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ARTICLE

# Hyperobjects, Media, and Assemblages of Collective Living: Playing With Ontology as Environmental Education

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**Abstract**

This article emphasises the importance of creative thought for environmental education through a discussion of the ontologically rich work of Anna Tsing, Timothy Morton and John Peters. The recent turn toward ontology in the humanities and social sciences has consequently led to diverse theories about 'how things are', and some of these concepts might assist justice-oriented environmental educators in raising ecological awareness in a time of crisis. Using assemblages, media and hyperobjects as concepts to (re)imagine the the world(s) of the Anthropocene, this article promotes a practice of ontic-play, a constantly changing engagement with ontological thought. To think through ecological crisis means moving towards philosophy as creation or art. In other words, engaging thought from the future.

**Keywords:** environment; ontology; hyperobjects; assemblages; media; philosophy; education

One of the most depressing contexts educators face is disdain for thought. Of course, some disdain is justified. For centuries the controlling sides of modernity — colonialism, white supremacy and capitalist (re)production — have clearly ushered in what some people are calling the Anthropocene[1] (Hardt & Negri, 2000). And while educators spend time with theory, private interests continue to consume and enclose our shared common worlds. Add to this the fact that many of the world's trusted theologies, save perhaps Indigenous spiritualities and radically open faith communities, have largely not kept pace with the ecological, affective and spiritual needs of an increasingly entangled world. Scratching the surface of modern Western thought often reveals a patriarchal white human or an agricultural god underneath (Irigaray & Bové, 1987; Morton, 2017). This article attempts to frame thought, more specifically ontology[2] as an open field of play; something more in keeping with the strangeness of our current ecological crisis. As fun as this might sound, there are problems. First, there is the critical task of locating thought ecologically, materially and sociopolitically. Full disclosure: I am a White cis-male with a privileged job (but am no agricultural god). As an uninvited guest on Treaty 4 territory in the country known to many as Canada, I am aware that Eurocentric philosophy can be another form of neocolonialism under the guise of education (Todd, 2016)[3]. Having said that, what follows might aid in justice-oriented environmental education if it helps enable educators and students to think differently about our ecological crisis, and/or break with the status quo in the name of radical equality of all beings (Rancière & Corcoran, 2010).

Opposition to thought and ideality, however, has the strange effect of reminding educators of the ethical responsibility to think (which is not to say that educators are not already thinking). Undeniably, some ways of thinking are more conducive to multispecies flourishing than others.

Impending extinctions and increasing precarity plainly indicate that less destructive ways of thinking have largely not been 'thunk' yet; or, in the case of Indigenous ways of living, systematically eradicated. Part of an educator's ethical calling should be to set the conditions for thinking what has not yet been thought; and some of this (re)thinking must happen on the plane of the ontological — or how things exist (see Cole, 2019). This thinking cannot follow only one line of thought, but should take multiple forms of *ontological play*. By ontological play, I mean light and constantly changing thinking about 'how things are'. The 5,000 word limit for papers in this special issue sets up a difficult choice between breadth and depth. I warily chose breadth to demonstrate a kind of indeterminacy that comes when considering multiple thinkers simultaneously (yes, clutter comes too). Using the work of Anna Tsing, John Peters and Timothy Morton, I will bring forward, in this playful sense of active and light movement, some ontological concepts that might assist educators in reconsidering ontology in the Anthropocene (see also Lloro-Bidart, 2015). While the thinkers in the following sections are diverse, they converge around their openness to difference, commitment to relationality, and in their view that being is not pre-given, but entirely emergent. Besides introducing ontological concepts that might enable educators to think differently, my goal is also to think differently myself.[4] Environmental education should not seek one 'correct' theoretical orientation, but instead help students and teachers differently express how the world is beautifully queer (Russell, 2013). It is not a matter of setting each other straight, but nurturing different powers.

