

Troubling the Anthropocene: Donna Haraway, SF, and arts of un/naming

Noel Gough

La Trobe University, Melbourne, Australia

Chessa Adsit-Morris

University of California, Santa Cruz, USA

Abstract

This article takes Donna Haraway's (2016) *Staying with the Trouble: Making Kin in the Chthulucene* as a point of departure for troubling the largely uncontested acceptance of the Anthropocene as a matter of scientific "fact." Our approach is informed by our methodological commitments to understanding writing as a mode of inquiry and our preference for *diffraction* (rather than *reflection*) in conceptualizing practices of reading and critique. The article is therefore organized around questions that Haraway's text provokes, and our responses to them. We draw on various sources, including selected science fiction (SF) texts, to trouble practices of naming geological epochs and also to trouble some of the assumptions that Haraway makes in offering "Chthulucene" as an alternative name for our present epoch.

Keywords: Anthropocene, Chthulucene, SF, tentacular thinking, rhizome.

Preamble

Our approach to inquiry is shaped by Laurel Richardson's (2001, p. 35, her italics) assertion: "*Writing is a method of discovery*, a way of finding out about yourself and your world." We write because we want to find something out, to learn something that we did not know before we wrote it. We thus use "essay" as a verb – to attempt, to try, to test – and characterize ourselves as essayists to emphasize the process of "essaying" rather than the product designated by a noun. In our approach to conceptual inquiry, an essay performs a comparable function to an experiment in empirical research – a disciplined way of investigating a question, problem or issue – although we find more appropriate analogies for our work in the experimental arts rather than the experimental sciences.¹ Both "essay" and "assay" come to Anglophones via the French *essayer* from the Latin *exigere*, to weigh. We write essays as narrative experiments; to "weigh" ideas and give us (and our readers) a sense of their worth. Writing an essay is a mode of inquiry: usually we do not know what the "thesis" of a completed essay will be when we begin to write.

Our approach is also informed by Haraway's (1994, p. 63) preference for avoiding terms such as "reflection" and "reflexivity" as optical metaphors in discussions of representation:

Critical theory is not finally about reflexivity, except as a means to defuse the bombs of the established disorder and its self-invisible subjects and categories. My favorite optical metaphor is diffraction – the noninnocent, complexly erotic practice of making a difference in the world, rather than displacing the same elsewhere.

We realize that "reflection" and "reflexivity" have complex meanings not limited to the language of optical metaphors and discourses of seeing. However, in their commonplace uses both terms imply self-referentiality, including the use of "reflection" to signify deep thought (as an inward

gaze). We take “diffraction” to be a tactical reminder that light can be directed otherwise than back at *one* self, and that enlightenment can be other than self-referential.

We organize this essay around questions that Haraway’s (2016) *Staying with the Trouble* raises and/or provokes for us as individuals and collaborators. We begin with a question of shared interest and then move to some individual questions and provocations. Like Gilles Deleuze and Félix Guattari (1987, p. 3) we understand the limits and opportunities of writing together: “Since each of us was several, there was already quite a crowd.” Each of us is indeed several, but we agree that some things are better said with one voice.

Whither the Anthropocene?

On August 29th, 2016, a majority of the 35-member Anthropocene Working Group of the International Geological Congress (IGC) recognized the Anthropocene as a reality, voting 30-to-three (with two abstentions) for it to be designated as a new epoch of geological time dominated by human impact on the Earth, to succeed the Holocene from the mid 20th Century. Within the geoscientific communities in which the IGC participates, the approval process will take at least two more years and requires ratification by three other academic bodies.²

The Anthropocene seems now to be assumed as a matter of “fact” by scholars in fields such as science and environmental education (e.g., Greenwood, 2014; Wagler, 2011), arts education (e.g., jagodzinski, 2013; Wallin, 2017) and higher education (e.g., Carstens, 2016), but others contest the new epoch’s name and conceptualization. For example, Andreas Malm (2015, n.p.) argues that “blaming all of humanity for climate change lets capitalism off the hook,” and T.J. Demos (2016, n.p.) argues that Capitalocene – the age of capital – is more accurate:

[I]t has the advantage of naming the culprit, locating climate change not merely in fossil fuels, but within the complex and interrelated processes of global-scale economic-political organization stretched over histories of enclosures, colonialisms, industrializations, and globalizations, which have both evolved within nature’s web of life as well as brought ecological transformations to it.

For similar reasons Richard Norgaard (2013, p. 1) prefers “Econocene.” Haraway (2015, p. 159) adds “Plantationocene” and “Chthulucene” as alternatives in an essay that appears in a lightly revised form as Chapter 4 of *Staying with the Trouble*. Chapter 2 suggests that she has settled on Chthulucene – a term that initially seems obscure – as her preferred name for a post-anthropocentric era of multi-species assemblages linked by “tentacular” practices.

We begin by affirming our unreserved support for the task Haraway (2016, p. 1) sets for herself and her readers:

We – all of us on Terra – live in disturbing times, mixed-up times, troubling and turbid times. The task is to become capable, with each other in all of our bumptious kinds, of response. Mixed-up times are overflowing...with vastly unjust patterns of pain and joy, with unnecessary killing of ongoingness but also with necessary resurgence. The task is to make kin in lines of inventive connection as a practice of learning to live and die well.... Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places. In urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, of stopping something from happening that looms in the future, of clearing away the present and the past in order to make futures for coming generations. Staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present...

At 168 pages (excluding endnotes) *Staying with the Trouble* is among Haraway's shorter books and is both accessible and entertaining. Readers familiar with her previous work will recognize her characteristic style and language. Polysemous metaphors and figurations mingle with deep etymological readings, evocative word plays and passionate advocacy. In her usual cats-cradle fashion Haraway (2016, p. xi) strings together the work of various collaborators – a “compost pile of colleagues, students, and friends” – including Anna Tsing (2017), Karen Barad (2007), Marilyn Strathern (2005), and Ursula Le Guin (1989), to enact/exemplify the response-able practices of symbiotic becoming-with that her theorizing and writing style demands, which results in extensive endnotes.

We enact much of the remainder of this article as imagined conversations involving Haraway's (and others') texts in which we identify ourselves by our first names but provide complete citations for those whose words we selectively appropriate. We begin with Haraway's (2016, p. 99) declaration of her antipathy to the term Anthropocene, followed by Noel's questions (to which Haraway's text provides explicit answers), followed by further questions that are not necessarily addressed in her book. We also take up Haraway's (2016, p. 136) invitation in Chapter 8, *The Camille Stories: Children of Compost*, to create yet another SF that she calls “sym fiction, the genre of sympoiesis and symchthonia – the coming together of earthly ones.” Camille was conceived in a writing workshop where groups were tasked with fabulating a baby, and bringing the infant through five human generations. Haraway (2016, p. 136) and her colleagues deploy Camille (their protagonist) as a diffractive, disruptive “work and play object.” We adopt Haraway's (2016, p. 150) conception of play as “the most powerful and diverse activity for rearranging old things and proposing new things, new patterns of feeling and action, and for crafting safe enough ways to tangle with each other in conflict and collaboration.” We call Camille's interpolations “Chessa channels Camille” because that is exactly what they are: Chessa imagines Camille as a nomadic bag-lady³, collecting concepts, ideas, and entities to reconfigure existing systems in an attempt to (re)imagine and (re)create alternative futures. We add her voice to the conversation that follows, because she expresses some positions that subvert our own assumptions.

