The natural alien: Humankind and environment*. Toronto, ON: University of Toronto Press.

Fawcett, L. (2014). Three degrees of separation: Accounting for naturecultures in environmental education research. In R. Stevenson, M. Brody, J. Dillon, & A. Wals (Eds.), *International handbook of research on environmental education* (pp. 409-423). New York, NY: Routledge.

Fellers, J. H., & Fellers, G. M. (1976). Tool use in a social insect and its implications for competitive interactions. *Science, 192*(4234), 70-72.

Gaard, G. (2001a). Ecofeminism on the wing: Perspectives on human-animal relations. *Women and Environments International Magazine, 52*(53), 19-22.

Gaard, G. (2001b). Women, water, energy: An ecofeminist approach. *Organization and Environment, 14*(2), 157-172.

Garnett, T. (2009). Livestock-related greenhouse gas emissions: Impacts and options for policy makers. *Environmental Science and Policy, 12*, 491-503.

Gough, N., Gough, A., Appelbaum, P., Appelbaum, S., Aswell Doll, M., & Sellers, W. (2003). Tales from Camp Wilde: Queer(y)ing environmental education research. *Canadian Journal of Environmental Education, 8,* 44-66.

Gough, A. (2013). Researching differently: Generating a gender agenda for research in environmental education. In R. Stevenson, M. Brody, J. Dillon, & A. Wals (Eds.), *International handbook of research on environmental education* (pp. 375-383). New York, NY: Routledge.

Haraway, D. (1989). *Primate visions: Gender, race, and nature in the world of modern science.* New York, NY: Routledge.

Hill Collins, P. (1990). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment.* Boston, MA: Unwin Hyman.

Hribel, J. (2010). *Fear of the animal planet: The hidden history of animal resistance*. Petrolia, CA: CounterPunch.

Humes, B. (2008). Moving toward a liberatory pedagogy for all species: Mapping the need for dialogue between humane and anti-oppressive education. *Green Theory and Praxis: The Journal of Ecopedagogy*, *14*(1), 65-85.

Kahn, R. (2008). Towards ecopedagogy: Weaving a broad-based pedagogy of liberation for animals, nature, and the oppressed people of the earth. In A. Darder, R. Torres, & M. Baltodano (Eds.), *The critical pedagogy reader* (2nd ed.) (pp. 522-540). New York, NY: Routledge.

Kahn, R., & Humes, B. (2009). Marching out from the Ultima Thule: Critical counterstories of emancipatory educators working at the intersection on human rights, animal rights, and planetary sustainability. *Canadian Journal of Environmental Education, 14*, 179-195.

Kheel, M. (2004). Vegetarianism and ecofeminism: Toppling patriarchy with a fork. In S. Sapontzis (Ed.), *Food for thought: The debate over eating meat* (pp. 327-341). Amherst, NY: Prometheus Books.

Kuhl, G. (2011). Representing animal-others in educational research. *Canadian Journal of Environmental Education, 16,* 106-122.

LaDuke, W. (2002). *The Winona LaDuke reader: A collection of essential writings.* Stillwater, MN: Voyageur Press.

Lloro-Bidart, T. (2015). "Culture as ability": Organizing enabling educative spaces for humans and animals. *Canadian Journal of Environmental Education, 20*, 93-108.

McComb, K., Baker, L. & Moss, C. (2006). African elephants show high levels of interest in the skulls and ivory of their own species. *Biology letters (The Royal Society), 2*(1), 26-28.

Montgomery, C. (2000). *Blood relations: Animals, humans, and politics.* Toronto, ON: Between the Lines.

Newbery, L. (2003). Will any/body carry that canoe? A geography of the body, ability, and gender. *Canadian Journal of Environmental Education, 8,* 204-216.

Oakley, J. (2009). Under the knife: Animal dissection as a contested school science activity. *Journal for Activist Science and Technology Education, 1*(2), 59-67.

Oakley, J., Watson, G., Russell, C., Cutter-Mackenzie, A., Fawcett, L, Kuhl, G., et al. (2010). Animal encounters in environmental education research: Responding to the "question of the animal." *Canadian Journal of Environmental Education, 15*, 86-102.

Pedersen, H. (2004). Schools, speciesism, and hidden curricula: The role of critical pedagogy for humane education futures. *Journal of Futures Studies, 8*(4), 1-14.

Pedersen, H. (2010). Is 'the posthuman' educable? On the convergence of educational philosophy, animal studies, and posthumanist theory. *Discourse: Studies in the Cultural Politics of Education, 31*(2), 237-250.

Pedersen, H. (2011). Counting affects: Mo(ve)ments of intensity in critical avian education. *Canadian Journal of Environmental Education, 16*, 14-28.