## 'So is it important to think?'

'So is it important to think' is the title of one of the many interviews of Michel Foucault; a 20th century theorist who tried to conceptualise modern (bio)power and subjectivity (Foucault, 2003). Foucault's critical project is an indirect precursor of many critical approaches to environment, science and governance, which can arguably be seen in the work of Kathryn Yusoff's (2018) *A Billion Black Anthropocenes or None*. Yussof's scholarship argues that the rigid separation of the geological sciences and colonialism is largely (and purposefully) artificial. Analyses like Yussof's prevent seemingly benign knowledges about materiality (the natural sciences) from escaping their political entanglement. Such work also (re)positions black and brown bodies and subjectivities in relation to the (White Eurocentric) geologic, and a bio/geopolitical materiality. The lines of thought that guide expansive critical projects clear space for other creative modes of thinking needed to engage something as gigantic as the Anthropocene (remembering again that not all humans are equally responsible for driving or responding to Anthropocenic change (think colonialism, global north, White supremacy).[5] In other words, politics and critique need to also address the ethical realities of everyday life and being. How might beings become different? How does the Anthropocene provoke questions of collective existence and/or destruction (Malone, 2019)? Educators are increasingly thinking about different forms of ethico-political entanglements of decoloniality, materiality, place and politics (McKenzie & Bieler 2016; Nxumalo, 2019). This is why the arts, spirituality, philosophy and Indigenous teachings are vital to survival in the Anthropocene.

Thinking with the arts, spirituality and humanities is sometimes tricky in education because it has historically been governed by the social sciences. This is largely due to state investment in human capital production. By the mid 20th century, public education was increasingly seen as an apparatus of intervention that could solve the state's problems; and the collection of empirical data via educational research went hand in hand with this shift (Zheng, 2018). However, the categorisation of education as (only) a social science may actually be dangerous for rethinking collective living in the Anthropocene, because our understanding of our current ecological predicament is still far from clear. For philosopher Graham Harman (2017), art and philosophy are examples of 'anti-knowledges'. Their primary purpose is to render

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what we know as uncertain and open to question and reconfiguration. Engaging philosophy, art and spirituality in environmental education does not consist of describing properties of environments or issues. It is to engage something differently, and in a way that no paraphrase or set of properties could possibly capture. To be sure, environmental education often conveys many knowledges, such as Indigenous, community, scientific, practical, storied and legal. And, according to Harman, knowledges that attempt to describe things in detail require a different attunement than art, spirituality, and philosophy (which is not to say that these approaches are not inextricably entangled and sometimes interchangeable). The differences between these approaches are important because some educators too often dismiss the data-driven narrowness of the sciences and social sciences. Likewise, some educators too often dismiss the aspirational and necessarily pretentious (or affectational) discourses of art and philosophy. Surviving the Anthropocene entails breaking science's monopoly on the way people understand the material world and ecology. It also means not limiting the arts and humanities (and even 'posthumanities') to mere social, political and ethical concerns (or to humans!). Art, spirituality, philosophy, theory and history are not simply first stages of empirical research — their mandate is much wider (Harman, 2015). This is one reason why Donna Haraway's (2016) recent work with string figures is so effective; it attempts to shift the aesthetics of what can be imagined and sensed. Haraway's project is not so much to build posthumanist/feminist knowledge, but to overturn theological soapboxes and explore what has not quite been possible to think just yet.

The following sections hopefully encourage educators to diversify their theories concerning ecological awareness and collective living. Having them together is intended to emphasise that a multiplicity of thinking is needed for collective living on a damaged planet.

## Tsing's Assemblages of Collective Life in Capitalist Ruins

Of all the texts that pursue an transdisciplinary line of thought, Anna Tsing's (2015) *Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* has been a top choice of graduate students I have taught. Tsing's multispecies anthropological work strings together the experience of precarious workers (mushroom pickers) and their relationship to commodified companion species like Matsutake mushrooms. Tsing suggests that the work at hand does not reside with the failed promises of the 20th century, such as capitalism or a rigid socialism, which prescribe themselves as the only solution. Rather, more attention needs to be paid to *collective assemblages* of livability among the precarity of capitalist ruins. *Capitalist ruins* is a key concept for life in the Anthropocene — a somewhat dystopic view that grants capitalism's culpability and destroys its persistent claims on delivering vibrant collective futures. The work makes clear that environmental education must engage with political economy in order to imagine different futures (see Hursh, Henderson, & Greenwood, 2015; Moore, 2016). Tsing (2015) asks what forms of collectivity and solidarity can be realised within the 'eddies' of capital flow and the (un)commodified movements of people and species: '[w]hat emerges in damaged landscapes, beyond the call of industrial promise or ruin?' (p. 18). Species, even after 'the end of the world', are still stuck with the task of living. And life in the Anthropocene, at least for the foreseeable future, must contend with capitalist value extraction without the economic or political certainties of the past. Like Haraway, Tsing declares grand political visions antiquated; though stalled or nascent might be a better way to put it.