An imaginary conversation with Haraway

Haraway (2016, p. 99)

There is no question that anthropogenic processes have had planetary effects, in inter/intra-action with other processes and species, for as long as our species can be identified (a few tens of thousand years); and agriculture has been huge (a few thousand years). Of course, from the start the greatest planetary terraformers (and reformers) of all have been and still are bacteria and their kin, also in inter/intra-action of myriad kinds (including with people and their practices, technological and otherwise). The spread of seed-dispersing plants millions of years before human agriculture was a planet-changing development, and so were many other revolutionary evolutionary ecological developmental historical events.

People joined the bumptious fray early and dynamically, even before they/we were critters who were later named *Homo sapiens*.

Noel

“*Critters*”?! Isn't that the title of a 1980s SF-ish⁴ comedy horror movie about a Kansas family menaced by diminutive but dangerous extraterrestrials who arrive at their farm in search of

food? I seem to recall that some of the dialogue anticipates one of the 2017 Collins Dictionary's words of the year, "fake news"⁵:

Brad Brown: Did you see that meteor?

Jay Brown: I saw something.

Brad Brown: Maybe it's a Russian spy probe on some sort of secret mission.

Jay Brown: I think you watch too much TV.

I doubt that Haraway watches "too much TV" (or old SF-ish movies), but why "critters"?

Haraway (2016, p. 169)

Critters is an American everyday idiom for varmints of all sorts. Scientists talk of their "critters" all the time; and so do ordinary people all over the U.S., but perhaps especially in the South. The taint of "creatures" and "creation" does not stick to "critters"... In this book, "critters" refers promiscuously to microbes, plants, animals, humans and nonhumans, and sometimes even to machines.

Noel

This overstates the currency (and interpretability) of "critter" and explaining the term by reference to "varmints" does not help. The Oxford Dictionary locates "critter" as an informal 19th Century North American variant of "creature,"⁶ and "varmint" is an even older (mid-16th Century) alteration of "vermin."⁷ "Critters" might avoid the taint of "creatures" and "creation," but it is no less tainted by its folksy US-centrism. Asserting that "scientists talk of their 'critters' all the time" is surely an exaggeration. Outside of the USA (and perhaps Canada) scientists do *not* "talk of their 'critters' all the time," and neither do the "ordinary people" I know. Rather, I suspect that many non-US and non-Anglophone readers will be irritated by frequent references to "critters," or to whatever term translators substitute for it in other languages (the word appears more than 100 times in *Staying with the Trouble*).

Given Jacques Derrida's (1985, p. 165) cautions concerning "the inadequation of one tongue to another," it seems more than a little perverse to use such an idiosyncratic and antiquated colloquialism, given the availability of *organisms* – a more familiar, translatable and equally promiscuous collective noun encompassing all life forms, and any system or organization that consists of interdependent parts comparable to a life form.

Chessa channels Camille

As a genetically altered being,⁸ I've been called worse things. Frankly, it doesn't affect me personally one way or the other what you call me. I mean, all this squabbling over language, terms, concepts, and names is just tiring rigmarole. For example, did you know that: "The RNA/DNA molecule could be found throughout space in *many* galaxies ... only everybody spells it different."⁹

Personally, I think humans developed language because of their deep inner need to control the chaos of an indeterminable universe. They spend so much time trying to separate things into categorical boxes and causal linear temporalities, they never stop to ask: "When do changes in degree become changes in kind?" (Haraway 2016, p. 99). What's all this fuss about the Anthropocene as an epochal name for the calamitous planetary effects of anthropogenic processes?

Haraway (2016, pp. 30-31 & 47)

What happens when organisms plus environments can hardly be remembered for the same reasons that even Western-indebted people can no longer figure themselves as individuals and societies of individuals in human-only histories? Surely such a transformative time on earth must not be named the Anthropocene!

The story of Species Man as the agent of the Anthropocene is an almost laughable rerun of the great phallic humanizing and modernizing Adventure, where man, made in the image of a vanished god, takes on superpowers in his secular-sacred ascent, only to end in tragic detumescence... Autopoietic, self-making man came down once again, this time in tragic systems failure.

Noel

In concert with Malm (2015) and Demos (2016) Haraway (2016, p.47) agrees that “if we could only have one word for these SF times surely it must be the Capitalocene.”

Plantationocene is omitted from the alternative epochal names canvassed in Chapter 2, but reappears in Chapter 4. Chapter 2 introduces the somewhat esoteric Cthulucene, which signals some trouble that *I* want to stay with. So, where does Cthulucene come from?

Haraway (2016, p. 3 [with final two paragraphs quoted from p. 174, n 4])

In this chapter, with all the unfaithful offspring of the sky gods, with my littermates who find a rich wallow in multispecies muddles, I want to make a critical and joyful fuss about these matters. I want to stay with the trouble, and the only way I know to do that is in generative joy, terror, and collective thinking.

My first demon familiar in this task will be a spider, *Pimoida cthulhu*, who lives under stumps in the redwood forests... near where I live in North Central California... The eightlegged tentacular arachnid that I appeal to gets her generic name from the language of the Goshute people of Utah and her specific name from denizens of the depths, from the abyssal and elemental entities, called chthonic... Making a small change in the biologist's taxonomic spelling, from *cthulhu* to *chthulu*, with renamed *Pimoida chthulu* I propose a name for an elsewhere and elsewhere that was, still is, and might yet be: the Chthulucene.

[Cthulhu (note spelling), luxuriating in the science fiction of H. P. Lovecraft, plays no role for me, although it/he did play a role for Gustavo Hormiga, the scientist who named my spider...For the monstrous male elder god (Cthulhu), see Lovecraft, *The Call of Cthulhu*.

I take the liberty of rescuing my spider from Lovecraft for other stories, and mark the liberation with the more common spelling of chthonic ones. Lovecraft's dreadful underworld chthonic serpents were terrible only in the patriarchal mode.]

Noel

I trust that Haraway's proposed renaming of *Pimoida cthulhu* (with the intent of “rescuing” it from Lovecraft), is tongue-in-cheek, because otherwise she risks being accused of disrespect, and perhaps arrogance, towards a fellow scientist. *Pimoida cthulhu* is not “her” spider to name or rename, and Gustavo Hormiga's (1994, p. 39) explanation of its etymology – “[n]amed after H.P. Lovecraft's mythological deity Cthulhu, akin to the powers of Chaos” – suggests that he is aware of the deeper implications of Haraway's association of *chthonic* with “abyssal and elemental entities.” Hormiga's use of “Chaos” as a proper noun suggests familiarity with Greek creation stories in which Chaos (χάος, *khaos*), in William Smith's (1867, p. 681) interpretation of Hesiod's (c. 700 BC) *Theogony* refers to “the vacant and infinite space previous to the creation of the world, and out of which the gods, men, and all things

arose...According to Hesiod, Chaos was the mother of Erebus [Darkness] and Nyx [Night].” Chaos was thus both a place and a deity personified enough to bear children.

