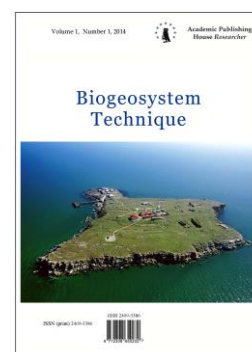


Copyright © 2017 by Academic Publishing House Researcher s.r.o.



Published in the Slovak Republic
Biogeosystem Technique
Has been issued since 2014.
ISSN: 2409-3386
E-ISSN: 2413-7316
2017, 4(1): 4-8

DOI: 10.13187/bgt.2017.1.4
www.ejournal19.com



Articles and Statements

UDC 53

Against the Idea of an Anthropocene Epoch: Ethical, Political and Scientific Concerns

Christine J. Cuomo ^{a,*}^a Department of Philosophy, University of Georgia, USA

Abstract

Although the drive to formally declare a new Anthropocene epoch has gained traction in a number of circles, there are serious questions that need to be raised about the wisdom and accuracy of formalizing the “signals of the anthropocene” as the definitive signs of a new geological epoch. There are important differences between noticing and publicizing a geological signal, and interpreting or defining that signal as the sign of an inevitable ‘new normal’. Rather than interpreting troubling signals such as nuclear fallout, changes in the nitrogen cycle and mining tailings as marking the death of the Holocene, I argue that they should be understood and engaged as dire warning signs, demonstrating beyond a doubt the perilous legacies of highly invasive industries, and signaling the unprecedentedly urgent need to terminate and transform harmful practices, and to move our cultures and economies in Earth-friendly directions.

Keywords: Anthropocene, Holocene, climate change, invasive industries, harmful practices termination, ethics, ‘new normal’.

1. Introduction

Talk of an “anthropocene” era has become a popular way to describe the fact that human beings (anthropos) are now influencing Earth’s systems and other species like never before, producing unpredictable and lost-lasting changes, and threatening ecological stability and health nearly everywhere. Climate change due to greenhouse gas pollution is perhaps the most obvious evidence that Earth itself is in a state unprecedentedly driven by decisions and actions of people, or at least certain people, rather than by “natural” forces alone. But atmosphere and climate are not the only systems where recent anthropogenic interventions are creating intense quantitative and qualitative changes in Earth’s physical and living systems. Along with global warming and skyrocketing rates of species endangerment, the gross impacts of mining, deforestation and chemical agriculture are emblematic of the so-called “anthropocene” age. In the anthropocene, capital- and technology-intensive practices, such as the widespread use of synthetic fertilizers (which has altered Earth’s nitrogen cycle), leave undeniable detrimental traces, at monumental scales.

The informal idea of an anthropocene cultural age is similar to concepts like “modernity,” “post-modernity,” or “the age of television,” but with a dismal environmental twist. However, the

* Corresponding author

E-mail addresses: cuomo@uga.edu (C.J. Cuomo)

informal concept of the anthropocene is inspired by a more formal scientific concept, which is the focus of my comments here. The formal idea of an “Anthropocene” age is linked to an effort in the geosciences to officially declare the beginning of a new geological epoch, marked by the scientifically traceable impacts of invasive anthropogenic practices in Earth’s strata, systems and biosphere. By definition, declaring the beginning of a new “Anthropocene” geological epoch amounts to the formal end of the current Holocene epoch, for geological epochs follow in succession just as years do.

2. Method: Alleging the Anthropocene

The idea that a new Anthropocene epoch is supplanting the Holocene was first put forth in a 2000 essay proposing a new geological age, marked by the central role of “mankind” in shaping Earth’s atmosphere, ecology and geology (Crutzen and Stoermer, 2000). A scientific movement developed, aiming to formally designate the beginning of a new Anthropocene age “at the same hierarchical level as the Pleistocene and the Holocene epochs” (Zalasiewicz et al., 2015). As journalist Elizabeth Kolbert has pointed out, if the movement to formalize the Anthropocene is successful, every geology textbook in the planet will immediately become obsolete (Kolbert, 2014).