The ontological dimension of Tsing's work is partly centred around the concept of assemblages. Unlike a Deleuzian view of assemblages (Bazzul & Kayumova, 2016; DeLanda, 2006), Tsing (2015) thinks of them as world-making projects from an ethnographic and more-than-human perspective; and in this way Tsing's work is as much political philosophy as it is anthropology. Assemblages of collective living involve the interplay of many kinds of being and lived relationships, making the isolation of entities such as mushrooms, migrant workers, trees and capital

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impossible. Conversely, modern capitalism makes things 'stand alone' in an environment, while anything that cannot generate capital is seen as waste. Attention to relationships, including future generations, is what Indigenous ways of being have nurtured for so long (Mohawk, 2010; Stonechild, 2016). Tsing paints a patchy and unruly view of assemblages, opening them up to different temporal rhythms and a mosaic of stories and histories in the making. Active thought resides on the edges of assemblages, where precarious life requires attention and care. Assemblages in the Anthropocene do not exist outside of capitalism, but are vantage points for understanding life within political economies. Capitalist supply chains will try and drain value from all assemblages, even those not directly connected to formal capitalist networks, leading to what Tsing terms *salvage accumulation*. This also holds true for the educational commons. Educational communities are also assemblages of collected living, and they are increasingly being mined for profit (Means, Ford, & Slater, 2017). Gaining access to value through violence is the essence of capitalism and colonialism. For change to happen, diverse economies need to be envisioned through multidisciplined lenses — before capitalism extracts everything it can.

Assemblages are anti-individual in that all things within an assemblage are contaminated and affected by encounters (see also Shotwell, 2016). Studying individual entities, such as trees, students or capital, without assuming that they change with encounters is far easier. All it takes to examine individuals are metrics. And the over-reliance on metrics has led to the modern conceptual problem of scalability. When something is scaled, the arrangements meant for one scale or context are automatically fitted onto another with little attention to organic encounter or relationality. For Tsing, the opposite of scalability is *contaminated relationality*. For Tsing, examining mushrooms or workers on their own, outside of intense relationships, would alienate both species. Things have value only in relationship (something lost in modern political economy). In this way, Tsing's criticism of scalability also troubles the modern synthesis of biology, which presents the biological world as perfectly interlocking at various levels of organisation. It also disrupts the basic premise of ecological succession, which states that environments follow predictable patterns of ecological change over time. Tsing draws from Laura Cameron's (1999) historical work demonstrating how disturbances in both psychic and ecological life parallel each other. Once the life events of environments and humans are altered, they do not progress in expected ways.

Disturbance is a concept that takes on an ambiguous ontological and ethical meaning because disturbances are sometimes unavoidable (e.g., earthquakes and flooding), but can also be provoked (e.g., revolutions, toxic waste pollution). In the Anthropocene disturbances will increasingly give shape to what Tsing describes as tiny eddies of coming together. Figure 1 is a fingerpaint-like representation of the concept of disturbance using Tsing's metaphor of streams and eddies (diagrams being both a discursive and/or non-discursive way of relaying ontological concepts).

Flows of commodities, time, and oceans create eddies where symbiosis, multiplicity and relationality will increasingly come to define collective life. Studying polyphonal assemblages of life that resist scalability means looking at landscapes with disparate ways of knowing and noticing (e.g., stories, science reports, spiritual practices, Indigenous ways of knowing). Thinking that reveals contaminated diversity and enables collective living is thought from the future.

## Media, Being and Environment

> *In an extreme situation everything on a ship is cargo, including the ship itself. Emergency converts necessity into superfluity. The imperative of survival over values the vehicle: my kingdom for a horse. In dire straits content is the first thing to go. This is one reason why at the dawn of the Anthropocene we need an elemental philosophy of media. (Peters, 2015, p. 104)*

