Placing the *Anthropos* in Anthropocene

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Abstract

In this article, we review the place of "the human" in influential approaches to the Anthropocene to expose the diverse conceptualizations of humanity and human futures. First, we synthesize current research on humans as landscape modifiers across space and time, making a key distinction between the "old Anthropocene" (beginning with human food production) and the "new Anthropocene" (coinciding with the start of the Industrial Revolution). Second, we engage critical perspectives on the structuring effects of capitalist and colonialist systems—now periodized as the "Capitalocene" and "Plantationocene," respectively—that have driven environmental degradation and human inequality over the past half-millennium. In the third section, we introduce alternative perspectives from anthropological and ethnographic research that confront the socio-ecological disruptions of capitalism and colonialism, drawing on indigenous Amazonian perspectives that have a more capacious understanding of the human—including species other than *Homo sapiens.* Finally, to conclude, we extend our analysis to a broader suite of visions for building socially and environmentally just futures captured in the framework of the "pluriverse," which stands in strong contrast with the techno-modernist aspirations for the next stage in which humans become separated from Earth, in space. In recognizing these varied understandings of humanity, we hope to call attention to the diverse possibilities for human futures beyond the Anthropocene.

Keywords: Anthropocene, Capitalocene, Human-environment interactions, Plantationocene, Pluriverse

Introduction

The Anthropocene has proven to be a useful—albeit controversial, concept for recognizing cumulative human impacts on the Earth's systems and for generating robust discussion regarding pending environmental collapse. The ongoing debates about the origins and causes of the Anthropocene also have important implications for how we address this crisis. Given the centrality of *anthropos*—the human—to the issue and the solution, we offer a focus on humans as agents of environmental change. By looking across time and space, we aim to question and scrutinize human-environment relations and associated structures, ideologies, events, and technologies that have contributed either directly or indirectly to the recognition of the Anthropocene. Through cross-cultural and cross-disciplinary examination, we also draw attention to the different ways in which humans have conceived of human-environment relationships, including the concept of nature and the place of non-human actors in our socio-ecological relations. Where and how we place the *anthropos* in the Anthropocene has implications for more than just scholarly debates or our understanding of human-environment relations over time. It also has potential consequences for how we collectively imagine the human place on the planet, who gets counted under that umbrella of humanity, and how that vison should dictate the future of our socio-ecological relations on this planet and beyond

This article examines the human through a variety of social scientific, humanistic, and interdisciplinary frameworks to offer a deeper understanding of just what is meant when we speak of the "age of humans," or the Anthropocene. As anthropologists, we center humans in the study of human-environment relations and environmental impacts across time and space, and follow other critical scholars in our examination of the the

ways that humans are conceptualized in scholarly and political debates about developmental and environmental futures. The paper has four main sections, each focused on human-environment relations and the systems in which they are embedded at distinct points in human history that contribute to or emerge from the Anthropocene. First, we draw on diverse disciplinary literatures to assess human management and landscape modification over time, identifying an "old Anthropocene" popularized in archaeology that stands in contrast to a "new Anthropocene" that is associated with the onset of the Industrial Revolution and modern technological expansion. We then delve into critical engagement with the Anthropocene from scholars that approach this new geological epoch through the structuring effects of global capitalism and colonialism over the past 500 years—now referred to as the Capitalocene and Plantationocene, respectively. In the third section, we begin to rethink the *anthropos* in the Anthropocene by drawing attention to how Amazonian indigenous perspectives fundamentally question humanity as a condition unique to *Homo sapiens*. Then, to conclude, we consider alternatives to capitalist and eco-modernist futures of ever-expanding economic growth and technological "progress" that eventually extend human life beyond the bounds of Earth. Recognizing that the human is many things across time, and that more just and equitable futures are not only possible but necessary, we close with an examination of how decolonizing practices in the present offer a vision for a future world "in which many worlds fit" (Kothari et al. 2019; Marcos 2002). In other words, by exposing the diverse conceptualizations of humanity, we highlight the diverse possibilities for human futures beyond the Anthropocene.

