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On the Anthropocene

The Crex Crex Collective

Abstract This chapter focuses on three key points. First, the world has changed, with destructive consequences for many, will continue to change, and will not return to situation "normal." That is, it will not return to global temperatures or species abundance and fluctuations that fall within the kinds of background levels experienced by generations of humans. This terrifying transformation has been labelled "The Anthropocene." While it is acknowledged that this term is contentious it is used here for its capacity to do useful work. Second, any educational

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conception and delivery that results in inculcation into dominant cultural norms will do nothing to change the current trajectory nor prepare learners for the new reality. Finally, no one really knows how to move forward in the best possible way. This isn't meant to sound despairing, rather it signifies, that we're in a time calling for bold experimentation and imagination.

Keywords Anthropocene • Education • Environmental • Geostory • More-than-human

The earth is changing rapidly. Atmospheric carbon dioxide has now exceeded 400 parts per million, and continues to rise. At present, there is no realistic strategy in place to make the reductions necessary to avoid what most climate scientists consider "catastrophic" climate change. Species loss has been equally dramatic. Some reports, such as a recent publication in the prestigious journal *Science*,[1] suggest that current extinction rates are as much as 1000 times greater than background rates. These extinction rates are human-caused, as are the current dramatic increases in Earth's average temperatures. These observations are even more disturbing when considering Bruno Latour's bleak observation that the real drama is behind us—that we have already crossed planetary boundaries that some scientists have identified as ultimate barriers not to be overstepped.[2]

These planetary boundaries that "must" not be crossed, have not been established lightly. Science is typically a conservative enterprise; it actively seeks to avoid false positives and alarmist rhetoric. Some hard-nosed palaeontologists, for example, tell us that current rates of species loss do not yet qualify as mass extinctions.[3] But, ominously, they *are* prepared to predict that loss of all species that are now considered "critically endangered" *would* propel the world into a state of mass extinction. Should that happen, it would comprise a paleontological event of epochal magnitude. Given that there appears to be no abating of species loss in sight, other scientists are willing to argue that we—and that means all beings on Earth—are in fact living in a new geological epoch: the Anthropocene.[4] At this time, it seems that humans, pigeons, and crows are expanding

their ranges, and not much else is doing well.[5] Nearly every ecological system is in decline, and scientists also expect rapidly self-exacerbating feedback loops to unravel much of what remains. And these processes remain largely unpredictable. As French philosopher Michel Serres has put it, "…the Earth is quaking… because it is being transformed by our doing."[6] He goes on to say:

> it depends so much on us that it is shaking and that we too are worried by this deviation from expected equilibriums. We are disturbing the Earth and making it quake! Now it has a subject once again.[7]

The idea the Earth "has a subject," again, is important to our concerns. It is our sense that Serres is suggesting that Earth, in its quaking, has jutted through the idea of objectivity and made its active presence known. We will return to this discussion shortly. In the meantime, there are educational questions about how this epoch should be named, discussed, approached, and addressed.

Does labelling this terrifying transformation "The Anthropocene" do the educational work we need? Maybe. We think it can, but this will require care. As this term becomes more present in every day conversation—and in cultural artefacts—it becomes normalized and, over time, it could lose its disruptive and generative possibilities. At face value, inserting "Anthropocene" into the cultural milieu might serve to shake people into action by highlighting the severity of the calamity. We suppose this is possible, but invoking ecological crisis—since the dawn of environmental education, and before—does not seem to have had much impact, pedagogically or otherwise. This evocation does not seem to offer sufficient traction to disrupt traditional pedagogical instincts nor educational theories.

In the end, we have chosen to use Anthropocene because we believe it has capacity to do some useful work. It seems that the emergence of a new paleontological era must be accompanied by a new story about Earth—a new geostory. And, this will be a story that is told by myriad tellers. Educationally, it will be important to examine how to be better tellers and listeners. It will also be important to understand how this emerging geostory can contribute to new geopolitical understanding. To

Image 3.1 Sands of deep time. Photo credit: Hansi Gelter

pick up on the idea that there are, indeed, multiple authors in a new geostory, we turn to another French philosopher, anthropologist and sociologist, Bruno Latour (Image 3.1).