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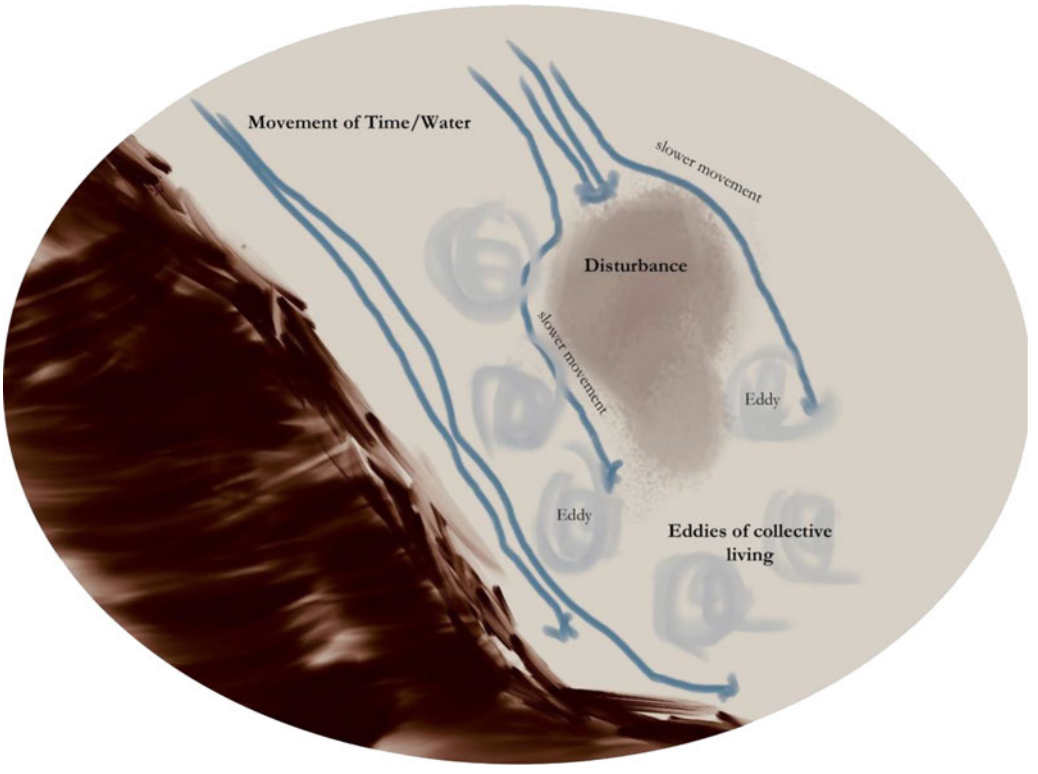


**Figure 1.** Diagram of disturbance. How is disturbance a part of life in the Anthropocene?.

I was given John Peters' (2015) *The Marvelous Clouds: Toward a Philosophy of Elemental Media* by Valerie Triggs — an artist and educator teaching me to think differently. The point of the gift was to provoke a conversation of media and being, instead of the usual subject matter of television, telephones and tweeting. Media in this sense has to do with how human and more-than-human beings materially and semiotically mediate and are mediated. According to Marshall McLuhan (McLuhan & Lapham, 1994), one of the founders of media studies and an inspiration for Peters, what is interesting about media is not necessarily what is right in front of us, but how the things right in front of us extend time and space. Many know McLuhan's iconic line *the medium is the message*. This approach positions media studies as an exploration of ontology and being, and not merely an analysis of content. A medium becomes an *ontological shifter* more than a passive vessel of communication. From this perspective, content is secondary to how entities connect and mediate each other and provide the very conditions of existence. Communication is therefore simply part of the space where expression and existence merge. Environmental education from a media studies perspective involves examining how things are networked together, and how this networking achieves different forms of existence. Trying to think a world outside of anthropocentrism means asking how all forms of life (e.g., marine, modern human, or microbial) emerge from various media and infrastructure (e.g., soil, oceans, fibre optic cables).

Media and mediation are elemental to life, each having its own more-than-human grammar and ecological importance, from river systems to cars to pheromones. From an evolutionary point of view, older modes of mediation within an environment do not necessarily go away, but recede into the background infrastructure (e.g., vestigial structures and 'reptilian brains'). From the

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perspective of media there is little difference between a biologist and historian. Like Tsing's turn to contamination and relationality, examinations of how entities mediate upon infrastructures may provide lines of thought for educators looking to break from anthropocentrism. The metaphor of the ship in the epigraph is more than a lesson in survival economics. It gets at the strangely ambiguous relationship between elements, content and form, as well as structure and infrastructure. Is it really possible to know the sea without some kind of 'ship'? Does the sea mediate the vessel or vice versa? Media troubles simple relationships between technology and the elemental world. A contemporary example can be seen in the somewhat dated videogame Pokémon Go™— as people walk around an augmented world looking for virtual critters, who is really mediating who? In this way the 'sea and ship' are amphibious. It is not useful to say one is 'natural' and one is 'cultural'. No medium has meaning (or being) in isolation from the enabling infrastructures that most often go unnoticed. To some degree, mediation always strangely precedes being.

