INTRODUCTION

Microplastics and other anthropogenic waste has been found in all corners of the world, from the depths of the Mariana trench to remote mountain lakes. It is just one illustration of the fact that there is no place on this planet that is not a contact zone, if we understand contact zones not only as “social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery, or their aftermaths as they are lived out in many parts of the world today,” but more broadly as ecological spaces where naturecultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery, extractive industry, intensive agriculture, or their aftermaths as they are lived out in many parts of the world today. For that is the first move we propose in this paper: to expand the concept of “contact zone” beyond its human boundaries to include the meeting and clashing not only of cultural systems but also of ecosystems, and to understand their imbrication in what Donna Haraway calls “natureculture.”

In making this move, we follow Mary Louise Pratt’s approval of the extension of the concept of “contact zone” to include other-than-humans. We heed her caution, however, not to turn the multispecies contact zone into a flat descriptor of benign entanglements, but to retain “the contact zone’s tie to the problem of human domination, capitalist modernity, and the ends of power. In this register, the imperial contact zone and the environmental contact zone
are linked by more than just analogy. They are reflexes of each other, ruled by
many of the same myths.” Pratt describes how “contact zones” shift the center of
gravity and point of view, invoking a space and time where previously separated
subjects are “co- present,” emphasizing “how subjects are constituted in and
by their relations to each other.” Adapted from the term “contact language” in
linguistics, Pratt’s contact zone emphasizes the interactive and improvisational
dimensions of encounters while working to shift the site of study from the
imperial center by looking toward the places where invasion, extraction, and
colonization are carried out and lived: the contact zone. In a similar shift, we
challenge divisions of human/nature and human/nonhuman by posing humans
as not only entangled with other-than-human others and ecosystems of which
we are a part, but as often in unequal and violent relations with them.

We read the questions posed for this year’s conference theme in light
of this non-anthropocentric expansion of the concept of “contact zone”: What
is revealed in the (mis)educative experiences that unfold in multispecies contact
zones? How might philosophy of education learn from multispecies contact
zones? And how might philosophy of education contribute to reducing the
inequalities and injustices that occur in these contact zones?

The second move we make in this paper is to contrast thick-skinned-
ness or insensitivity to touch which, by John Dewey’s definition, is a central
feature of miseducative experiences, with the thin-skinnedness and sensitivity
to touch that is required for generative and educative interspecies encounters.
As a third and final move, we propose that one of the revelations of an edu-
cative experience in the multispecies contact zone is that being touched and
affected by other-than-human animals renders us more responsible to them.

EXPANDING THE CONTACT ZONE BEYOND THE HUMAN

There are several reasons for our expansion of the “contact zone” beyond
the human; first, humans are already in relation with other-than-humans, as
shown by our microplastics example in the introduction, and by expanding the
contact zone we can gain a better understanding of other-than-human agency.
Second, an other-than-human contact approach challenges the divide between
humans and nature and how this distinction has served colonial reasoning: “The hierarchized European/non-European and human/nature dichotomies are ideological foundations of capitalist modernity, engines built to drive the creation of wealth through ever intensifying extraction.” Finally, we propose that extending the contact zone beyond the human has educative consequences for interspecies encounters, ones which we will contend render humans more sensitive to, and responsible for, other-than-humans.

Up until now, the “contact zones” of pollution with which we opened the paper have not constituted encounters. Encounters are not simply about existing categories and borders; rather, the “rupturing of borders that is inherent to encounter also opens up a site of ethical, pedagogical, and political potential.” Placing our emphasis on interspecies encounters, we wish to draw attention to the ways in which categories emerge and take shape within contact zones, recognizing that the “political dynamics, affective aspects, historical and spatial dimensions of encounter are interlocking.” We propose that attending to these dimensions of encounters with other-than-humans requires an openness, a sensitivity to the touch of the other.

Pratt describes a contact zone as “invok[ing] the space and time where subjects previously separated by geography and history are co-present, the point at which their trajectories now intersect.” Given recent reports on the effects and predictions of human-induced climate change, it is clear that human and other-than-human trajectories are deeply intertwined, marking our futures as interdependent. Being “co-present” with the ecosystems of which we are a part will require becoming attuned to the agency of other-than-humans, and the ways in which we are affected, and affect others, in these contact zones. While a contact perspective emphasizes how subjects are constituted in and by their relations, a multispecies contact approach extends this subject-making beyond the human, acknowledging both human dependence and destruction that have led to our current climate crisis.