In Chapter 4 Haraway (2016, p. 101) emphasizes that “her” Chthulucene is “not named after SF writer H. P. Lovecraft’s misogynist racial-nightmare monster Cthulhu,” and although she insists in her Acknowledgments (Haraway, 2016, xiii) that “SF people are crucial to this book, both as writers and as colleagues,” she omits him from the list of authors whose work she privileges,¹⁰ and explicitly limits the scope of the SF he produced in her reference to “a vein of SF that Lovecraft could not have imagined or embraced – namely, the webs of speculative fabulation, speculative feminism, science fiction, and scientific fact.”¹¹

Matt Thompson (2016) offers an unequivocally tongue-in-cheek review of *Staying with the Trouble* for the anthropology-focused blog *Savage Minds* under the byline “guest blogger Cthulhu, Great Old One.”

Cthulhu (Thompson, 2016, n.p.)

When the puny mortals at *Savage Minds* invited me to review the latest work by Donna Haraway I was perplexed. After I had devoured the sanity of their pathetic messenger, I turned the book over in my tentacles. “Chthulucene,” eh? Was this meant to be a literary subversion of the Anthropocene, supplanting the implied anthropocentrism of that category with something alien and indifferent? And if so, was this really a wise move, politically speaking, when the purpose of the term was to draw attention to human actions that frequently remained hidden to those without the all seeing eyes of Yog-Sothoth?¹² Needless to say, I was intrigued.

Full disclosure: Haraway and I are somewhat estranged. She never forgave me for guiding my cultists to infect Sumatran rat-monkeys with a zombie virus (for more on this consult the 1992 documentary *Dead Alive*)¹³. Sure my methods are “controversial” but she and I have the same goal in mind: confronting our shared ecological crisis by addressing the problem of accelerating human population growth. Whereas she seeks to carve out the possibility that feminism can navigate the racist and eugenicist histories of limiting human reproduction, I advocate for a strategy of direct action, i.e. human sacrifice...

Sadly and on multiple occasions, in the text and in the notes, she lashes out against me – personally – calling me racist and misogynistic. This is not true. I am indifferent to everyone’s suffering equally.

Noel

Haraway joins a long line of critics who deplore what she sees as Lovecraft’s misogyny and racism, but I suspect that Thompson, in appropriating Cthulhu’s persona, is correct in asserting that Chthulhu /Lovecraft is indifferent to everyone’s suffering equally, and its/his “cosmic indifference”¹⁴ might therefore be more accurately termed *misanthropy*. I accept that in the present day there can be no excuse for racism¹⁵, but as Haraway (1989, p. 111, her italics) writes, meanings “include *particular* structurings of objects of knowledge... as that which can be known in a particular time and place.” Thus, in terms of Haraway’s own position, we should not ignore that Lovecraft crafted his fictions in a particular time and place, namely, 1920s New England, USA. David Simmons (2013, p. 14) observes that in the USA Lovecraft’s views “were not uncommon during the 1920s, a decade that saw a widespread rise in anxieties over racial issues such as eugenics and miscegenation stoked by the publication of inflammatory literature like Madison Grant’s (1916) *The Passing of the Great Race* (1916) and its theory of Nordic racial supremacy.” Simmons (2013, pp. 14-15) adds that “so great were these concerns that they found their way into federal law with the

passing of the Immigration Act of 1924, which officially recognized the threat to American society from non-Anglo-Saxon peoples and cultures.”

Moreover, as Patricia MacCormack (2016, p. 204) writes: “While the content of his writing is often offensive against and oppressive of minorities, Lovecraft’s larger vision,...opens up the very possibilities of ethical alterity and encounters premised on the destruction of the privileged subject of the white male that are necessary in order to lead to liberation of all lives as unique emergences.”

Jed Mayer (2018, p. 235) adds: “while Lovecraft’s preoccupation with narratives of biological kinship has been read in light of the author’s racism and fears of miscegenation, in its fascination with hybrid forms – fantastic creatures that disturb the boundaries between human and nonhuman – Lovecraft’s weird fiction may also be seen as intimately, even obsessively, preoccupied with questioning human uniqueness and exploring interspecies connectivity.”

In other words, Lovecraft’s overall “cosmic ethics” might have more in common with Haraway’s project than she seems willing to acknowledge.

Chessa channels Camille

All this Anthropocene talk has me feeling like a “mammalian-brained lunkhead ... because no matter how expanded your minds get, your span of concentration remains as short as ever.” Humans really can’t seem to see past their own noses. From what I gather, we are part of “interstellar interspecies symbiosis,” a sort of temporal and material cosmic Krazy Glue – Superstring Theory – that connects everything to everything.

From what I figure, “no matter how much we know, there’s more to knowing than we could ever know. So maybe we should stop trying to figure out the *meaning* of life and enjoy the mystery.” After all, what are the socio-cultural and scientific *meanings* humans work so hard to create? Nothing but a collective hunch. The uncertainty and indeterminacy of life might just be a “cosmic carrot” dangling in front of our noses, keeping us going in the face of utter chaos and meaninglessness.¹⁶

Differentiating-entangling Cthulucene: do epochs need to be named?

We agree with Haraway’s (1989, p. 111) assertion: “No one can constitute meanings by wishing them into existence.” Yet that seems to be precisely what she attempts to do by misspelling and misappropriating the species name of *Pimoid cthulhu*. We see some irony in her disavowal of Cthulhu given that her influential figuration of the cyborg (Haraway, 1985), like the Chthulucene, is an inclusive disjunction of alterity in a monstrous kinship between humans, technology and nature. Why is Cthulhu more “monstrous” than her cyborg? We speculate that she could have avoided this textual violence if she had taken a more generous approach to Lovecraft’s Chthulhu by deploying the figuration of diffraction she advances in “A game of cat’s cradle” (Haraway, 1994) and that Karen Barad (2014, p. 168) more recently refines in terms of “an iterative (re)configuring of patterns of differentiating-entangling.”

By focusing on what she dislikes about Lovecraft’s “misogynist racial-nightmare monster,” Haraway overlooks his contributions to a rich vein of creative artistry revealed by critical arts scholars, including Franklin Rosemount (1980) and Gavin Parkinson (2015a, 2015b) who trace connections between Lovecraft’s SF and surrealist art. In “The Call of Chthulhu,” Lovecraft (1928, n.p.) hints at his familiarity with early 20th Century art movements in his description of sensitive artists being moved by visions to create artworks that only “the vagaries of cubism and futurism” come close to describing.

Lovecraft's final, unfinished letter of March 1937 (quoted in Parkinson, 2015a, pp. 15-16) demonstrates some familiarity with, and sympathy for, surrealism:

During the past few months so many of my correspondents in the pest zone [New York City] have been writing me about that display of fantastic and surrealistic painting at the Museum of Modern Art...In general though, I am not a surrealistic enthusiast, for I think the practitioners of the school give their subconscious impressions too much automatic leeway. Not that the impressions are not potentially valuable, but that they tend to become trivial and meaningless except when more or less guided by some coherent imaginative concept. A thing like Señor Dalí's humorously-dubbed *Wet Watches* [sic] tends to become a *reductio ad absurdum* of the fantastic principle...However, I surely concede that this form of expression should be adequately recognized; since many of its products undoubtedly do possess a powerful imaginative reach and freshness, whilst the whole movement cannot but make important and revivifying contributions to the mainstream of art. There is no drawing a line betwixt what is to be called extreme fantasy of a traditional type and what is to be called surrealism; and I have no doubt but that the nightmare landscapes of some of the surrealists correspond, as well as actual creations could, to the iconographic horrors attributed by sundry fictioneers to mad or daemon-haunted artists.