Media studies consequently challenge basic assumptions about environments. Environments are not just containers of objects or places that consist of things. Mediation(s) create environments. They do not exist prior to mediation and being. Whether through bodies, neurons, affective relationships or technologies, the creation of environments has been occurring well before the emergence of our species. Media studies is inherently transdisciplinary and relevant to environmental education because there is nothing non-mediated and non-technical to teach about. Infrastructures of being cannot be filtered out of science, music, land-based education and politics. What makes it tricky is that media are always in the middle. Going back to our ship metaphor, it is always a matter of positioning. Something defined as a medium can fade away once its position shifts, thereby subverting rigid universalities of what a medium could be. Ontology to Peters (2015) is not flat, but 'wrinkly' and 'bunched' (p. 31) — just like Tsing's assemblages. Environmental education can only expand its ontological horizon as it considers the seemingly mundane or invisible infrastructures that 'stand under' worlds — from the elemental to the semiotic. What brings media into relief is what Timothy Morton (2012) calls malfunctioning. For Morton, all objects are really noticed when they malfunction. What environmental educators need to ask is, how will humans mediate with their surroundings as they change rapidly or disappear? What happens when the ship goes under, or the ocean disappears?

## Hyperobjects and Uncanny Ecological Thought

Timothy Morton's work, specifically *Dark Ecology* (2016) and *Hyperobjects* (2013), has also resonated with my students, because it subverts the taken-for-granted structures of thought surrounding ecological awareness. In this final section, I will try to introduce Morton's concept of hyperobjects in a way that captures Morton's playful approach to ontology. Ontology concerns how things exist, not what exists. It should be creative, not doctrinal. Morton's work emphasises the ecological strangeness of both identity and time; for example: Am I human or a symbiotic mess of bacteria and animal cells or just an effect of an ecosystem? Does now mean today, or perhaps the late Holocene, or whatever it says on my smartphone? Objects, time and ecological awareness are strange; and because of this, philosophy is also ambiguity tolerance training (Morton, 2017). Morton subscribes to object-oriented ontology, which promotes critical engagement with unexamined correlationist thinking (among many other things). This means that things appear to humans, yet no description or sensory experience should be mistaken for the thing itself. Things retain a certain amount of inaccessibility, such that a constant level of ambiguity is an ontological feature of our shared world(s). For Morton, the more we understand the endless series of connections things have to each other, and that the being of a bird's nest is as profound as human being, the more we will come to realise that we (humans) are responsible. The struggle for survival is fundamentally on ontological struggle.

Morton argues that humans cannot create a different future with thoughts they are thinking now, as these thoughts only lead to the present. In other words, '[i]t is not a future to which we can

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progress … [t]he future is unthinkable, yet here we are thinking it' (Morton, 2016, p. 1). If educators want a future different from the present they must become aware of a future that remains 'unthunk'. Artistic expression is precisely this thought from the future. Accessing thought from the future is arguably the task of a philosophy of environment that operates more like art. This sets up a weird relationship to thought, where it will always be connected to something just beyond. Imagine, so many things remain unthought at this very moment, yet nonetheless, someone manages to form a creative thought! Environmental educators should engage worlds of art and literature (Gough, 2007); however, this requires following the uncanniness of thought.

To Morton (2016), humans have become Mesopotamians (save Indigenous peoples living sustainably with the land). Which is a cheeky way of saying that humans are living in the shadows of the agricultural revolution, with its monospecies and monotheisms. The innovations of thought and practice coming out of the fertile crescent 12,000 years ago, like religions that separate humans (men) from chattel, may not lead to the futures where multispecies flourish. Ecological awareness for most humans will likely involve encountering something shocking and weird, because many of us have been locked into Mesopotamian agrilogistics for so long. There is an eerie connection between agrilogistics and general human conceptions of media and position(ing). For instance, the term 'field', where crops are grown, still orients modern Western understandings of space and knowledge. Agrilogistics, like scalability and individualism, promises safety through a focus on quantity (of yield) and the division of humans (men, white people, the wealthy) from all other beings. Again, think *mono*. Morton considers agrilogistics a 'viral program' of thought that is responsible for the massive die-off of non-domesticated vertebrates (Ceballos, Ehrlich, & Dirzo, 2017). The rise of the landowner as the basis for subjectivity emerges with agrilogistics, along with an ethics of self-interest, patriarchal social hierarchies, and massive inequality of wellbeing.