By explicitly focusing on spaces shaped by asymmetrical relations, the contact zone serves as a helpful tool to examine and intervene in instances
of environmental violence and injustice. Looking at sites of pollution like those from our introduction, a contact approach illustrates the interactions of humans, ecosystems, other-than-human animals, and overlapping histories to examine not only the actors involved, but the possibilities of studying “modes of coexistence, transcending the normative tradition of species-specific science, and the presumption of human privilege.”\textsuperscript{15} This approach to environmental justice reaches both beyond the human and the present to extend concern toward the Earth’s future and the relations at stake in that future.

Envisioning new modes of coexistence will require grappling not only with the asymmetry of relations between humans and other-than-humans, but also the asymmetrical responsibilities and consequences of the Anthropocene.\textsuperscript{16} The effects of anthropogenic climate change vary across the globe, disproportionately affecting vulnerable populations such as those in developing countries, Indigenous peoples, and the younger generation. Scholars critical of the universalizing discourse of the Anthropocene point out that it suggests that “all humans are equally implicated under the sign of the ‘anthropos.’”\textsuperscript{17} Heather Davis and Zoe Todd argue that linking the Anthropocene with the beginnings of colonization allows the concept to better capture the violence, displacement, and disruption of ecological relations. Moreover, like Pratt, Haraway is attentive to the colonial violence that has led to the conditions of the Anthropocene in which naturecultures are located. While we do not want to belabour this concept here, it is worth mentioning that Haraway has suggested “Plantationocene” as a term that better captures the imbrication of colonial and ecological violence: “The Plantationocene makes one pay attention to the historical relocations of the substances of living and dying around the Earth as a necessary prerequisite to their extraction.”\textsuperscript{18}

Anthropocentric worldviews that treat humans as “outside” or separate from nature deny the continuity between human and other-than-human spheres, such as the example of anthropogenic waste. Upholding this divide, “nature” is portrayed as “pure” or uncontaminated by human touch. This account of nature, however, erases the importance and agency of other-than-humans, as well as the generative potential of human and other-than-human encounters.
Interrupting this dichotomy, Haraway uses the term “natureculture” to refer to the impossibility of disentangling “nature” and “culture.” What humans think of as “creatures of nature” are shaped by cultural processes such as storytelling, and what humans think of as “creatures of culture” (i.e., themselves) are also shaped by the facts of natural processes: “Historical specificity and contingent mutability rule all the way down, into nature and culture, into naturecultures.”

This story of inescapable relation poses the multispecies contact zone as a space where plants, agricultural patterns, technology, human and other-than-human animals, soil types and other inhabitants of the land meet and clash. Using Althusser’s theory of ideology, we could say that subjects in these contact zones are “hailed” into constructs of “nature” and “culture,” while simultaneously shaped by fleshly encounters not exhausted by ideologies. Haraway writes that “inhabitants of technoculture become who we are in the symbiogenetic tissues of naturecultures, in story and in fact.” The question we wish to address in the following section is the (mis)educative potential of encounters in contact zones understood as involving both human and other-than-human species and being marked by a colonial history that affects all.

**EDUCATIVE AND MISEDUCATIVE EXPERIENCES**

In order to understand the nature of different encounters in multispecies contact zones, and their educative potential, let us revisit Dewey’s distinction between educative and miseducative experiences. Dewey writes: “every experience enacted and undergone modifies the one who acts and undergoes, while this modification affects, whether we wish it or not, the quality of subsequent experiences.” This lasting influence of experiences is the foundation of Dewey’s conception of habit, which involves not only patterns of action but also patterns of perception: “The principle of habit … covers our basic sensitivities and ways of meeting and responding to all the conditions which we meet in living.” In other words, our experiences, including those in encounters with other-than-human animals, affect how we perceive those other-than-human animals in the future; moreover, every encounter is already shaped by the previous experiences that have formed a person’s perceptual habits. Haraway understood this when she wrote, “contact zones are where the action is, and current interactions change
interactions to follow.”