"*Wet Watches*" undoubtedly refers to the "melting" watches depicted in Salvador Dalí's "The Persistence of Memory," painted in 1931 and one of several works by Dalí displayed in the Museum of Modern Art's 1936/7 program.¹⁷ As Gerry Carlin and Nicola Allen (2013, p. 73) note:

"The Persistence of Memory"...epitomizes Dalí's interest in the notions of "softness" and "hardness," and in it, time is firmly located within the former category... However, "The Persistence of Memory" is more than a famous piece of avant-garde antirationalism; it is also a powerful emblem, the immense fame of which established an abiding public perception of a synonymous, perhaps almost exclusive, relationship between modernist art movements and the artistic/creative community's response to the disintegration of former scientific certainties.

The collapse of the notion of a fixed cosmic chronology also shapes Lovecraft's fictions. Writing in the early 1930s (almost simultaneously with Dalí's artistic forays into the "softness" of time), Lovecraft (1976, p. 113) explains that his subversions of linear time derive their appeal from the potential for horror produced by displacing a character from time: "The reason why time plays a great part in so many of my tales is that this element looms up in my mind as the most profoundly dramatic and grimly terrible thing in the universe. Conflict with time seems to me the most potent and fruitful theme in all human expression." Carlin and Allen (2013, p. 74) add:

Deep time – uncanny portals, trans-epochal eruptions, geological and cosmic vistas – provides the most recurrent ingredients of horror in Lovecraft's fiction. Throughout his work... deep time¹⁸ functions as a multidimensional repository of that which renders human values meaningless, exceeds all comprehension and measurement, and produces intense existential dread.

Although Lovecraft died in 1937, his stories were known to both French and US collectors of pulp magazines. Surrealists in both countries were reintroduced to his writing during the early

1940s via an essay that US journalist and critic Robert Allerton Parker published in a bilingual review. Parker (1943, p. 62) writes enthusiastically about the “futurian” literature of “‘action’ stories, ‘westerns’, aviation adventures” and others that “answer the craving for purely physical derring-do,” and states his own preference for “scienti-fictions”:

Most fascinating, perhaps, are those pulps devoted to super-realistic “wonder” – the horrendous, the pseudo-scientific, the resurrection of ancient myths and folklore. In these we discover a wild, undisciplined jail-break from the concentration camp of the mundane, a carefree defiance of all the laws of the universe, a flight from the penury of life in three or four dimensions. Here is explosive volatilization of repressed imaginations, wrenching off the manacles of Time and Space!

According to Parkinson (2015b, p. 105) the fascination of Lovecraft’s writing for Parker and for surrealists later on in the 1950s,

lay in its rejection of the domesticated, relatively shallow past given by mainstream history and archaeology. Lovecraft replaced the accustomed millions of years of the world and humankind and the thousands of years of civilization with billions of years in which continents collide and break up, mountains rise, fall and rise again and pre-human organisms create civilizations far more advanced than our own, which exist for millennia and then disappear or continue in unreachable parts of the globe. If this was an epistemological space opening out from the fantastic and onto the new genres of weird fiction and SF, then it was also one attuned to mythic thought that the Surrealists in the 1950s would see as potentially critical of orthodox academic science.

It occurs to us that Lovecraft’s invocations/explorations of “deep time” call into question practices of naming geological epochs. One of Haraway’s favored SF authors, Ursula K. Le Guin, demonstrates in a short story, “She unnames them,” how we might use words to subvert the contemporary politics of naming categories of what we perceive/conceive in the “natural” world. Genesis 2:18–23 states that Adam named the animals before God created Eve, but Le Guin (1987, p. 195) imagines Eve collaborating with animals to undo Adam’s work: “Most of them accepted namelessness with the perfect indifference with which they had so long accepted and ignored their names.” In this story, Le Guin demonstrates the practicality of insights that we can draw from relating “deep ecology”¹⁹ to semiotics. Modern science maintains clear distinctions between subject and object and, thus, between humans and other beings, plant and animal, living and non-living, and so on. These distinctions are sustained by the deliberate act of naming, which divides the world into that which is named and everything else. Naming is not just a matter of labeling existing distinctions. Assigning a name constructs the illusion that what is named is genuinely distinguishable from all else. In creating these distinctions, humans can all too easily lose sight of the seamlessness of what their words and abstractions signify. In Le Guin’s (1987, p. 196) story, Eve says:

None were left now to unname, and yet how close I felt to them when I saw one of them swim or fly or trot or crawl across my way or over my skin, or stalk me in the night, or go along beside me for a while in the day. They seemed far closer than when their names had stood between myself and them like a clear barrier: so close that my fear of them and their fear of me became one same fear.

We welcome creative unnamings in our work as environmental educators. We suggest starting with some of the common names of animals and plants that signify their instrumental value to us rather than their kinship. There is a difference between naming a bird of the Bass Strait islands an “ocean going petrel,” “short-tailed shearwater,” or “mutton bird.” Only one of these names identifies a living thing in terms of its worth to humans as dead meat. Names are not inherent in nature; they are impositions of human minds. It is as if we want to own the earth by naming it and we corrupt education by naming parts, such as constructing illusions suggesting that meaningful distinctions can be made between “facts” and “values”, or between “perception” and “cognition”, or that “arts”, “humanities” and “sciences” are separate “subjects” (although we treat them as *objects*). Furthermore, we cannot reconstitute the whole by “integrating” the names. Integration in education is little more than a desperate attempt to recapture the wholeness that has been lost through naming. Unnaming professional identities such as “environmental” or “science” educators is one way in which we might establish closer connections and continuities with one another and with the earth. Unnaming makes it harder to explain ourselves. As Eve concludes: “I could not chatter away as I used to do, taking it all for granted” (Le Guin, 1987, p. 196).

We suggest that the strategy of unnamings could also apply to geopolitical eons, periods, epochs and eras. Rather than struggling to invent uncontentious names, we could embrace a temporal equivalent of deep ecology, namely, the idea of “deep time” that Carlin and Allen (2013, p. 74) attribute to Lovecraft, that is, “a multidimensional repository of that which renders human values meaningless, [and] exceeds all comprehension and measurement.” However, we do not agree that such a position *necessarily* produces “intense existential dread” (as Carlin and Allen put it), nor does it loom in our minds, as it did for Lovecraft (1976, p. 113) “as the most profoundly dramatic and grimly terrible thing in the universe.” Rather, we see the idea of an ineffable “deep time” – unsegmented by arbitrary names, and far beyond human comprehension and measurement – as liberating, emancipating us from what Parkinson (2015b, p. 105) describes as the “domesticated, relatively shallow past given by mainstream history and archaeology” (to which we can add mainstream paleontology and stratigraphy) that Lovecraft rejected and that later resonated with surrealists. We do not deny that the conclusions reached by paleontologists and stratigraphers concerning the sequence of changes in the earth’s estimated 4.54 billion year history are warranted (see Dalrymple, 2001) but we do not interpret the inconceivable tracts of time and archaic pre-human civilizations imagined in Lovecraft’s ficto-mythology as an alternative to scientific knowledge but rather, like Dalí’s paintings, as objects of aesthetic contemplation. As Simon O’Sullivan (2001, p. 125) writes:

art is not an object amongst others, at least not an object of knowledge (or not only an object of knowledge). Rather, art does something else. Indeed, art is precisely antithetical to knowledge; it works against what Lyotard (1984/1979, p. 93) once called the “fantasies of realism”. Which is to say that art might well be a part of the world...but at the same time it is apart from the world. And this apartness, however it is theorised, is what constitutes art’s importance.