The imbalance between industrial human societies and actually available ecological space has brought the *hyperobjects* of the Anthropocene into relief (Morton, 2013). A hyperobject is an ecological concept put forward by Morton, in part, to evoke an encounter with the uncanny ontological nature of our ecological crisis. Hyperobjects are massively distributed things, so large that: (a) humans can only perceive bits of them at a time; (b) they exist whether humans 'think them' or not; (c) they force humans to notice them and think in their immanence; (d) their fundamental identity resists knowing; (e) they exist on different temporal and spatial scales simultaneously; (f) they are observed interobjectively through relationships with other objects; and (g) the more we know about hyperobjects the stranger they become

Extinctions, rainforests and climate change are hyperobjects — and one could argue that capitalism and agriculture are too. Hyperobjects are uncanny because they are evidently real, yet resist categorisation and modern epistemologies. The Anthropocene as hyperobject resists knowing because it is neither a natural or cultural event. Rather than reify nature and culture, it forces the uncanny idea (to modern Western peoples anyway) that 'natural' and 'cultural' do not actually exist. Hyperobjects are viscous and sticky. They absorb beings into their worlds, like Tsing's patchy assemblages. This capacity to absorb is limitless, because hyperobjects are non-local and do not exist in just one location. They remind us of the gap between appearance and an actual thing in itself. All decisions we make individually are related to hyperobjects, yet these decisions do not affect or 'touch' hyperobjects directly. The actions of one homo sapien — driving a car or recycling — have virtually no effect on climate, but on a species level these actions come to matter (supporting Tsing's [2015] point that scalability on an ecological level is largely unhelpful). There is something uncanny about being both responsible and insignificant simultaneously, both mammal and geophysical force.

For Morton, many humans will have to be sufficiently 'creeped out' to become ecologically aware. Most social theories are haunted by the spectre of communism. And what haunts all of these is the spectre of the more-than-human — more specifically including them as equal 'deciders' of meaning, experience, action, correlating, doing, etc. (Morton, 2017). Ecological awareness

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requires thinking on more than one scale simultaneously. Hyperobjects are a useful concept for environmental education in that they render things like climate denialism silly by forcing humans to face what is materially immanent at various temporal and spatial scales. They also force humans to give up the search for an uncontaminated metalanguage or theory that can account for hyperobjects (think Tsing's notion of contamination). The coherent modern subject is not only a fiction that flies apart; its traces can be found in the endless layers of hyperobjects. Overall, the point here is not that hyperobjects are worth more of our attention. We cannot avoid them anyway! It is that ontological reality is never quite what it seems. And, at the end of the day, on an ontological level, the being of a dragonfly is just as profound as any human being. Indeed, this is also what Tsing and Peters are saying. What we come to see is that the very ontology of the world threatens individualism, nationalisms and anti-intellectualism (Morton, 2013, p. 21). And that is an encouraging thought.

## Yes, It's Important to Think!

The main point of the article was not to convince educators to take a course in media studies, or adopt hyperobjects and assemblages as concepts by which to imagine just futures (although it definitely is a secondary one). The main point was to demonstrate that thinking and philosophical inquiry must remain a necessary and diverse activity for environmental education. Thinking should be as strange and ever-changing as our planet. In some ways, creative ontological play is perhaps one of the best things educators and students can do as they realise just how badly the planet needs thought from the future. Thank goodness there is no a priori form of being! Nor is there such a thing as ontology that does not, in some way, belong to all. And so, the grounds for thinking differently remain endless.

## Endnotes

**1** The Anthropocene is a necessarily contested term; and unless confirmed by the International Geological Congress may become dated (which is a risk associated with using the term). On the one hand it renders humans as one species among many, and can serve as a site of collective assembly and political action. On the other, it does not adequately address the historical and material circumstances of how the planet has arrived at our current moment. *Capitalocene* (Moore, 2016) and *Chthuluscene* (Haraway, 2016) might be better terms.

**2** This article is following an ontological turn in theory, and as one reviewer rightly pointed out, a turn toward something means a turn away from other things. One thing that often gets left out of the ontological turn is a serious consideration of politics.

**3** According to Zoe Todd (2016), the use of Indigenous thought by settlers outside of ceremony, context, and the presence of elders and knowledge keepers, is also potentially colonising.

**4** For me, this means trying to diverge from the work of Gilles Deleuze or Karen Barad to think with assemblage theory (Bazzul & Santavicca, 2017; Bazzul, Wallace, & Higgins, 2018).

**5** Ronald Sandler (2016) suggests that a more ethical response is to respond to issues arising from the Aanthropocene (instead of the concept itself). However, the philosophical ground of the environmental crisis is almost unavoidable, because the Anthropocene itself is an inescapable philosophical question.

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