The proposal for an Anthropocene epoch has been endorsed by a working group of the International Union of Geological Sciences, a professional organization whose members determine the scientifically accurate portrayal of Earth’s geological history. The website of the Working Group on the Anthropocene (WGA) describes the presumed new epoch as an age uniquely marked by “many geologically significant conditions and processes profoundly altered by human activities. These include changes in: erosion and sediment transport associated with a variety of anthropogenic processes, including colonisation, agriculture, urbanisation and global warming, the chemical composition of the atmosphere, oceans and soils, with significant anthropogenic perturbations of the cycles of elements” (Working Group on the Anthropocene, 2017).

Beyond advocating for a new geological epoch, the WGA also identifies the beginning of the Anthropocene (and by implication the end of the Holocene) as “the time of the world’s first nuclear bomb explosion, on July 16, 1945 at Alamogordo, New Mexico,” which produced a clear and indelible mark on Earth in the form of a “worldwide fallout easily identifiable in the chemostratigraphic record” (Zalasiewicz et al., 2015).

Although the drive to formally declare a new Anthropocene epoch has gained traction in a number of circles, there are serious questions that need to be raised about the wisdom and accuracy of formalizing the “signals of the anthropocene” as the definitive signs of a new geological epoch. There are important differences between noticing and publicizing a geological signal, and interpreting or defining that signal as the sign of an inevitable ‘new normal’. Rather than interpreting troubling signals such as nuclear fallout, changes in the nitrogen cycle and mining tailings as marking the death of the Holocene, I argue that we should understand them as dire warning signs, demonstrating beyond a doubt the perilous legacies of highly invasive industries, and signaling the unprecedentedly urgent need to terminate and transform harmful practices, and to move our cultures and economies in Earth-friendly directions.

3. Results and discussion

3.1. Protecting the Holocene

It is difficult to imagine a reason to rush to define away the Holocene epoch, or to regard its threatened demise as anything other than an absolute tragedy calling for unprecedented ethical responses. Yet scientists have been surprisingly sanguine about the proposed end of the Holocene epoch, as though they are considering the end of a cultural era, rather than the existential demise of our uniquely life-friendly planetary home. The WGA of the IUGS would like us to conclude that because there are clear stratigraphical marks of human interventions in Earth’s ecology and geology, “the Holocene has terminated” (Working Group on the Anthropocene, 2017). But there are scientific and philosophical questions to be raised about the ontological status of the Holocene. And, as I discuss in more detail below, there are very troubling ethical implications in declaring that the decidedly human-friendly planetary and ecological realities dominant over the last twelve thousand years are officially “over.” In fact, there is no underestimating the potential moral costs of killing off the Holocene epoch.

Although no epoch can last forever, given the unique and uniquely mammal-friendly character of Earth's Holocene, its preservation is of utmost importance for human communities. The Holocene, which began after Earth's Pleistocene period and the last major ice age, established itself around 10,000 BCE, and was designated by scientists in 1895. While "Holocene" is just a name, it designates particular ecosystemic realities for Earth, and a plethora of specific ideals, norms, and benchmarks embedded in those realities. Earth's diverse and dynamic ecologies in its Holocene forms are the fecund states that have been humanity's contexts, worlds, food, fuel and constitutive relationships since long before known human history began. Holocene ecosystems and species are central to all indigenous and subsistence cultures worldwide, and the material foundation for all human conceptions of ecological sustainability, coexistence and health. Ideals and norms provided by Holocene-identified states are what allow us to evaluate and measure environmental harm and endangerment, and to identify specific requirements for restoration. For example, it was various measurements and comparisons against Holocene-identified (i.e. early twentieth century) states of ecological and human health that enabled biologists Rachel Carson and Barry Commoner to show that willful and careless pollution was creating moral atrocities, inspiring the development of environmental law and policy (Carson, 1962; Commoner, 1971). Environmental values and movements the world over, especially those focused on the preservation or restoration of wilderness, sacred lands, animal well-being, traditional subsistence ecosystems, natural monuments, or healthy waterways are still based in material realities of the Holocene epoch.

Without Holocene realities, what can ground the sound ecological policies, laws, ideals and ethics needed in an age such as ours? Anthropocene values cannot be ecologically sound or protective, for the ideology that fuels the practices identified with the proposed human-driven epoch *require* the philosophical and economic reduction of the natural world into exploitable resources. The phenomena referred to in discourses of the anthropocene are catastrophic harms that should be ameliorated in the present and avoided in the future, rather than institutionalized into a new epoch.