In a preface to his biography of Lovecraft, Michel Houellebecq (2005, p. 2) argues that Lovecraft’s style does not “consist uniquely of hypertrophy and delirium,” but also has a “rare delicacy” and “luminous profundity.” Houellebecq cites the following passage from Lovecraft’s (1931, n.p.) *The Whisperer in Darkness* as evidence:

Time had lost itself in the labyrinths behind, and around us stretched only the flowering waves of faery and the recaptured loveliness of vanished centuries... Even the sunlight assumed a supernal glamour... I had seen nothing like it before save in the magic vistas that sometimes form the backgrounds of Italian primitives... but only in the distance, and through the vaultings of Renaissance arcades. We were now burrowing bodily through the midst of the picture, and I seemed to find in its necromancy a thing I had innately known or inherited, and for which I had always been vainly searching.

We share Houellebecq's (2005, p. 3) judgment that by imagining time "had lost itself" Lovecraft demonstrates "an extreme acuity of sensory perception [that] comes very close to provoking an overturning of our philosophical perception of the world... we are in the realm of poetry."

We doubt if it was entirely coincidental that Lovecraft's "deep time" and Dalí's "soft time" followed contiguously with the popularization of Henri Bergson's (1889/2008) doctoral thesis on time, in which he argued that our ordinary concept of time ("*l'étendu*" or "clock time") is spatialized, that is, divided into segments (hours, minutes etc.) and counted. Relying on his own internal experience ("intuition") he described "real time" ("*durée réelle*," best translated as duration) as an ongoing sense of continuity that cannot be equated with the spatialising intellect. For Bergson duration is a non-quantifiable subjective experience of time, best expressed by artists rather than the spatializing quantifications of scientists.

As Nanette Rißler-Pipka (2008, p. 167) points out "Dalí never named Bergson directly as one of his sources of inspiration. Quite the contrary, he expressed rather disagreement if we would take all his comments in this regard seriously." However, as Alison Ribeiro de Menezes (2014, p. n.p.) observes, Dalí had a "predilection for self-promotional myth-making, best seen in his witty and wholly unreliable memoir, *The Secret Life of Salvador Dalí* (1942)." A number of art historians and critics suggest that *The Persistence of Memory* incorporates Dalí's understanding of Albert Einstein's (1916/2001) theories of relativity. For example, Dawn Ades (1982, p. 145) writes: "The soft watches are an unconscious symbol of the relativity of space and time, a Surrealist meditation on the collapse of our notions of a fixed cosmic order," and Parkinson (2008, p. 127), drawing on correspondence between Dalí and French intellectual Roger Caillois, notes that "Dalí was fascinated by the theory of relativity because it offered the idea that reality could not be reduced to a single flow." Nevertheless, in Susi Marquès's (2007) documentary DVD, *The Dalí Dimension: Decoding the Mind of a Genius*, Dalí disavows these interpretations:

Surprisingly, Dalí said that his soft watches were not inspired by the theory of relativity, but by the surrealist perception of a Camembert cheese melting in the sun. The painter insisted on this explanation in his reply letter to Ilya Prigogine, who took it as Dalí's reaction to Einstein's coldly mathematical theory.

We suspect that this is yet another example of Dalí as an unreliable memoirist and see a closer alignment with Bergson. Dalí's melting clocks suggest that simple machines like clocks and pocket watches are too primitive to grasp Bergson's real time ("*durée réelle*").

Tentacular thinking: a metaphor too far?

Given that each of us, writing separately and together, have produced texts that demonstrate the complementarity of Haraway and Deleuze (see, e.g., Adsit-Morris, 2017b; Adsit-Morris & Gough, 2017; Gough, 2004, 2015) we were surprised to find only one reference to Deleuze in *Staying with the Trouble*.²⁰ Yet Haraway's (2016, p. 31) characterization of "tentacular thinking" has some striking similarities to Deleuze and Guattari's figuration of the rhizome:

The tentacular ones tangle me in SF. Their many appendages make string figures; they entwine me in the poiesis – the making – of speculative fabulation, science fiction, science fact, speculative feminism, *soin de ficelle*, so far. The tentacular ones make attachments and detachments; ... they make a difference; they weave paths and consequences but not determinisms; they are both open and knotted in some ways and not others. SF is storytelling and fact telling; it is the patterning of possible worlds and possible times, material-semiotic worlds, gone, here, and yet to come. I work with string figures as a theoretical trope, a way to think-with a host of companions in sympoietic threading, felting, tangling, tracking, and sorting.

Indeed, Haraway describes the complex “roots,” “routes” and “returns” that make up tentacular thinking, drawing on James Clifford’s books *Routes* (1997) and *Roots* (2013), as well as Tim Ingold’s *Lines, A Brief History* (2007), which references Deleuze and Guattari’s (1983) *On The Line*, the first publication in which they presented the concept of rhizome. When describing tentacular thinking, Haraway also cites Beth Dempster’s (1998) MA thesis, in which she argues that many systems are mistaken for autopoietic that are really sympoietic. Haraway (2016, p. 33) writes:

this point is important for thinking about rehabilitation (making livable again) and sustainability amid the porous tissues and open edges of damaged but still ongoing living worlds, like the planet earth and its denizens in current times being called the Anthropocene. If it is true that neither biology nor philosophy any longer supports the notion of independent organisms in environments, that is, interacting units plus contexts/rules, then sympoiesis is the name of the game in spades.

We agree that Dempster’s point is important but wonder why Haraway overlooks Dempster’s (2007) later search for richer metaphors to describe the interconnected and interdependent nature of social-ecological systems that led her (Dempster, 2007, p. 105) to decide that: “Deleuze and Guattari’s metaphorical use of ‘rhizomes’... is a decidedly sympoietic concept.” Deleuze and Guattari’s concept of rhizomatic thinking introduced a non-dialectical and non-hierarchical mode of thought to philosophy. For Dempster, sympoiesis and rhizomatic thinking are ways of eluding, altering and countering existing grids of intelligibility. As she explains (Dempster, 2007, p. 95):

I speculate that such emphasis [on the existence of boundaries] arises from our overriding dependence on the visual and physical and also on using categorization, “bounding,” and reduction as means for understanding and interacting with that-which-exists. Agreeably, boundaries enable particular – and valuable – ways of understanding, yet I maintain an interest in considering how to conceptualize “systems” *without* relying on the delineation of boundaries.

This search for “unbounded” modes of thought led Dempster (2007, p. 108) to rhizomatic thinking, describing it as a “boundaryless metaphor.” Similarly, for Haraway, tentacular thinking is a way of challenging post-enlightenment (modern) logics of human exceptionalism and bounded individualism – what she describes as “Kantian globalizing cosmopolitics and grumpy human-exceptionalist Heideggerian worlding” (Haraway, 2016, p. 11) – logics governed by laws and based on reductive hierarchical categorization. As Haraway often remarks, the messy capaciousness of life “doesn’t sort that way.”²¹ Nevertheless, we question what tentacular

thinking adds to string figures, rhizomes and SF? Dempster contends that conceptions of sympoietic systems should not replace traditional modes of thinking – they do valuable works as well – but we need alternative modes of thought able to conceptualize open, dynamic and complex systems. This echoes Haraway’s (2016, p. 55) argument for putting forth “the Chthulucene as a needed third story” because, as she admits in a recently published dialogue with colleagues (Haraway et al., 2016, p. 539) “The Anthropocene is now inescapable, and is doing good work” by raising awareness and generating critical dialogue within various academic fields (including the humanities, arts and sciences) as well as in popular culture. We (the *Anthropos* [hu]man created via enlightenment thought) can no longer deny, ignore or explain away the detrimental impacts we are having on the planet.