Latour picks up on Serres and puts into words what we humans see—especially at a time when wildfires are scorching Earth and cyclones are flooding her. He says, "Earth has become—has become again!—an active, local, limited, sensitive, fragile quaking, and easily

tickled envelope."[8] Here, Latour acknowledges that Earth has always been an active presence, but in a role that has often been overlooked and denied in modernist thinking, and culture. Today, Earth's agency is visible, often dramatic, and it can no longer be ignored. For Latour and others, she has reclaimed the character of a full-fledged actor—an agent of history. In employing the term Anthropocene, he sees Earth as participating in writing the script of our common *geostory*[9]—a narrative that, try as they might, humans can no longer write alone. The problem is how those in philosophy, science, politics, and literature can share space and tell such a story.

For those of us writing this book, our human part in telling this geostory is also profoundly educational. What does it mean, educationally, to participate in telling a story where we share agency with Earth herself? What does it mean, pedagogically, when we, the human teachers, are not in total control of the script? What could it mean at the dawn of the Anthropocene to bring wilderness and education together in concept and practice? And, how does education support and challenge learners who want to challenge modernist assumptions about control, and human as the elite species?

To begin with, there are a couple of considerations. The first involves how writing a geostory can challenge how we see, feel, and talk about the world, and the assumptions those historical perceptions have long rested upon. The second challenges us to develop and engage with a sensory awareness that can help us to better understand our position in the world.

For people to now say that Earth has a subject is to upend a worldview that has dominated human relationships with her since the Scientific Revolution. It confuses categories once thought of as subjects and objects where, in this scheme, Earth has largely been de-animated. It has been reduced to a backdrop upon which humanity acts. As Latour points out, this is the frightening meaning of "global warming." Here he argues,

> human societies have resigned themselves to playing the role of the dumb object, while nature has unexpectedly taken on that of the active subject! …it is *human* history that has become frozen and *natural* history that is taking on a frenetic pace.[10]

In considering this example, it is clear that the hubristic dream of human control and oversight can no longer be sustained. In important ways, humans have never actually been in control. And, Earth, demonstrably, has always had subject-hood and agency in shaping geostories.

If humans are implicit actors, largely destructive and in denial of the consequences, what else might be required in taking our place alongside other agents and collaborators in the writing of our geostory? How can we be more attentive to their agency? For, as Latour assures us, "*As long as they act, agents have meaning*."[11] But, not all meaning arises in human terms. And, not all story telling arises through human language. A more expansive and inclusive story can arise as a consequence of being fully present in an articulated and active world. For Latour, it will be impossible to tell our common geostory without everyone—including educators, learners, and more-than-humans—having the space to share their own perspectives and being heard in their own ways. For us this suggests that essential learning will require breaking down those boundaries that have helped us believe that we were not in the world and discovering how to listen well to other-than-humans—it will require being in the world, and being with the world. Becoming Earthbound.

In some senses this book and the colloquium leading to it represent early attempts to enact some of the challenges outlined here. The colloquium immersed itself in a place. It was hosted on a boat that travelled through a geographical and cultural place. Much work was conducted out of doors. Natural and cultural historians were present to enrich our collective experiences in this landscape. Writing daily manifest entries constituted conscious acts of listening to more-than-human subjects—and being present. Interruptions to human discourses were observed, noted, sought. And, written anecdotes encouraged recounting of specific experiences in particular places. These have been our experiments. Still, being present in the place and conceptualizing wild pedagogies were not always compatible. There was a lot going on; there remains a lot to do.

Fulmar Petrels

Turns out the soft grey birds on the grassy cliffs of Staffa are fulmars. Though they look like gulls they are actually petrels—or sometime fulmar petrels. Snubby beaks and cute heads—not as sleek as a gull, with wide nostrils that exude salt, Doug says, when they are out at sea. They are klutzy on land. One saw me peering over the cliff and got nervous so she swung away from her perfect nest site and swooped out across the small bay, over to the crenulated cliffs on the other side of the creek. I thought she'd pause but instead she swooped back around and tried to land next to the nest of her neighbour. They didn't seem to say anything, or at least I never heard it but subsequently the neighbour peered up too, with large gentle eyes keeping a watch on me, lying above on plush grass and primroses. Seaweed smells rose up the cliffs, decomposing in the sun. The displaced fulmar flapped and flapped, trying to gain her footing but she couldn't find her balance on the almost vertical grassy cliff. Wings outstretched, she waivered and finally gave up and flew off again, sweeping out over the water. She floated up the updraft on the other cliff and beat her wings a couple of times as she swooped back swinging around close to her friend and then away and back out again. Around one more time before landing more securely a tad further over on the wall. They must have conferred on potential landing spots. I couldn't hear them. Larks sang, a tourist boat chugged far too loudly. Thrift and deep grass cushioned my body. The fulmar flew off again. She seemed more relaxed.

