NANO
NEW AMERICAN NOTES ONLINE

ISSN: 2160-0104

Issue 13: The Anthropocene

December 2018

Questioning the Anthropocene: Is It Really Our -Cene?

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https://nanocrit.com/issues/issue13/Questioning-the-Anthropocene-Is-It-Really-Our-Cene

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Abstract:
While the term Anthropocene is clearly a misnomer (the period in which we live clearly not being our "cene"), dispensing with the term at this point is hardly a viable suggestion. Even so, a pragmatic questioning of the term is very necessary and will help to define the parameters of what the term can and should describe. A starting point for understanding the origins of the Anthropocene, of current environmental crises, and of climate change must begin with theorizing about the existence and factuality of ecophobia. This article shows that questioning the term Anthropocene does not mean denying devastating and irreversible anthropogenic effects on the world, and that even though other species certainly do refashion the world, what needs to be emphasized is that we are irreversibly altering the biosphere on a scale that threatens our own existence, that we are the only species currently doing these things with knowledge of their effects, and that we have the ability to change our ethics (and thus our behaviours) as a result of such knowledge.

Keywords: Anthropocene, ecocriticism, environment, ecophobia, human intervention

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Flammable. Photo by Sam Fee, 2018. JPEG.

> . . . at the very moment of their most powerful technical mastery on a planetary scale . . . (h)umans are not the conductors of meaning, not the pianists of the real.
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> (Timothy Morton *Hyperobjects* 164)

It is characterized by over-consumption, conspicuous consumption, needless consumption; by appetites gone mad, by individualism unchecked, by being absorbed in the present (with only the faintest of attention to its relation with the future), and, more ominously, by being victim to processes and agents that we ourselves have activated. It is characterized by a kind of

paralysis to escape things such as plastic, both as a consumable and as a consumed product; by a kind of slave relationship to generating ever growing and ever diversifying products (including waste products), and by a perverse faith in the capacity of science to solve the problems. It is characterized by things beyond our control, things we thought were relegated to the trash heap and therefore gone. It is called the Anthropocene; yet, in its triumphal assertion of human exceptionalism, the term itself both glosses over important facts of biological history and seems to assume that anthropogenic violence against the world is a relatively new thing. It is not, and the origins of our current environmental crises are deeply rooted and darkly ecophobic—and it is useful to remember that ecophobia is a condition that exists on a spectrum and can embody fear, contempt, indifference, or lack of mindfulness (or some combination of these) towards the natural environment.

The period in which we live is clearly not our "cene." Bacteria ruled long before we arrived on the scene and have not given up their reign: as Ed Yong explains, "we are still living in the Microbiocene: a period that started at the dawn of life itself and will continue to its very end" (8). It is reasonable, moreover, to wonder if discussions about halting or reversing climate change are even valid, given that it is in the nature of life to do exactly what we do, to move *semper sursum*, and given that without natural predators or obstacles, any species would do its level best to take over. This is not to deny anthropogenic climate change à la Scott Pruitt and the rest of the Republican posse, and it is not to throw our hands up in impotent despair; rather, we can only make change when we are honest about what we are doing and the limits we are transgressing. We are not the only species that ignores limits, and to pretend that we don't know this is just dishonest. We've known it for a long time.

One of the key elements of Darwinian theory is that the size of a population is limited by what its given environment can sustain, but obviously we have subverted this mechanism through an excessive form of what Jean-Baptiste Lamarck termed adaptive force, a force that has extended the capacity of environments to sustain overpopulations. The human species stands in league with many others who have made their environments more habitable, their food more attainable, their future prospects more viable. Some birds build nests, some ants farm aphids, and many animals kill members of their own species in fights.