The Old and New Anthropocene

The concept of the Anthropocene is rooted in the simple notion that humans have fundamentally altered the planet. Since the concept was first introduced by Crutzen and Stoermer in 2000, wide-ranging debate has opened regarding the origins of the Anthropocene and the precise activities and behaviors responsible for this planetary transformation. To simplify these scholarly debates, we contend that there are two different visions of this geological epoch's origins presented by scholars working in such diverse fields as geology, geography, history, and archaeology, among many others. In most basic terms, there is an old Anthropocene and there is a new Anthropocene. The old Anthropocene is linked to the earliest forms of human landscape modification—from the manipulation of fire and early food production strategies to the development of agriculture (Glikson 2013; Stephens et al. 2019). The new Anthropocene, on the other hand, is squarely placed in the modern industrial era. Several of the advocates of the new Anthropocene see its origin at the dawn of industrialization (e.g. Steffen et al. 2007; Ellis et al. 2010), but others like the Anthropocene Working Group (AWG), pin it to nuclear bomb testing in the 1950s (Carrington 2016; Zalasiewicz et al. 2015). Despite the differences between them (and variation within them), both the old and new Anthropocene share a recognition of humans as landscape managers and modifiers, *par excellence*. What makes these two visions of the Anthropocene distinct are the forms of human impact on the planet deemed to be significant, as well as the different types of arguments and evidence they employ for delineating this new geological epoch.

When the Anthropocene began to gain steam as a concept at the beginning of the 21st century, it was first linked to the rise of European industrialization. Crutzen and Stoermer (2000) saw that changes to Earth's climate beginning with the accelerated

release of greenhouses that followed the onset of the industrial period around 1850 A.D. Soon after the term appeared in print, other scholars began to question this origin story of the (European) industrial Anthropocene. Notably, environmental scientist William Ruddiman (2003) responded with the "early-anthropogenic hypothesis" that argued human alteration of the planet could be witnessed thousands of years ago with the start of crop and livestock domestication and the beginnings of agriculture—sometimes known as the "Neolithic revolution" (see also Ruddiman 2013). Ruddiman's model drew both on archaeological and climatological data to make its case. Specifically, he argued that atmospheric CO_2 began an anomalous increase 8,000 years ago coinciding with forest clearance in Eurasia resulting from early agriculture. A similar trend for atmospheric methane (CH_4) could be found around 5,000 years ago, which Ruddiman linked to the expansion of rice irrigation in Asia. In sum, Ruddiman contended that the origins of agriculture and the origins of the Anthropocene were one and the same.

Researchers in archaeology, in particular, began to support this view of an older Anthropocene, offering additional forms of evidence. Not only did forest clearing resulting from agriculture have impacts on the climate thousands of years ago but the growth of sedentary societies and the concentrated deposition of organic wastes ("middening") led to the formation of anthropogenic soils, which could serve as the "golden spikes" or markers of the Anthropocene (Certini and Scalenghe 2011). Even places like Amazonia, where domestication and agriculture took on different forms, offer evidence to support the early Anthropocene model, including the presence of anthropogenic forests, anthropogenic mounds, raised agricultural fields, and football field-sized geoglyphs (Schaan 2010; Levis et al. 2012; Watling 2017). A recent synthesis

of research by more than 250 archaeologists also supports this old Anthropocene model (Stephens et al. 2019). Although there is considerable variation in the timeframe in which different world regions were altered by human food production, this study asserts that by 3,000 years ago, most of the planet was already transformed by hunter-gatherers, farmers, and pastoralists.

Though there has been considerable support for the old Anthropocene model, it has led to deeper consideration of the scale and extent of human modification of the environment across time as well as the temporal variability of human impacts. Models of the new Anthropocene have identified geological signatures linked to anthropogenic activity that can be found in much greater ubiquity, albeit in thinner slices of time. These include everything from the remains of the modern broiler chicken (Bennett et al. 2018) to industrially-produced microplastics that now blanket Earth and even can be found in deep ocean trenches (Zalasiewicz et al. 2016; see also Williams et al. 2016.). However, the AWG has argued that the sharpest of these signals comes from artificial radionuclides that spread globally via nuclear bomb testing in the early 1950s (see Zalasiewicz et al. 2015). It is this date—1950 A.D. specifically—which the AWG will submit to the International Commission on Stratigraphy in a formal proposal by 2021. In the meantime, there is still much to debate regarding the underlying behaviors, systems, and even ideologies driving current planetary changes.