I watched her and changed focus to the seaweed swinging, feathery, in the tide. A shag flew in, low and straight. The creek trickled. The tourists checked out a bird colony on a nearby rock and chugged away. My fulmar friend alighted on her own nesting spot. She tripped, webbed feet clumsy on grass and rock. She's found a good place. Once she lurches past a little rock, she's got a flat grassy nook. No eggs yet, but it will be perfect. She checks me out again but I can tell she's no longer worried. How do I know that? No idea. Maybe mirror neurons. But when I stopped staring at them and allowed my gaze to wander over the bay, past the shape of the cliffs and the tide and out to the rocky islands, the boats, inland up the creek… in that relaxed sweep and context, the birds decided I wasn't hunting. I went from intruder alert to visitor alert. Not exactly background noise like the tourist boat. Or maybe like a seal; a mammal cohabiting space, but not on either end of the food chain spectrum.

It was so relaxing in the sun and grass, with my company, I didn't really want to get up again. But the boat's leaving in 10 minutes or so, time shifted from the seasonal pace of early spring fulmars to the pressing regime of a journey.

In the forgoing, we explained why we use the term "Anthropocene" at this time. We certainly are not attempting to reify the existence of this epoch, or the term itself. We use it to do some useful work. Emerging evidence clearly indicates that humans, particularly the modernist versions, cannot control the Anthropocene's developing geostory; they cannot co-opt its writing, and they are not the only tellers. Indeed, the telling will require renegotiation of how stories are told and who constitutes a teller.

While we believe that framing our times as the Anthropocene can do work for us, it is important to recognize that this term is also problematic. This becomes a pressing matter as major international geological societies are normalizing the term and as it enters the realm of everyday conversation. For it to continue to be useful—and not descend into cliché, just another burden, or worse—connecting the Anthropocene to a new geostory will need to be an on-going process.

In spite of interpretations such as that offered by Latour, some critics worry that the Anthropocene still places humans at the centre of conversations. For them, human *hubris* could lead to we-broke-it-but-we-can-fix-it, or see-how-special-we-are-we-changed-the-world, attitudes. Ultimately, according to these views, Anthropocene-talk will not be sufficient to dislodge human-centredness run amok. In some measure, this is probably true. However, there is always a likelihood that moves will be made to co-opt whatever term is used to describe our present era. And while there will always be critics, sceptics, and deniers unwilling to cede control, challenging human-centredness will require vigilance, and will be an on-going task.

Critics also worry that normalizing the Anthropocene might mask particular economic, technological, cultural, and material realities that gave rise to the current globalizing culture. In fact, there is a large interlocking network of causal factors. To label a problem in a singular way overshadows a more *ecological* conception of life. In response some scholars have suggested the current epoch be labelled the Capitalocene or the Chthulucene (from the Greek *chthon*, meaning Earth). For Donna Haraway, the Anthropocene just does not tell a nuanced enough story. It makes opaque the particular roles of global capital, or colonial orientations, or the patriarchy in the environmental crisis. Thus, it allows the

more egregious perpetrators to avoid direct responsibility as they slide into the generic position of all humans. In a move that both affirms and troubles the concept of the Anthropocene, she would like to see a thousand names of something else to erupt out of present use of this term.[12] And she adds a critically important point. This issue is not just about naming it is also about imagining, developing, and doing new kinds of work—or in her terms, labour—which in turn can be used to envision and create new conceptions of, and relationships with, nature.

With these points in mind we acknowledge that the Anthropocene is contentious. Conversations about how humans see themselves in the world are erupting and we need to participate in renegotiating the new geostory of our time. And, we are just beginning to understand that we have co-authors and co-tellers. Terminology will develop and change over time. In the meantime, we agree with Haraway that it is important to do new kinds of work, and in our case this involves new kinds of teaching and learning, to enable our participation in these re-negotiations. However, this is a dynamic conversation and out of each change in the present work we may find evermore-effective and ecological approaches to continue our labour. We encourage readers to keep an eye on developments in this conversation.