Along these lines, we contend that we need multiple modes of thought – rhizomatic thought, sympoietic thought, speculative thought, tentacular thought – in addition to indigenous epistemologies and ontologies, that might enable us to grapple with the complex polytemporal multiscalar crises we are (and increasingly will be) facing.²² As Haraway (2016, p. 51) contends, this era demands a myriad of names, arguing that she believes that conceptions of the Chthulucene and tentacular thinking are needed in order “to play a much better SF game, in nonarrogant collaboration with all those in the muddle” (Haraway, 2016, p. 56). Indeed, the cats-cradle concept of the Chthulucene that Haraway advances cuts across (or gathers together in a “big enough net”) various naturalcultural imaginaries including Gaia, Terra, Medusa, Potnia Theron (Mistress of the Animals), Potnia Melissa (Mistress of the Bees), *Pimonia chthulhu* (the spider she mischievously renames) and coral reefs, in her attempts to generate alternatives to the Greek, Latin and Indo-European (hi)stories – the speculative mythic stories that have caused trouble for far longer than the rational, logical, modern (*Anthropos*) “human.” Like Bergson and Dalí, Haraway (2016, p. 1) draws on these speculative (hi)stories to conceptualize times that do not sort into past, present or future but figure as a “thick present.”

There is much more we could say about *Staying with the Trouble* but we have to stop somewhere and we hope to have demonstrated our own version of Haraway’s generative practice of *diffractive* reading. As we say in our preamble, “we write essays as narrative experiments... usually we do not know what the ‘thesis’ of a completed essay will be when we begin to write.” We certainly did not anticipate that the lines of flight generated by Haraway’s attempt to rename *Pimonia chthulhu* would lead us to a reconsideration of H.P. Lovecraft’s “deep time” SF and its relationship to Dalí’s “soft time” and Bergson’s “*durée réelle*,” and hope that readers might also find our “bag-lady” meandering generative and/or entertaining.

Notes

- ¹ For example, in a 1950 interview, William Wright (1951, p. 23) asked abstract expressionist painter Jackson Pollock: “Then you don’t actually have a preconceived image of a canvas in your mind?” Pollock replied: “...no – because it hasn’t been created...it’s quite different from working, say, from a still life where you set up objects and work directly from them.” Richardson (2001, p.35) makes a parallel point: “I was taught... as perhaps you were, too, not to write until I knew what I wanted to say, until my points were organized and outlined. No surprise, this static writing model coheres with mechanistic scientism, quantitative research, and entombed scholarship.”
- ² <http://www2.le.ac.uk/offices/press/press-releases/2016/august/media-note-anthropocene-working-group-awg> (accessed 1 September 2016)
- ³ We draw on a number of fictional and theoretical “bag-ladies,” including Le Guin’s (1989) “Carrier bag theory of fiction,” which Haraway (2016) also deploys in Chapter 6, and Trudy, the bag-lady from Jane Wagner’s (1986) one-woman Broadway play *The Search for Signs of Intelligent Life in the Universe*.. As Haraway (2016) notes, these bag-ladies embody the “undutiful daughter” as opposed to the prodigal son (for a more detailed description see Adsit-Morris, 2017a).
- ⁴ We share Haraway’s (1989, p. 5) understandings of what the term “SF” designates: “In the late 1960s science fiction anthologist and critic Judith Merrill idiosyncratically began using the signifier SF to designate a complex

- emerging narrative field in which the boundaries between science fiction (conventionally, sf) and fantasy became highly permeable in confusing ways, commercially and linguistically. Her designation, SF, came to be widely adopted as critics, readers, writers, fans, and publishers struggled to comprehend an increasingly heterodox array of writing, reading, and marketing practices indicated by a proliferation of 'sf' phrases: speculative fiction, science fiction, science fantasy, speculative futures, speculative fabulation." Haraway (2016, p. 2) adds "string figures, speculative feminism, science fact, so far." We add "serious fun" but allow for parodic representations of the sub-genre by referring to movies such as Stephen Herek's (1986) *Critters* as "SF-ish."
- ⁵ <https://www.collinsdictionary.com/woty> (accessed 2 November 2017)
- ⁶ <https://en.oxforddictionaries.com/definition/critter> (accessed 11 May 2018)
- ⁷ <https://en.oxforddictionaries.com/definition/varmint> (accessed 11 May 2018)
- ⁸ In Chapter 8 Haraway (2016, p. 148) describes the genetic modification of Camille as "a suite of pattern-forming genes expressed on monarch [butterfly] surfaces" as well as enhanced gut and mouth microbiomes – visual and subtle sensory alterations – resulting in "fleshy suggestions braided through innovative pedagogical practices of natural/social becoming-with." The genetic alterations resulted in transforming skin tones – from brightly colored banding to muted tones and patterns – and the ability to taste and consume the toxic alkaloids found in milkweed plants.
- ⁹ Quoted from Wagner (1985, p. 75, her italics).
- ¹⁰ The SF people Haraway (2016, xiii) names are "Ursula K. Le Guin, Kim Stanley Robinson, Octavia Butler, Vonda McIntyre, Gweneth Jones, Julie Czerneda, Sheryl Vint, Marleen Barr, Sha La Bare, Istvan Csicsery-Ronay, Helen Merrick, Margaret Grebowicz, and... Samuel R. Delany."
- ¹¹ We agree that Lovecraft could not have embraced speculative feminism, but his well-documented atheism and materialism suggests that he was amenable to scientific fact. Haraway might have overreached in asserting that he could not have "imagined or embraced" speculative fabulation and science fiction.
- ¹² Yog-Sothos is a cosmic entity in the shared fictional universe known as the Cthulhu Mythos – the settings, tropes, and lore employed by Lovecraft and his literary successors.
- ¹³ See Peter Jackson's (1992) film *Dead Alive*, which is usually described as "splatterstick" or SF comedy horror.
- ¹⁴ Lovecraft's stories influenced the development of a philosophy of cosmic indifference or "cosmicism," which asserts that there is no recognizable divine presence, such as a god, in the universe, and that humans are insignificant in the larger scheme of existence, despite projecting their mental idolatries onto the vast cosmos. See, for example, recent posts in scienceforums.net such as <https://www.scienceforums.net/topic/70499-cosmicism-and-the-existential-helplessness-of-humanity-in-the-universe/> (accessed 11 May 2018)
- ¹⁵ Laura Miller (2014) provides a useful account of debates among admirers of Lovecraft's work who nevertheless deplore his "venomous racism." See <https://www.salon.com/2014/09/11>
- ¹⁶ Quoted from Wagner (1985, pp. 115 & 202-203).
- ¹⁷ Dali's artwork had been visible in the US press for several years and he featured on the cover of *Time* magazine's 14 December 1936 issue, a few months before Lovecraft wrote his final letter.
- ¹⁸ Carlin and Allen (2013, p. 89) note that their reference to "deep time" has nothing in common with the work of Waii Chee Dimock (2008) who argues that American literature looks dramatically different when removed from a strictly national or Anglophone context, a point that is to some extent illustrated by the reception of Lovecraft's stories among French surrealists.
- ¹⁹ Norwegian philosopher Arne Naess (1973, p. 95, italics in original) coined the term "deep ecology," which he characterized as "Rejection of the man [sic]-in-environment image in favour of the *relational, total-field image*," in contrast to "shallow ecology," the objective of which is "the health and affluence of people in the developed countries."
- ²⁰ Haraway (2016, p. 13) writes "Isabelle Stengers, a chemist, scholar of Whitehead and Gilles Deleuze, radical thinker about materiality in sciences, and an unruly feminist philosopher, gives me 'speculative thinking' in abundance."
- ²¹ Personal communication on October 13th, 2017 when Haraway participated in a public dialogue with the SF writer Starhawk at the University of California, Santa Cruz. Sponsored by the Science and Justice Research Center, the talk was titled: 'A Public Conversation with Donna Haraway and Starhawk: Magic, Figuration & Speculative Fiction as Calls to Action'.
- ²² See Adsit-Morris (2017b).