Novel anthropogenic signals caused by war and other catastrophes should be regarded as crucial lessons and urgent warning signs, rather than as conclusive evidence that Holocene Earth – arguably the most precious physical location in the universe – has expired. Perilous environmental changes and compromised systems at planetary scales are trends we should work at all costs to terminate, rather than normalize for the future. Instead of dismal science declaring "game over" for the Holocene, realistic science can interpret the lasting environmental traces of war, pollution and disruption as crucial warnings *within* the current epoch, encouraging ethical and empowering responses rather than fatalism and denial.

3.2. The Anthropocene as Moral Atrocity

A New York Times headline recently asked, "Is the 'Anthropocene' epoch a condemnation of human interference, or a call for more?" (Yang, 2017). The geological signals scientists propose as the marks of a new epoch represent colonial and 'neocolonial' interventions and changes that have been catastrophically harmful, and that currently threaten to produce even more extensive harm (Whyte, 2017). If what is distinct about the proposed new geological phase is that it leaves physical signals like mining tailings, nuclear fallout, ocean acidification and anthropogenic species extinction, then the Anthropocene represents an atrocity rather than a promising new trend.

The philosopher Claudia Card developed a secular conception of moral atrocities that emphasizes the obligations of perpetrators and the importance of remediation, without relying on controversial metaphysics or the notion that atrocities necessarily follow from evil intentions. According to Card, a moral atrocity is an intense, extensive harm that "1) is reasonably foreseeable... 2) is culpably inflicted (or tolerated, aggravated, or maintained), and 3) deprives, or seriously risks depriving, others of the basics that are necessary to make a life possible and tolerable or decent" (Card, 2002, 8). The actions of wealthy industries, governments and individuals who knowingly pollute and harm others seemingly fit the paradigm. Not surprisingly, Card argued that ecocide, "the threat to life on our planet posed by environmental poisoning, global warming, and the destruction of rain forests and other natural habitats," was among the paradigmatic moral evils of the twentieth century (Card, 2002, 8).

In asserting that a new epoch has already permanently replaced the Holocene epoch, the working group advocates for a position that deprives humanity of the opportunity to protect

and restore the Holocene. They also present a pessimistic and insufficiently founded prediction of the future of human societies and Earth's ecologies. Whether any discipline can predict how human communities will ultimately respond as we come to better understand our environmental impacts and vulnerabilities, it is fatalistic and disempowering to assume that effective collective responses to global threats are categorically impossible. The last decade has seen a massive shift toward global recognition of climate change and the importance of climate justice, and a huge and broadly cross-cultural sector of humanity now expresses serious concern about the issues. Both social and ecological systems can turn out to be quite resilient, when provided with the right forms of support.

Instead of normalizing moral atrocities by proclaiming the birth of a new epoch, ethical interventions are required to address the serious and systematic harms of the last century, and restore ecological health. In addition to assessing culpability, positive ethical interventions include taking responsibility, healing, caring, restoring, acting justly, divesting, protecting, enabling autonomy, respecting rights, and showing respect. Rather than settling for the idea that the practices that currently threaten life on Earth are destined to grow into more of the same, scientists and others noticing the so-called "signals of the anthropocene" might expand and multiply efforts to protect and restore ecological health.

3.3. What's in a Name?

Finally, like other commentators who have suggested alternatives such as "capitalist-scene", I think it is important to consider the accuracy and implications of the name "anthropocene" (Hailwood, 2016; Haraway, 2016; Cuomo, 2014; Cuomo, 2017). The term supposedly identifies the agents behind the extensive and lasting impacts of technological interventions on Earth's vital systems. But is humanity, *anthropos*, or *Homo Sapiens* really the responsible party behind mass species endangerment, ocean acidification, fossil fuel pollution, deforestation, and nuclear fallout? Clearly it is some humans, and not others, who have devised, propagated and profited from the characteristic industries (and moral atrocities) of the so-called anthropocene. Phenomena identified with the anthropocene are quite recent, and though they have near-global reach, their origins are specific and often traceable. Describing the harms of the anthropocene as acts of 'humanity' represents the actions of few as universally chosen and preferred. It denies humanity's phenomenal historical and philosophical diversity, and feeds into a dismal and misanthropic conception of human nature as ultimately anti-nature, violent, and destructive. Furthermore, attributing the catastrophic changes Earth is experiencing to an abstract, diffuse non-actor like "humanity" hides the influence of specific ideologies, industries, and cultures, and allows everyone to avoid taking responsibility.