The Capitalocene and Plantationocene

The questions about the origins of the Anthropocene are important for how we understand the problem as well as theorize and enact potential solutions. While it is certain that the effects of the Anthropocene are evident in a number of indicators

associated with "the Great Acceleration" in the mid-twentieth century (Steffen et al. 2011), the concept does little to explain what led us to this point. Critical social scientists in the fields of anthropology, geography, and sociology, in particular, draw attention to all that is obscured and erased by a term that designates a generalized humanity as universally responsible for the present ecological crisis (Malm and Hornborg 2014; Hornborg 2017). Two of the most influential reconceptualizations of the Anthropocene—the Capitalocene and the Plantationocene—argue for attention to the enjoined systems that began to shape the world around 500 years ago: global capitalism and colonialism. While these alternative proposals have different foci and arguments, they share an interest in how humans are differentially situated within broader political-economic systems undergirded by power-laden hierarchies that drive human social inequality and environmental destruction

Jason Moore, one of the principal proponents of the Capitalocene concept, critiques the attribution of environmental change to the "human enterprise" as a "mighty, largely homogeneous, acting unit" (2017, 3). According to Moore (2017), early capitalism created patterns of power, capital, and nature that laid the groundwork for the commonly understood origins of the Anthropocene. Andreas Malm, in *Fossil capital: The rise of steam power and the roots of global warming* (2016), similarly argues against the myth that humans are predestined to degrade the environment, since such a narrative ignores the structuring effects of capitalism.

The development of capitalism is intimately linked with colonialism, and a specific suite of socio-ecological relationships, beginning roughly in the mid-fifteenth century. In Donna Haraway and colleagues' 2016 article, another increasingly influential

term was coined—the Plantationocene (Haraway et al. 2016). The Plantationocene emphasizes the plantation as a central analytic for understanding the rationalized production system that requires the simultaneous exploitation of nature and human labor (Mintz 1986; McKittrick 2011; Li 2018; Paredes 2020).

The global environmental implications of colonialism and the emerging global world system can also be seen in the geological record. According to the "Orbis Spike," global declines in atmospheric carbon dioxide between 1570 and 1620 A.D. were the result of massive Native American population declines following the spread of disease and violence under European colonialism (Lewis and Maslin 2015, 175-176). For this reason, Davis and Todd (2017) argue that the starting date of the Anthropocene should coincide with the colonization of the Americas due to the reverberating effects of dispossession and genocide of Native peoples as well as the endurance of colonial ecocidal regimes.

As noted above, scholars who have proposed the ideas of the Capitalocene and Plantationocene assert that it is not necessarily all humans who are responsible for widespread ecological degradation on the planet, but rather the capitalist system and global elites invested in the most rapacious forms of natural resource extraction and agro-industrial production. The Capitalocene and the Plantationocene emphasize how the diffuse, contextual relations between capitalism and assemblages of humans and non-humans work together to produce environmental destruction. Both perspectives seek to bridge the divide and confront the ideologies that place *Homo sapiens* in a privileged position over other organisms, seeking to re-insert humanity back into the web of life (Moore 2017) and "make kin" across species lines (Haraway 2015).