References

Note: Regarding the use of full names in the reference list, we depart from the *Publication Manual of the American Psychological Association* to facilitate reading the gender politics of the

sources on which we draw in this essay. We also believe that it is discourteous to authors to arbitrarily truncate the ways in which they choose to identify themselves.

Ades, Dawn. (1982). *Dali*. London, UK: Thames and Hudson.

Adsit-Morris, Chessa. (2017a). Bag-lady storytelling: the carrier-bag theory of fiction as research praxis. In *Restorying Environmental Education: Figurations, Fictions, Feral Subjectivities* (pp. 43-54). New York, NY: Palgrave. <https://doi.org/10.1007/978-3-319-48796-0-3>

Adsit-Morris, Chessa. (2017b). *Restorying Environmental Education: Figurations, Fictions, Feral Subjectivities*. New York, NY: Palgrave.

Adsit-Morris, Chessa, & Gough, Noel. (2017). It takes more than two to (multispecies) tango: queering gender texts in environmental education. *The Journal of Environmental Education*, 48(1), 67-78. <https://doi.org/10.1080/00958964.2016.1249330>

Barad, Karen. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.

Barad, Karen. (2014). Diffracting diffraction: cutting together-apart. *Parallax*, 20(3), 168-187. <http://dx.doi.org/10.1080/13534645.2014.927623>

Bergson, Henri. (1889/2008). *Time and Free Will: An Essay on the Immediate Data of Consciousness* (F. L. Pogson, Trans.). New York, NY: Cosimo.

Carlin, Gerry, & Allen, Nicola. (2013). Slime and western man: H. P. Lovecraft in the time of modernism. In David Simmons (Ed.), *New Critical Essays on H.P. Lovecraft* (pp. 73-90). New York NY: Palgrave Macmillan. https://doi.org/10.1057/9781137320964_5

Carstens, Delphi. (2016). The Anthropocene crisis and higher education: A fundamental shift. *South African Journal of Higher Education*, 30(3), 255-273. <http://dx.doi.org/10.20853/30-3-650>

Clifford, James. (1997). *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge MA: Harvard University Press.

Clifford, James. (2013). *Returns: Becoming Indigenous in the Twenty-First Century*. Cambridge MA: Harvard University Press.

Dali, Salvador. (1942). *The Secret Life of Salvador Dalí*. New York, NY: Dial Press.

Dalrymple, G. Brent. (2001). The age of the Earth in the twentieth century: a problem (mostly) solved. *Geological Society, London, Special Publications*, 190, 205-221. <http://dx.doi.org/10.1144/GSL.SP.2001.190.01.14>

de Menezes, Alison Ribeiro. (2014). Catalonia makes up with Salvador Dalí after a turbulent relationship Retrieved from <https://theconversation.com/catalonia-makes-up-with-salvador-dali-after-a-turbulent-relationship-33564>

Deleuze, Gilles, & Guattari, Félix. (1983). *On the Line* (J. Johnston, Trans.). New York, NY: Semiotext(e).

Deleuze, Gilles, & Guattari, Félix. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia* (Brian Massumi, Trans.). Minneapolis MN: University of Minnesota Press.

Demos, T.J. (2016). Anthropocene, Capitalocene, Gynocene: The Many Names of Resistance. Retrieved 21 January 2017 from. *Frontiers of Solitude*, 2016(11 September). <http://frontiers-of-solitude.org/blog/442>

Dempster, Beth. (2007). Boundarylessness: Introducing a systems heuristic for conceptualizing complexity. In Charles S. Brown & Ted Toadvine (Eds.), *Nature's Edge: Boundary Explorations in Ecological Theory and Practice* (pp. 93-110). Albany, NY: State University of New York Press.

- Dempster, M. Beth. (1998). *A Self-Organizing Systems Perspective on Planning for Sustainability*. (MA thesis), University of Waterloo, Ontario, Canada. Retrieved from <http://www.bethd.ca/pubs/mesthe.pdf>.
- Derrida, Jacques. (1985). Des tours de Babel (Joseph F. Graham, Trans.). In Joseph F. Graham (Ed.), *Difference in Translation* (pp. 165-205). Ithaca, NY: Cornell University Press.
- Dimock, Waii Chee. (2008). *Through Other Continents: American Literature across Deep Time*. Princeton, NJ: Princeton University Press.
- Einstein, Albert. (1916/2001). *Relativity: The Special and the General Theory* (Robert W. Lawson, Trans.). London and New York: Routledge.
- Gough, Noel. (2004). Read intertextually, write an essay, make a rhizome: performing narrative experiments in educational inquiry. In Heather Piper & Ian Stronach (Eds.), *Educational Research: Difference and Diversity* (pp. 155-176). Aldershot, UK: Ashgate.
- Gough, Noel. (2015). Undoing anthropocentrism in educational inquiry: a phildickian space odyssey? In Nathan J. Snaza & John A. Weaver (Eds.), *Posthumanism and Educational Research* (pp. 151-166). New York, NY: Routledge.
<http://www.routledge.com/books/details/9781138782358/>
- Grant, Madison. (1916). *The Passing of the Great Race: or, the Racial Basis of European History*. New York, NY: Charles Scribner's Sons.
- Greenwood, David A. (2014). Culture, environment, and education in the Anthropocene. In Michael P. Mueller, Deborah J. Tippins & Arthur J. Stewart (Eds.), *Assessing Schools for Generation R (Responsibility): A Guide for Legislation and School Policy in Science Education* (pp. 279-292). Dordrecht, Netherlands: Springer http://dx.doi.org/10.1007/978-94-007-2748-9_20
- Haraway, Donna, Ishikawa, Noboru, Gilbert, Scott F., Olwig, Kenneth, Tsing, Anna L., & Bubandt, Nils. (2016). Anthropologists Are Talking – About the Anthropocene. *Ethnos*, 81(3), 535-564. <https://doi.org/10.1080/00141844.2015.1105838>
- Haraway, Donna J. (1985). A manifesto for cyborgs: science, technology and socialist feminism in the 1980s. *Socialist Review*, 15(2), 65-107.
- Haraway, Donna J. (1989). *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York NY: Routledge.
- Haraway, Donna J. (1994). A game of cat's cradle: science studies, feminist theory, cultural studies. *Configurations: A Journal of Literature, Science, and Technology*, 2(1), 59-71.
<http://muse.jhu.edu/journals/configurations/v002/2.1haraway.html>
- Haraway, Donna J. (2015). Anthropocene, capitalocene, plantationocene, chthulucene: Making kin. *Environmental Humanities*, 6(7), 159-165. <https://doi.org/10.1215/22011919-3615934>
- Haraway, Donna J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Durham & London: Duke University Press.
- Herek, Stephen (Director). (1986). *Critters* [Film]. USA: New Line Cinema.
- Hormiga, Gustavo. (1994). A revision and cladistic analysis of the spider family Pimoidae (Araneoidea: Araneae). *Smithsonian Contributions to Zoology*(548), 1-104.
http://www.sil.si.edu/smithsoniancontributions/Zoology/pdf_hi/SCTZ-0549.pdf
- Houellebecq, Michel. (2005). *H.P. Lovecraft: Against the World, Against Life* (Dorna Khazeni, Trans.). San Francisco, CA: Believer Books.
- Jackson, Peter (Director). (1992). *Dead Alive* [Film]. USA/Canada: Trimark Pictures.
- jagodzinski, jan. (2013). Art and its education in the anthropocene: the need for an avant-garde without authority. *Journal of Curriculum and Pedagogy*, 10(1), 31-34.
<http://dx.doi.org/10.1080/15505170.2013.790000>