Whether we are actually in a new geological era called the Anthropocene, or just on the brink of it, seems moot. We raise these possibilities, however, for two reasons. First, the world has changed in destructive ways, will continue to change, and will not return to situation "normal." That is, we will not return to global temperatures or species abundance and fluctuations that fall within the kinds of background levels experienced by generations of humans just a short time ago. Second, given this change, any educational conception and delivery that results in inculcation into present cultural norms, or slipping and sliding around these norms, will do nothing to change the current trajectory nor prepare learners for the new reality. A critical task will be to see where this recapitulation of present norms might be happening. This returns us to the old trope, especially important for educators to ponder; we cannot "solve problems" by using the same kind of thinking that created the "problems" in the first place. And we will add, we cannot solve these problems by "*being*" the same people that created the problem.

Finally, no one really knows how to move forward in the best possible way. We do not mean for this to sound despairing, rather it signifies, to us, that we are in a time calling for bold experimentation and imagination.[13] To be sure, we are not talking about laboratories or the scientific model of experimentation. Rather we encourage a more general interpretation—where we let teachers and learners try things out. This will require giving them the social, psychological, and phenomenological room that they need to explore—and renegotiate—new ideas. It will also require the conceptual, experiential, and physical freedom to move and think. With these preconditions in place, we can have considerably more wild pedagogy. Here individuals and groups *can* actually begin to participate in new practices and new relationships through everyday practices.[14]

What we are calling for will be creative, courageous, and radical—because this is what our times require. But this does not mean that we are proposing an anything goes free-for-all. The kinds of educational experiences required will need to imagine new relationships with nature, to take into account the agency of the more-than-human, to be flexible and able to change as new thinking makes new ideas and possibilities apparent, and they will need to be carefully planned and mentored. Our ideas for how to facilitate these educational experiences are discussed further in the next chapter *On Education*, and in the following chapter, *Six Touchstones for a Wild Pedagogy*.

Acknowledgements *Crex crex* is the taxonomical name given to the Corncrake. We have chosen this bird to represent our collective because it was an important collaborator in this project and because its onomatopoeic name beautifully mirrors its call—a raspy crex crex. For some reason, it chooses to fly over England and breeds in Scotland and Ireland. Presumably this is due to loss of habitat in modern England, but perhaps these birds sense some epicenter of empire there? Who is to know?

Notes

1. Stuart Pimm et al., "The Biodiversity of Species and Their Rates of Extinction, Distribution, and Protection," *Science* 344 (2014): 6187.

2. Bruno Latour, "Agency at the Time of the Anthropocene," *New Literary History* 45, no. 1 (2014): 1–18.
3. A. Barnosky et al., "Has the Earth's Sixth Mass Extinction Already Arrived?" *Nature* 471 (2011): 51–57.
4. See, for example: Editorial, "The Human Epoch," *Nature* 473 (2011): 254: Paul J. Crutzen, "Geology of Mankind," *Nature* 415 (2002): 23.
5. Sean Blenkinsop, and Laura Piersol, "Listening to the Literal: Orientations: Towards How Nature Communicates," *Phenomenology & Practice* 7, no. 2 (2013): 41–60: Michael Derby, Laura Piersol, and Sean Blenkinsop, "Refusing to Settle for Pigeons and Parks: Urban Environmental Education in the Age of Neoliberalism," *Environmental Education Research* 21, no. 3 (2015): 378–389.
6. Michel Serres, *The Natural Contract*, trans. Elizabeth MacArthur and Robert Paulson (Ann Arbor: University of Michigan Press, 1995): 86
7. Ibid., 86.
8. Latour, "Agency at the Time of the Anthropocene," 4.
9. Ibid., 3.
10. Ibid., 13.
11. Ibid., 14.
12. Donna Haraway, *Staying with the Trouble* (Durham: Duke University Press, 2016).
13. Bob Jickling, "Normalizing Catastrophe: An Educational Response," *Environmental Education Research* 19, no. 2 (2013): 161–176.
14. This experimental vision is derived from: Anthony Weston, "Before Environmental Ethics," *Environmental Ethics* 14, no. 4 (1992): 321–338.

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