Other species have radically refashioned the biosphere, and to think otherwise is to be misled, notwithstanding comments in a February 2011 *New York Times* editorial on "The Anthropocene," which states that "[w]e're the only species to have defined a geological period by our activity—something usually performed by major glaciations, mass extinction and the colossal impact of objects from outer space." We know that what has come to be known as the Great Oxygenation Event (see Sosa Torres, Saucedo-Vázquez, and Kroneck) resulted in a radical refashioning of the biosphere and subsequent mass extinctions. As Phil Plait explains, "[m]ost of the bacteria thriving on Earth were anaerobic, literally metabolizing their food without oxygen [. . .] To the other bacteria living in the ocean—anaerobic bacteria, remember—oxygen was toxic [. . .] A die-off began, a mass extinction killing countless species of bacteria." It is no exaggeration for Plait to say that "this event was monumental, an apocalypse that was literally global in scale, and one of the most deadly disasters in Earth's history" ("Poisoned Planet").

We are not the only species that is indifferent to the natural environment. We are not the only species that pollutes, and we are not the only species that radically refashions the biosphere. The mountain pine beetle of the Pacific Northwest decimates temperate rainforest ecosystems. The Chinstrap penguins of Zavodovski Island have no natural predators on the island itself (though they face sea lions when they dive into the waters for food). The result is a colony of almost 2 million penguins in an area of 25 square kilometers. It has been dubbed the world's smelliest island. The penguins are, it seems, indifferent to the pollution they produce and to the fact that their prolific reproduction has resulted in an over-crowding that matches that of any human mega-city. The list could go on. We resemble many species, any of which would rule the world if it could. What would the world look like if mosquitoes—or tomatoes? Ants? Super-viruses?—had no natural predators? How different would those –cenes be?

Yet, the human species stands alone in its environmental degradation to such a dangerous extent that geologists and laypeople are increasingly opting to call our current age The Anthropocene—The Age of the Human. It is important to recognize that this much-vaunted term is yet another affirmation of the heroic (or anti-heroic) human subject and of our obsession with ourselves, while we ignore the true rulers: bacteria. Thus, we have to wonder about the hubris implied in the term: as Astrida Neimanis, Cecilia Åsberg, and Johan Hedrén suggest, "calling an epoch after ourselves does not necessarily demonstrate the humility we may need to espouse" (68). In reiterating an anthropocentric ethos, the term Anthropocene thus seems to reproduce the very structure of thinking that has been at the center of this supposedly new geologic period. Perhaps the naming of the term Anthropocene was meant to indict humanity's ecophobia as the sole cause of this dangerous condition, but in the very moment of its articulation, such naming reiterates a troubling kind of anthropocentric positioning. Even so, to do otherwise would be to avoid acknowledging the centrality of the human as the primary agent of our climate change, to evade responsibility, to join ranks with the Donald Trumps, the Scott Pruitts, the Tom Coburns, the Exxon-Mobils, the Koch Family Foundations, and all of the other climate change skeptics and deniers, and to put our heads in the sand. This paradox has not gone unnoticed among theorists of the Anthropocene. In a fascinating introduction to a collection entitled *The Anthropocene and the Global Environmental Crisis: Rethinking Modernity in a New Epoch*, Clive Hamilton, Christophe Bonneuil and François Gemenne similarly note that "One of the striking paradoxes of the Anthropocene is that, as we appear to have taken control over nature and have become the principal force of its transformation, we also appear ill equipped, and perhaps unable, to govern a world under the influence of these changes" (10. See also Washington and Cook for an in-depth discussion and analysis of climate change denial). Lesley Head articulates well the difficult centrality of our position: "if we are such a powerful agent in transforming the earth, then we are in a way at the center, or at least the top of the stratigraphic column" (315). Neimanis *et al.* argue that "the rising discourse of the Anthropocene [. . .] discourages a critical view of precisely how, where, and by whom human effects on climate, ecosystems and biodiversity are specifically caused" (79) and of "the need to adopt a cautious attitude toward the idea of Anthropocene, in which Man is again placed in the center of the world as a prime mover, in favor of an openness toward alterity and unknowability" (84).