As we alluded to in our introduction, we believe that a thin-skinnedness and sensitivity to touch is required for generative and educative interspecies encounters. This idea of “thin-skinnedness” is the opposite of Dewey’s characterization of a miseducative experience:

Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience. An experience may be such as to engender callousness: it may produce lack of sensitivity and responsiveness. Then the possibilities of having richer experience in the future are arrested.

The words Dewey chooses to characterize the miseducative experience are telling: “callousness” refers to a thickening of the skin, insensitivity to touch, a diminished susceptibility. Not coincidentally, it is precisely touch that is Haraway’s focus in her argument about the ethical consequences of interspecies encounters:

My premise is that touch ramifies and shapes accountability. Accountability, caring for, being affected, and entering into responsibility are not ethical abstractions; these mundane, prosaic things are the result of having truck with each other. Touch does not make one small; it peppers its partners with attachment sites for world making. Touch, regard, looking back, becoming with—all these make us responsible in unpredictable ways for which worlds take shape. In touch and regard, partners willy nilly are in the miscegenous mud that infuses our bodies with all that brought that contact into being. Touch and regard have consequences.

Haraway’s argument for interspecies experiences in which humans touch and are touched is all about encounters that generate not only more responsiveness and thus educative potential, but also more responsibility for other-than-human animals in future encounters.
Thin-skinnedness in interspecies encounters is not always a pleasant experience; Val Plumwood was able to attest to the disadvantages of human thin-skinnedness after barely surviving an encounter with a crocodile in Kakadu National Park, Australia. Nonetheless, her account of this encounter shows a remarkable responsiveness and sense of responsibility:

as the experience of being prey is eliminated from the face of the earth, along with it goes something it has to teach about the power and resistance of nature and the delusions of human arrogance. In my work as philosopher, I now tend to stress our failure to perceive human vulnerability, the delusions of our view of ourselves as rational masters of a malleable nature.26

While we would, of course, advocate for some boundaries of safety in educationally designed interspecies encounters, the question is not whether such experiences are “fun” but whether they promote respect, attentiveness, and an understanding of, as Haraway puts it, “having truck with each other.”

While Dewey and Haraway may, at first glance, appear odd bedfellows or “odd kin,” Barbara Stengel has highlighted how attentiveness and responsiveness play a central role in the work of both critical pragmatist and new materialist scholars. Based on Haraway’s and Vinciane Despret’s work, Stengel makes a case for attunement across species “as a, perhaps the, goal of education. Learning to listen, to attend carefully and relentlessly, to unexpected others… is the single disposition that renders education what it can and must be: the interaction quite literally constituting (ethical) community. Dewey knew it then; Haraway knows it now.”27 Learning to listen and attend to unexpected others requires also that we take stock of the many contact zones where we already encounter such unexpected others, including other-than-humans, and thus have opportunities to be affected by them, hear their response and find ourselves response-able and responsible.

One of the challenges is that the more privileged among us tend to have our senses shielded from touch by layer upon layer of technology. More privileged humans suffer little contact in the contact zone, safely quarantined
from the sights, sounds, smells, textures, temperatures, and movements of both the human and other-than-human lives that are disregarded, affected, or snuffed out for our benefit. One of the questions for education then becomes how we can reintroduce *touch points* that enable educative experiences and generate thin-skinnedness for future experiences.

**BECOMING RESPONSIBLE FOR OTHER-THAN-HUMANS**

We contend that one of the revelations of an *educative* experience in the multispecies contact zone is that being touched and affected by other-than-human animals renders us more responsible to them. The callousness or lack of responsiveness in miseducative experiences is contrasted with Haraway’s notion of “response-ability,” or the practice of rendering one another capable of *response*. This practice is not only about humans becoming capable of responding to other-than-humans, but also the other way around. If other-than-humans are recognized as capable of response rather than simply reaction, capable of action rather than behaviour, capable of a gaze rather than a look, and so forth, this has serious implications for teacher-student relations and other aspects of education in which *subjectivity* is at stake.28 “Response ability,” for Haraway, is not about “being,” but always about “becoming-with” others as a practice of “becoming worldly,” or the challenge of learning to live and die well together. This sense of responsibility requires a mutuality that is unthinkable within bounded individualism:

meetings make us who and what we are in the avid contact zones that are the world. Once “we” have met, we can never be “the same” again. Propelled by the tasty but risky obligation of curiosity among companion species, once we know, we cannot not know. If we know well, searching with fingery eyes, we care. That is how responsibility grows.29

Response-ability requires a sensitivity to touch, a curiosity that compels us to attend to the agency and responsiveness of unexpected others. Crafted in interaction, response-ability is thus a relationship through which “entities, subjects and objects come into being.”30 These multidirectional
relationships shape the capacity to respond of all entities in the process of becoming.