Regan, T. (2004). *Empty cages: Facing the challenge of animal rights.* Lanham, MD: Rowman & Littlefield Publishers, Inc.

Rice, S. (2013, Summer). Three educational problems: The case of eating animals. *Journal of Thought,* 112-127.

Rider, D. (n.d.) "Indians" and animals: A comparative essay. Retrieved from http://aistm.org/david_rider_essay.htm

Root, E. (2010). This land is our land? This land is your land: The decolonizing journeys of white outdoor environmental educators. *Canadian Journal of Environmental Education, 15,* 103-119.

Rowe, B. (2011). Understanding animals-becoming-meat: Embracing a disturbing education. *Critical Education, 2*(7), 1-25.

Russell, C., & Semenko, K. (2016). We take "cow" as a compliment: Fattening humane, environmental, and social justice education. In E. Cameron & C. Russell (Eds.), *The fat pedagogy reader: Challenging weight-based oppression through critical education* (pp. 211-220). New York, NY: Peter Lang.

Russell, C., Sarick, T., & Kennelly, J. (2002). Queering environmental education. *Canadian Journal of Environmental Education, 7*(1), 54-66.

Russell, C. (2005). 'Whoever does not write is written': The role of 'nature' in post-post approaches to environmental education research. *Environmental Education Research, 11*(4), 433-443.

Selby, D. (1995). *Earthkind: A teacher's handbook on humane education.* Stoke-on-Trent, UK:

Trentham.

Selby, D. (2000). Humane education: Widening the circle of compassion and justice. In T. Goldstein & D. Selby (Eds.), *Weaving connections: Educating for peace, social and environmental justice* (pp. 268-296). Toronto, ON: Sumach Press.

Schlosser, E. (2005). *Fast food nation: The dark side of the all-American meal.* New York, NY: Perennial.

Sih, A., Kats, L. B., & Maurer, E. F. (2003). Behavioural correlations across situations and the evolution of antipredator behaviour in a sunfish-salamander system. *Animal Behaviour, 65*(1), 29-44.

Sorenson, J. (2010). *About Canada: Animal rights.* Black Point, NS: Fernwood Publishing.

Sorenson, J. (2014). *Critical Animal Studies: Thinking the unthinkable.* Toronto, ON: Canadian Scholars Press.

Spannring, R. (2017). Animals in environmental education research. *Environmental Education Research, 23*(1), 63-74.

Spiegel, M. (1996). *The dreaded comparison: Human and animal slavery.* New York, NY: Mirror Books.

Stănescu, V. (2010). "Green" eggs and ham? The myth of sustainable meat and the danger of the local. *Journal for Critical Animal Studies, 8*(1-2), 8-32.

Stapleton, S. (2015). Food, identity, and environmental education. *Canadian Journal of Environmental Education, 20,* 12-24.

Steiner, G. (2005). *Anthropocentrism and its discontents: The moral status of animals in the history of western philosophy*. Pittsburgh, PA: University of Pittsburgh Press.

Timmerman, N. & Ostertag, J. (2011). Too many monkeys jumping in their head: Animal lessons within young children's media. *Canadian Journal of Environmental Education, 16,* 59-75.

Unti, B. & DeRosa, B. (2003). Humane education: Past, present and future. In D. J. Salem & A.N. Rowan (Eds.), *The state of the animals II: 2003* (pp. 27-50). Washington, DC: Humane Society Press.

Warkentin, T. (2009). Whale agency: Affordances and acts of resistance in captive environments. In S. McFarland & R. Hediger (Eds.), *Animals and agency: An interdisciplinary exploration* (pp. 23-43). Leiden, Netherlands: Brill.

Warren, K. (1999). Environmental justice: Some ecofeminist worries about a distributive model. *Environmental Ethics, 21,* 149-161.

Watson, G. P. L. (2011). Field birding and digital objects: Immaterial technologies and their implications for one practice of coming to know the more-than-human. *Environmental Education Research, 17*(6), 789-799.

Weber, C. L. & Matthews, H. S. (2008). Food-miles and the relative climate impacts of food choices in the United States. *Environmental Science and Technology, 42*(10), 3508-3513.

Weil, Z. (2004). *The power and promise of humane education.* Gabriola Island, BC: New Society Publishers.

Whitehead, H. (2004). Whale culture and conservation. In M. Bekoff (Ed.), *Encyclopedia of animal behaviour* (Vol. 1) (pp. 466-468). Westport, CT: Greenwood Press.

Wolfe, C. (2010). *What is posthumanism?* Minneapolis, MN: University of Minneapolis Press.