So, how do we move forward in "openness toward alterity and unknowability," in an era when the U.S. withdraws from the Paris Climate Accord, and the Trump Administration behaves in dangerously unpredictable ways? Run on a capitalist ethics of greed, our current era is a dangerous one. Jason W. Moore has suggested that the term "Capitalocene" might be more apt than "Anthropocene" (see Moore, 2015, 2016). Neimanis *et al.* rightly note that "many scholars regard [neoliberalism and freewheeling capitalism] as the origin of current environmental degradation" (75-6). Certainly, this is all true, but capitalism is surely not the cause of our ongoing environmental problems; rather, it is the latest in a long history of models that rely on ecophobia, that exploit sexism, speciesism, and racism; that bank on inequitable structures; and that depend on obfuscation and lies about real costs and about who foots these bills. It is an efficient model, well-refined and frightening, true, and capitalism is indeed a contributor to "the Anthropocene," but to envision it as the cause is to accept a scale of origins that is simply inaccurate. Dipesh Chakrabarty, one of the first scholars to begin articulating theories about the profound challenges posed by the concept of the Anthropocene, concurs with the position that although capitalism "is a proximate . . . cause of climate change," the "scales of space and time" over which anthropogenic environmental changes register "are much larger than those of capitalism" (54).

One of the inherent paradoxes of the current age concerns the scale of human influence on planetary systems. On the one hand, there is no question about humanity's contribution to global warming, species loss, ocean acidification, extreme weather events, rising sea levels, decreasing ice, and retreating glaciers; on the other hand, the scale of possible actions humanity can utilize to slow, stop, and reverse these and other effects of climate-related change is dubious at best. The simple reality is that global warming is on an exponential trajectory that will disproportionately impact earth's multiple species, and despite increasingly frenzied rhetoric, humanity has discarded its duty of care for the environment. There are many reasons for this. To presume, for instance, to consider climate change without analyzing the meat industry is nothing short of hollow talk and hypocrisy. Activism that presumes to present itself as green without detailed and consistent reference to critical animal studies is doomed from the start. Dawne McCance offers a comprehensive survey of contributions to this area and suggests seven issues important for the future work in critical animal studies. Out of any of these topics (ethics, anthropomorphism, dualism, rights, machine, passivity, and sacrifice) "might come critical *turning* points" (138). Without attention to animal studies, we will have little more than a kind of surface commentary that I have elsewhere called "hollow ecology" (see Estok, "Hollow Ecology").

Hollow ecology characterizes the rhetoric of CNN and the IPCC and much of their discourse on global warming and climate change. The IPCC report released October 8, 2018, at its 48th Session argued that we have until 2030 to change things and that things are going to get really bad after that. The report says that "Global net emissions of carbon dioxide would need to fall by 45% from 2010" (2), in order to maintain warming near 1.5 degrees Celsius levels. Reducing emissions to this degree "would require rapid, far reaching and unprecedented changes in all aspects of society" the report says. It is "[p]ossible with the laws of chemistry and physics to limit global warming to 1.5 degree C," said Jim Skea, co-chair of IPCC Working Group III. "But doing

so would require unprecedented changes" (2). But anyone with a piece of paper and a pencil can push the figures and figure out that it took the fully forested earth 380 million years to sequester all of the carbon that it did, an enormous chunk of which we have released in a mere 150 years—and that chunk remains in the atmosphere. The numbers of the IPCC simply do not compute on any level. It is hollow talk. Failing to address the animal question forecloses the possibility of having an ethical scale appropriate for the enormity of the problems we face in the current age; moreover, the very term Anthropocene poses its own special scale issues in that it reaffirms the scale limitations and ecophobia that "species-thinking" imposes.