Being touched and affected by other-than-human animals in a way that renders us more responsible to them, and sees them as capable of response, requires attention to the specificity of each encounter. Although the language of the “multispecies contact zone” may suggest otherwise, these contact zones do not comprise encounters between “humans” and “other-than-human animals” in their generic species-being. Attention is required to “the specificity of lived natural-cultural entanglements in thick contact zones, with their own very particular histories and possibilities.”31 In other words, an encounter happens only between a particular human being and a particular other-than-human-animal in a particular space and time. When Stephanie Mackler recounts finding her daughter “crouched down in the driveway mourning a dead worm,” she is describing a particular encounter of a particular human being with a particular worm that died in particular circumstances on a particular driveway in the United States.32 When Sebastian Abrahamsson recounts finding almost twenty worms, some alive, many dead, after they crawled out of the worm composting bin on his balcony in Amsterdam, he is describing a different encounter with different worms that died in different circumstances.33 There are no general encounters between humans and other-than-human animals. Each encounter renders the particular human being responsible in particular ways. Perhaps the dead worm on Mackler’s driveway crawled out from the grass and dried out before it could traverse the stretch of impenetrable paving, prompting questions about humans’ desire for stable road surfaces and other-than-humans’ need for penetrable soil. Perhaps the dead worms on Abrahamsson’s balcony escaped conditions that were too wet or too acidic, prompting questions about humans’ desire to recreate conditions for the decomposition of food waste in a built environment.

We opened the paper with examples of destructive human traces in multispecies contact zones, but not all multispecies contact needs to be destructive. In some cases, such as human beings harvesting sweetgrass, multispecies contact helps both species thrive.34 In others, learning to be mindful of each
other and staying out of each other’s way is the best form of coexistence. The garter snakes that escape through the backyard fence respond to the cautionary stomping of garden clogs and stay out of the way of grass mowers and clippers; the human wearing the garden clogs has learned to be kind to garter snakes, as they help keep the slug population under control. Dewey’s criterion of the extent to which a present experience can generate a richer experience in the future is helpful for understanding encounters in multispecies contact zones that promote greater sensitivity and attentiveness to other-than-humans.

CONCLUSION

Let us return to the questions that motivated this paper: How might philosophy of education learn from multispecies contact zones? As this paper has shown, philosophy of education might learn to ask its questions and frame its claims differently, that is, less anthropocentrically and with a commitment to questioning human primacy and autonomy. For too long, philosophy of education has remained largely anthropocentric, with even those concerned about the climate crisis and ecological degradation often focusing on human autonomy as a sine qua non of education. Understanding the contact zone as involving “asymmetrical relations of power” between groups of people as well as between humans and other-than-humans allows for a better understanding of the colonial history that produced both types of inequalities.

Secondly, what is revealed in the (mis)educative experiences that unfold in multispecies contact zones? As we have sought to show, multispecies encounters raise questions not only about the (mis)educative experiences for the human beings in those encounters but, more broadly, about “what is at stake—ethically, politically, epistemologically—for different forms of life caught up in diverse relationships of knowing and living together.” A human being mixes sugar water to fill the hummingbird feeder, a step into a multispecies contact zone with local pollinators. Moving from flower to feeder, a hummingbird lands to drink and is promptly chased off by another hummingbird. Trying to escape, the hummingbird hits the glass of the balcony and becomes tangled in the vines of an unruly nasturtium. The dog jumps up, excited by the sudden fluttering
at eye level, and tries to catch the hummingbird. The human being fails to save the bird from the dog and is left to bury the dead bird under a nearby tree. A small drama on a balcony, insignificant in the bigger scheme of things, but illustrative of the educative significance of touch points. All are affected: the bird loses its life; the dog has a moment of excitement, then is puzzled that the human won't look her in the eye; the human being feels saddened by the bird's demise, briefly angry with the dog for killing the bird, then responsible for the glass that tricked the bird, and the dog's boredom on the balcony. There is no neutral place in the multispecies contact zones of which we are already a part, if only we attend to them. As Haraway writes, “Once again we are in a knot of species coshaping one another in layers of reciprocating complexity all the way down. Response and respect are possible only in those knots, with actual animals and people looking back at each other, sticky with all their muddled histories.”