- Le Guin, Ursula K. (1987). She unnames them. In *Buffalo Gals and Other Animal Presences* (pp. 194-196). Santa Barbara, CA: Capra. <http://www.wfu.edu/~zulick/341/leguin.html>
- Le Guin, Ursula K. (1989). The carrier bag theory of fiction. In *Dancing at the Edge of the World: Thoughts on Words, Women, Places* (pp. 165-178). New York, NY: Grove Press.
- Lovecraft, H.P. (1928). The call of Cthulhu. *Weird Tales*, 11(2), 159–178, 287. <http://www.hplovecraft.com/writings/texts/fiction/cc.aspx>
- Lovecraft, H.P. (1931). The whisperer in the darkness. *Weird Tales*, 18. (1), 32–73. <http://www.hplovecraft.com/writings/texts/fiction/cc.aspx>
- Lovecraft, H.P. (1976). *Selected Letters V (1934-1937)* (August Derleth & James Turner Eds.). Sauk City, WI: Arkham House. <http://www.hplovecraft.com/writings/sources/sl5.aspx>
- Lyotard, Jean-Françoise. (1984/1979). *The Postmodern Condition: A Report on Knowledge* (G. Bennington and B. Massumi, Trans.). Minneapolis, MN: University of Minnesota Press.
- MacCormack, Patricia. (2016). Lovecraft's cosmic ethics. In Carl H. Sederholm & Jeffrey Andrew Weinstock (Eds.), *The Age of Lovecraft* (pp. 199-214). Minneapolis, MN: University of Minnesota Press.
- Malm, Andreas. (2015). The Anthropocene myth. *Jacobin*. <https://www.jacobinmag.com/2015/03/anthropocene-capitalism-climate-change/>
- Marquès, Susi (Director). (2007). *The Dalí Dimension: Decoding the Mind of a Genius* [DVD]. Los Angeles, CA: The Salvador Dalí Society.
- Mayer, Jed. (2018). The weird ecologies of Mary Shelley's *Frankenstein*. *Science Fiction Studies*, 45(2), 229-243. www.jstor.org/stable/10.5621/sciefictstud.45.2.0229.
- Naess, Arne. (1973). The shallow and the deep, long-range ecology movement. A summary. *Inquiry*, 16(1), 95-100. <http://dx.doi.org/10.1080/00201747308601682>
- Norgaard, Richard B. (2013). The Econocene and the Delta. *San Francisco Estuary and Watershed Science*, 11(3), 1-5. <http://escholarship.org/uc/item/4h98t2m0>
- O'Sullivan, Simon. (2001). The aesthetics of affect: thinking art beyond representation. *Angelaki: Journal of the Theoretical Humanities*, 6(3), 125 – 135
- Parker, Robert Allerton. (1943). Such pulp as dreams are made on. *VVV*(2/3), 62-66. <http://www.eldritchdark.com/articles/criticism/31/such-pulp-as-dreams-are-made-on-%28h.-p.-lovecraft-and-clark-ashton-smith%29>
- Parkinson, Gavin. (2008). *Surrealism, Art and Modern Science: Relativity, Quantum Mechanics, Epistemology*. New Haven, CT: Yale University Press. <http://www.loc.gov/catdir/toc/ecip0720/2007025368.html>
- Parkinson, Gavin. (2015a). *Futures of Surrealism: Myth, Science Fiction, and Fantastic Art in France, 1936--1969*. New Haven, CT: Yale University Press.
- Parkinson, Gavin. (2015b). Surrealism, science fiction and UFOs in the 1950s: 'Myth' in France before Roland Barthes In Gavin Parkinson (Ed.), *Surrealism, Science Fiction and Comics* (pp. 104-128). Liverpool, UK: Liverpool University Press.
- Richardson, Laurel. (2001). Getting personal: writing-stories. *International Journal of Qualitative Studies in Education*, 14(1), 33-38. <https://doi.org/10.1080/09518390010007647>
- Rißler-Pipka, Nanette. (2008). A reflection on his mind: Bergson, perception and memory in Dalí's writing. *Zeitschrift für Katalanistik [Journal of Catalan Studies]*, 21, 167-178. http://www.romanistik.uni-freiburg.de/pusch/zfk/21/11_Rissler-Pipka.pdf
- Rosemount, Franklin. (1980). Lovecraft, surrealism and revolution. In Franklin Rosemount (Ed.), *Surrealism and Its Popular Accomplices* (pp. 17). San Francisco, CA: City Lights.
- Simmons, David. (2013). "A certain resemblance": Abject hybridity in H. P. Lovecraft's short fiction In David Simmons (Ed.), *New Critical Essays on H.P. Lovecraft* (pp. 13-30). New York, NY: Palgrave Macmillan. https://doi.org/10.1057/9781137320964_5

- Smith, William (Ed.). (1867). *Dictionary of Greek and Roman Biography and Mythology* (Vol. 1). Boston: Little, Brown, and Company.
- Strathern, Marilyn. (2005). *Kinship, Law and the Unexpected: Relatives Are Always a Surprise*. Cambridge, UK: Cambridge University Press.
- Thompson, Matt. (2016). Staying with the Trouble: Making Kin in the Chthulucene [review]. Retrieved from <https://savageminds.org/2016/11/18/staying-with-the-trouble-making-kin-in-the-chthulucene-review/#more-20735>
- Tsing, Anna Lowenhaupt. (2017). *Arts of living on a damaged planet: ghost of the anthropocene*: Minneapolis, Minnesota ; London, England : University of Minnesota Press.
- Wagler, Ron. (2011). The anthropocene mass extinction: an emerging curriculum theme for science educators. *The American Biology Teacher*, 73(2), 78-83.
- Wagner, Jane. (1986). *The Search for Signs of Intelligent Life in the Universe*. New York: Harper & Row.
- Wallin, Jason J. (2017). Pedagogy at the brink of the post-anthropocene. *Educational Philosophy and Theory*, 49(11), 1099-1111. <http://dx.doi.org/10.1080/00131857.2016.1163246>
- Wright, William. (1951). An interview with Jackson Pollock. In Pepe Karmel (Ed.), *Jackson Pollock: interviews, articles, and reviews* (pp. 20-23). New York: The Museum of Modern Art.