Species-thinking is a term used by Andreas Malm and Alf Hornborg, who argue that "species-thinking on climate change is conducive to mystification and political paralysis. It cannot serve as a basis for challenging the vested interests of business-as-usual [. . .] not only analytically defective, but also inimical to action" (67). Cary Wolfe, in his exhaustive and informative *What is Posthumanism?*, explains that "the philosophical and theoretical frameworks used by humanism [. . .] reproduce the very kind of normative subjectivity—a specific concept of the human—that grounds discrimination against nonhuman animals" (xvii). This concept of the human entails a radical limitation on "who and what can count as a subject of ethical address" (49). At the very best, the term Anthropocene is problematical. Indeed, despite the hoopla surrounding the term, the very concept itself seems flawed to the core. Malm and Hornborg "find it deeply paradoxical and disturbing that the growing acknowledgement of the impact of societal forces on the biosphere should be couched in terms of a narrative so completely dominated by natural science" (63) because such a narrative forces a position that will produce a scale that is dishonest, one that works to efface, occlude, and "abandon the fundamental concerns of social science, which importantly include the theorization of culture and power" (61). Not only does it efface causes; it also trivializes the matter by presenting the growing environmental crises as apocalyptic entertainment.

In a *New York Times* op-ed entitled "Learning How to Die in the Anthropocene," Roy Scranton offers what seems a not very productive nihilist set of suggestions that "civilisation is already dead," that "there's nothing we can do to save ourselves," and that "if we want to learn to live in the Anthropocene, we must first learn how to die." Scranton works on the assumption that the Anthropocene is something new, that humanity has only recently begun to change the planet, the climate, the biosphere, and so on, and that these monumental changes are fatal blows. The case is mounting against such a position.

Elizabeth Kolbert has noted that "one argument against the idea that a new human-dominated epoch has recently begun is that humans have been changing the planet for a long time already, indeed practically since the start of the Holocene" ("The Anthropocene Debate"). She is not alone. William F. Ruddiman, for instance, argues "that the Anthropocene actually began thousands of years ago as a result of the discovery of agriculture and subsequent technological innovations in the practice of farming" (261). Ruddiman supports his claim by offering extensive data verifying beyond any doubt that the volume of two of the most powerful gases influencing climate change—CH_4 (methane) and CO_2 (carbon dioxide)—has, for thousands of years, been deeply regulated by human activities such as agriculture and the wide-spread removal of

forests. Bruce Smith and Melinda Zeder similarly place "the onset of the Anthropocene almost ten thousand years earlier, at the Pleistocene–Holocene boundary" (8), claiming that "the beginning of the Anthropocene can be usefully defined in terms of *when evidence of significant human capacity for ecosystem engineering or niche construction behaviors first appear in the archeological record on a global scale*" (8-9, emphasis in original). The scale of human influence is increasing on an exponential trajectory, but the dynamic itself is not new. I would like to suggest here that one reason why most scholars (and most media) have viewed the term Anthropocene in reference to post-Industrial Revolution anthropogenic effects on the world might have to do with the sheer scale of changes currently underway. Climate change has caused many extreme storm, drought, and flood events that have threatened communities and non-human species globally (Hurricane Sandy, Typhoon Haiyan, the Syrian drought, the unprecedented hurricanes of 2017, and so on). The future of the human species is now at risk.

Again, to be clear, questioning the term Anthropocene does not mean denying devastating and irreversible anthropogenic effects on the world, and even though other species certainly do refashion the world, what needs to be emphasized is that we are irreversibly altering the biosphere on a scale that threatens our own existence, that we are the only species currently doing these things with knowledge of their effects, and that we have the ability to change our behaviours as a result of such knowledge. The cause of what is being called the Anthropocene (a term that I am wary of using), lies, in part, as a result of the human epidemic of ecophobia.