Finally, how might philosophy of education contribute to reducing the inequalities and injustices that occur in these contact zones? We return to Haraway’s contention that meetings make us who and what we are in the contact zone. This raises the fundamental question of becoming a “who” or remaining a “what,” being rendered a response-able subject or remaining a reactive object. Why does the chicken that ends up in the school lunch remain a “what” while the guinea pig in the classroom becomes a named subject? How do the ways we feed and care for the named humans and other-than-humans in our lives touch the distant and anonymous others displaced by heatwaves, rising tides, and other effects of anthropogenic climate change? Untangling the multitude of relations in the contact zone requires returning to the “touch” of our encounters, both close and distant.

As “touch” becomes more and more mediated, response-ability compels us to reconsider the touch points we meet and grapple with in the multispecies contact zone. “I want to know how to live with the histories I am coming to know” Haraway writes, “once one has been in touch, obligations and possibilities for response change.” Propelled by the “tasty but risky obligation of curiosity” we propose that encounters with other-than-humans provide a potentially ed-
ucative space to explore questions around the climate crisis, other-than-human subjectivity, and the limits of human autonomy within philosophy of education.

As we stated, the “contact zones” of pollution with which we opened the paper have not constituted encounters. When Haraway writes, “once ‘we’ have met, we can never be ‘the same’ again,” she is referring to encounters that go well beyond mere physical contact. They are encounters in which humans must be open to meeting another species, that is, to being part of a “we” not limited to human others. If sites of pollution and ecological destruction are multispecies contact zones that generate miseducative experiences, then the task is to facilitate educative encounters in multispecies contact zones in which humans and other-than-humans can meet and touch in mutually generative ways, ways that lead us to say: “They touch, therefore they are more” and not, “they touch, therefore they are less.”

1 Donna J. Haraway, When Species Meet (Minneapolis: University of Minnesota Press, 2008), 263.


5 We follow Blenkinsop and Scott in their use of “other-than-human” as a term that avoids the difficulties of terms like “nonhuman” or “more-than-human” but still conveys “a sense of nonhierarchy and a slight nod to displacing the human from the center.” Sean Blenkinsop and Charles Scott, “Becoming


7 Mary Louise Pratt, Imperial Eyes: Travel Writing and Transculturation 2nd ed. (New York: Routledge, 2007), 8.


9 We acknowledge the critique of the concept of “species” and the taxonomical organization it implies, we follow Van Dooren, Kirksey, and Münster’s use of the term, and their observation that “close attention to other kinds of life reveals that humans are not exceptional in our ability to classify and categorize.” Thom van Dooren, Eben Kirksey, and Ursula Münster, “Multispecies Studies: Cultivating Arts of Attentiveness,” Environmental Humanities 8, no. 1 (2016): 1–23; 5.


13 Pratt, Imperial Eyes, 6.


16 We use the term “Anthropocene” here as popularized by Crutzen and Stoermer to denote a shift from the Holocene toward an age where the “major


19 Haraway, Companion Species Manifesto, 12.

20 Haraway, Companion Species Manifesto, 17.


22 Dewey, Experience and Education, 35.

23 Haraway, When Species Meet, 219.

24 Dewey, Experience and Education, 25-26 (emphasis added).

25 Haraway, When Species Meet, 36.


29 Haraway, When Species Meet, 287.

30 Haraway, When Species Meet, 71.


32 Stephanie Mackler, “Raising a Human: An Arendtian Inquiry into


36 Van Dooren, Kirksey and Münster, “Multispecies Studies,” 5.

37 Haraway, *When Species Meet*, 42.

38 Haraway, *When Species Meet*, 97.