Black geographers, in particular, have productively examined how the Anthropocene and its derivatives like the Plantationocene have overlooked the importance of racial politics in the past and continuing in the present (Davis et al. 2019) and racialized geographies—gaps that continue to persist in the ways that the Anthropocene has led to generalized discourses about humanity (Pulido 2018; Whyte 2018; Yusoff 2018; Resnick, *forthcoming*). Perspectives from eco-feminism, environmental racism, and environmental justice argue that reconnection requires confronting the linkages between capitalism, racism, and sexism that result in environmental degradation and disproportionately affect the poor, women, and people of color (Pellow 2007; Shiva 2016). Crucial to achieving socio-environmental transformations is critical analysis of the factors directly affecting vulnerable populations, but also the structures that perpetuate the parallel forms of domination against nature and humans, such as with colonial drives to "domesticate" nature and racialized subjects (Marquez 2014; Hage 2017) and the role of scientific rationalism in the exploitation of women and nature (Merchant 1980). As such, socially and environmentally just solutions are only achieved by diversifying and de-colonizing anthropocentric hierarchies between human and non-human while also demanding recognition that environmental struggles are inextricably linked with social struggles for equality.

Rethinking "the Human" in the Age of Humans

As greenhouse gases accumulate in the Earth's atmosphere, industrial plastics become ubiquitous in the oceans, and our discards begin to form distinctive stratigraphic layers, we are coming to grips with the fact that we cannot so easily separate ourselves from our environs, much less exert full control over them. The Anthropocene thus

presents a fundamental paradox—with the increased recognition of humanity's capacity to alter the environment, the separation between the human and non-human has grown increasingly fuzzy, and it is unclear who or what is really in control. This is why the geographer Jamie Lorimer (2012) argues that the Anthropocene essentially represents the nail in the coffin for the modern dichotomy between nature and culture. The question now is: how might we—particularly in so-called Western industrial societies—think differently about our relations with the world around us? And perhaps even more important, how might this help us rethink the basic condition of humanity, or *anthropos*?

As the Anthropocene has gained greater recognition across scholarly disciplines, social scientists have grappled with the fact that "the human" is being drawn to the center of the perceived environmental crisis. In the process, it has actually prompted new methodological experiments and forms of theorization that attempt to "decenter" the human and draw other beings and entities into social scientific and humanistic analyses. Multispecies ethnography is one example of this shift that has been taken up by scholars in the environmental social sciences and humanities, which seeks to contextualize human lives within wider networks of relations with different organisms and non-human (or "more-than-human") others (Kirksey and Helmreich 2011; Haraway 2013; Van Dooren 2014; Tsing 2015).

In an even more radical rethinking of "the human" at the center of the Anthropocene, the anthropologist Eduardo Viveiros de Castro (2017) has called attention to the limited scope of Euro-American anthropocentrism. His concern is that it associates humanity with just one species alone: *Homo sapiens*. Although scholarly Western Enlightenment thinking promulgates this view in a manner that often goes unquestioned,

Viveiros de Castro reminds us that many people understand that *Homo sapiens* is not the only species that is human. In the day-to-day lives of peoples across the world, particularly indigenous peoples, it is apparent that humanity is a shared quality not an exclusionary one. As Viveiros de Castro remarks in his treatise *Cannibal Metaphysics*: "When everything is human, the human becomes a wholly other thing" (2017, 63).

Many anthropologists have noted that Amazonian indigenous peoples acknowledge diverse beings in the world as persons with subjective agencies, "each endowed with the same generic type of soul [or], same set of cognitive and volitional capacities" that allow them to see themselves as human (Viveiros de Castro 2004:6; see also Fausto 2008; Vilaça 2005). While humans may perceive other living forms as animals or plants or spirits, the framework of Amerindian perspectivism suggests that perception is borne out of bodily difference and positionality in intersubjective relations.

What, then, might an expansion beyond Western Enlightenment ideas about the human—or even simply personhood—do for Anthropocenic politics? What futures can be conjured when, as Sylvia Wynter (2003) shows us, we challenge the overrepresentation of Western bourgeois "man" in scholarly thinking about human existence and human freedoms? It seems evident in this time of ecological crisis that rather than cling to a Euro-North American *Homo sapiens*-centered view of the world, new perspectives are very much needed. In *Human, All Too Human*, Nietzsche wrote: "Most people are far too much occupied with themselves to be malicious" (1910, 88). Our fear is that he was very much wrong. There is a subtle maliciousness found in the disregard for others and their place on the planet, and it is embedded in our very limited

notion of who counts as human, whose lives matter and whose lives are treated as dispensable.