There is a unique hubris in characterizing your own culture's destructive patterns, which have been used against other cultures, as definitively human, and then defining those destructive patterns as the harbinger of an already-established new age destined to define the future. Instead of rendering them invisible, now is the time to highlight and learn from living and remembered human cultures who have realized more harmonious, mutually beneficial relationships within nature. Of fundamental importance will be the ability to sense, allow and support nature's autonomy, grounded in ethics of recognition and respect.

4. Conclusion

It is not the actions or inclinations of *anthropos* that produced the fallout resulting from the United States Army's detonation of nuclear weapons in 1945, or our current frightening eco-crises. But if not humanity as a species, who deserves the credit or blame for the troubling "man-made" global changes we are witnessing, working against, and working with? Many have emphasized the roles of "mankind" and "Western values" in endangering the health of the Holocene (White, 1967). In fact it is the economically powerful classes of recent colonial and capitalist regimes—mostly but certainly not only men— who masterminded, enacted and have directly benefited from the disruptions to Earth's "geologically significant conditions and processes" in question. We with massive greenhouse gas footprints can help write the next chapters of the Holocene by prioritizing practices to effectively support a thriving biosphere healthy and fertile enough to supplant current anti-Earth trends.

5. Acknowledgments

Thank you to Amy Ross, Clement Loo (on the matter of prediction), Amber Katherine, Jim Stockton, Kyle Powys Whyte, the University of Georgia Willson Center for the Humanities and Office of the Vice President for Research, Mark A. Farmer and Valery P. Kalinitchenko.

References

- Card, 2002** – Card, C. (2002). *The Atrocity Paradigm: A Theory of Evil*, London: Oxford University Press
- Carson, 1962** – Carson, R. (1962). *Silent Spring*, Boston: Houghton Mifflin.
- Commoner, 1971** – Commoner, B. (1971). *The Closing Circle: Man, Nature and Technology*. New York: Knopf.
- Crutzen and Stoermer, 2000** – Crutzen, P, and E. Stoermer (2000). “The Anthropocene.” *Global Change Newsletter* 41: 17–18.
- Cuomo, 2014** – Cuomo, C. (2014). “Who is the ‘Anthro’ in the Anthropocene?” Anthropocene Lecture Series, University of Georgia, November 20.
- Cuomo, 2017** – Cuomo, C. (2017). ‘Anthropocene’: An Ethical Crisis, Not a Geological Epoch, *Geophysical Research Abstracts* Vol. 19, EGU2017-17142.
- Hailwood, 2016** – Hailwood, S. (2016). “Anthropocene: Delusion, celebration and concern.” In P. Pattberg, & F. Zelli (Eds.), *Environmental Politics and Governance in the Anthropocene*, Abingdon: Routledge.
- Haraway, 2016** – Haraway, D. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*, Durham: Duke University Press.
- Kolbert, 2014** – Kolbert, E. (2014). *The Sixth Extinction: An Unnatural History*, New York: Henry Holt and Company.
- Working Group on the Anthropocene, 2017** – Working Group on the Anthropocene, Subcommission on Quaternary Stratigraphy, (2014) “What is the Anthropocene?” URL: <http://quaternary.stratigraphy.org/workinggroups/anthropocene> retrieved June 28, 2017.
- Yang, 2017** – Yang, Wesley (2017). “Is the ‘Anthropocene’ Epoch a Condemnation of Human Interference — or a Call for More?” *The New York Times Magazine*, February 14.
- White, 1967** – White, L. (1967). The historical roots of our ecologic crisis, *Science*, Vol. 155, No. 3767:1203-1207.
- Whyte, 2017** – Whyte, K. (2017). “Indigenous climate change studies: Indigenizing futures, decolonizing the Anthropocene, *English Language Notes* 55 (1-2): 153-162.
- Zalasiewicz et al., 2015** – Zalasiewicz, J., et al. (2015). “When did the Anthropocene begin? A mid-twentieth century boundary is stratigraphically optimal”, *Quaternary International*, 383, 196-203.