As I argue in *The Ecophobia Hypothesis* (Routledge 2018), there is clearly a need to hypothesize the existence and factuality of ecophobia as a starting point for understanding the origins of the Anthropocene, of current environmental crises, and of climate change. Ecophobic arrogance allows us to think we are in control of the world, above its limitations. Hamilton *et al.* explain that

> Modern humanities and social sciences have pictured society as if they were above material and energy cycles and unbound by the Earth's finiteness and metabolisms. Now they must come back to Earth. Their understandings of economy and markets, of culture and society, of history and political regimes need to be rematerialized. They can no longer be seen only as arrangements, agreements and conflicts among humans. In the Anthropocene, social, cultural and political orders are woven into and co-evolve with techno-natural orders of specific matter and energy flow metabolism at a global level, requiring new concepts and methods in the humanities.
>
> (Hamilton, Bonneuil, and Gemenne 4)

Precisely how to work toward better ways of imagining relations and scale, of addressing questions Adam Trexler raises in his compelling book about Anthropocene fictions is among the most subtle of problems we face: "What tropes are necessary to comprehend climate change or to articulate the possible futures faced by humanity? How can a global process, spanning millennia, be made comprehensible to human imagination, with its limited sense of place and time? What longer, historical forms aid this imagination, and what are the implications and limits

of their use?" (Trexler 5). To address these questions means having a sufficiently broad scale—one that includes matters of gender, species, class, sexuality, and race (matters long central to feminist scholarship)—as they relate with green concerns.

Imagining that we are not bound by the Earth's finiteness and metabolisms is a serious problem for which theorizing about ecophobia is aptly suited. It is ludicrous to imagine that we can address the issues of climate change that we face without understanding the ethical foundations of the actions that brought us into this crisis. The ecophobia hypothesis centers on ethics and offers what the biophilia hypothesis does not—specifically, a responsible acknowledgment that some of the most destructive actions we have taken toward nature may be more difficult to change than we think, may have more genetic roots than we are comfortable acknowledging, and may align us more than we can bear with what we have so feverishly tried to define ourselves against. We must become accountable for the human behaviors that have caused the current crises, and we must understand that the staggering scale of human impacts and presences in the world reveal our position on a trajectory that we have long been following.

We are leagues away from solving our environmental problems, as a result of the ecophobic mindset that has been such a staple in the history of our species. The multiscalar effects of climate change are simply staggering, especially in relation to non-human species. So extensive is the human impact on the world that there is global acknowledgement that the planet does seem to have entered a new epoch, and the terms Anthropocene and the Anthropozoic Era represent an attempt to expand our understanding of the scale of the problems humanity has produced. Although a neologism, the term the Anthropocene describes conditions that have been recognized since the nineteenth century. In 1873, Italian geologist Antonio Stoppani coined the term "Anthropozoic" to describe a new geologic era that succeeds the Cenozoic Era (which began 66 million years ago with the last major extinction event). For Stoppani, our current era begins with geologic formations that show evidence of humans. Despite having been under discussion for quite some time, however, the concepts behind the Anthropocene and the Anthropozoic have yielded more descriptive than diagnostic understandings and have substantially failed to source the problem.

There is great urgency to do something about the exponentially increasing problems that have come to be called the Anthropocene, a term that, in the moment of seeking to offer scales of understanding poses substantial scale problems of its own. The anthropo-narcissism of the Anthropocene feeds into a long history of speciesism and ecophobia, both of which have contributed immeasurably to the valley of ecocide in which we seem stuck. Kate Rigby is correct when she argues that "the challenge for writing in the anthropocene, in the shadow of ecocide, then, is to find new ways of raising our voices from the level of 'idle chatter' to that of biting and stinging ecoprophetic witness" ("Writing in the Anthropocene" 184). We know—or should know—by now that the source of our problems "lies in violence needlessly perpetrated by our civilization on the ecology of the planet; only by alleviating the latter will we be able to heal the former" (Abram 22). The greatest scale of violence by far that we do on this planet is to animals, and there is no voice too biting or stinging to express this and to force us to expand our ethical circle, stop farming and eating animals, rethink our scale of values, and buy more time. If we

remain aligned with hollow ecology, then we're doomed, but there is ample cause for optimism: the world isn't coming to an end. It was around long before we arrived on the scene, and it will be around long after we are gone. It is not our –cene.

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