Two Visions of Human Futures: The Pluriverse and the Space Age

By questioning the human, we are not arguing for one specific or monolithic vision of humanity. Instead, we insist that *anthropos* and its diverse forms should not be assumed or taken for granted. By considering different dimensions of humanity and the different possibilities of its constitution—including the notion that humanity is not synonymous with *Homo sapiens*—this can invite deeper engagement with two very distinct visions of human futures: an earthly pluriverse, or an escape to space.

In recent years, critical analyses have been combined with scholar-activist proposals for alternative socioecological futures, such as in the 2015 Special Issue of this journal (Braun 2015). Although there are many allied terms and approaches, here we discuss these under the umbrella of the "pluriverse" (Escobar 2018; Kothari et al. 2019). While a number of social scientists have adopted this notion, it is perhaps best encapsulated by the Zapatistas who have argued that they are working toward "a world in which many worlds fit" (Marcos 2000, 80; see also de la Cadena and Blaser 2018).

In *Pluriverse: A Post-Development Dictionary*, Kothari and colleagues elaborate on this idea, describing the pluriverse as "a broad trans-cultural compilation of concepts, worldviews and practices from around the world, challenging the modernist ontology of universalism in favor of a multiplicity of possible worlds" (2019, xvii). The pluriverse, then, includes experimental alternatives in the present, such as agro-ecology (Toledo 2019) and degrowth (DeMaria and LaTouche 2019; see also Kallis and March 2015). Attention to structural change in the present can contribute to "Civilizational Transitions"

away from the dominant Western "capitalist hetero patriarchal modernity" toward a more socio-ecologically just world in the pluriverse (Escobar 2019: 121).

On the other extreme is a world of monocultures, resource extraction, and capital accumulation in the hands of a very limited swath of humanity that is not only a single species, but a very limited portion of that one. Social scientists who have proposed the ideas of the Capitalocene and Plantationocene often overlap with perspectives associated with the pluriverse, in their critical assessment of the philosophical and structural underpinnings of dominant "reformist" approaches to addressing the climate crisis, such as ecomodernism, in which "knowledge and technology, applied with wisdom, might allow for a good, or even great, Anthropocene" (Asafa-Adjaye et al. 2015, 6). Such techno-centric approaches include geoengineering as a response to climate change (see Keith 2000) and transhumanism, in which humans achieve "the singularity"—the merging of "biological existence to technology" (Kurzweil 2005, 9). What ecomodernism and other reformist philosophies avoid is addressing the fundamental exploitation of the capitalist system and a lack of scrutiny of linear visions of development centered on the assumed universal benefits of technological solutions and economic growth (Sachs 1992; Escobar 2011). In other words, the future of the Anthropocene as currently conceived is one in which *anthropos* is treated as synonymous with Homo sapiens, but in practice is a world that largely upholds the system of capitalist hetero-patriarchal modernity.

In *The future of humanity*, physicist Michio Kaku explains why planetary conquest is the next logical step for humans (2018). According to Kaku, it is the fate of *Homo sapiens* to "become like the gods" and "shape the universe in our image" (ibid.: 14). For the author, colonizing and terraforming other planets is an extension of inherent

human "restlessness" harnessed through scientific inquiry and technological innovation. Kaku argues for this future in space by pitting humans against a hostile nature that must be escaped before it is too late, making little mention of the anthropogenic climate change that narrows the range of environmental futures in the Anthropocene. In the end, terraforming Mars seems like the next logical step for humanity, and certainly less audacious than finding a way to live together on Earth. Perhaps if we could redirect the "restlessness" of humans that Kaku projects to space and apply it to this world, a better future might be possible, as voices from the Pluriverse argue. By drawing together different disciplinary perspectives, as well as the voices of activists and populations whose voices have historically been neglected or appropriated, alternatives to colonialism and capitalism might flourish.

Conclusion

How we place the *anthropos* in the Anthropocene matters for how we understand human nature and how we envision a collective future on the planet. If we see the Anthropocene as nothing more than an extension of humanity's innate tendency to modify and transform its surroundings, then such a view would seem to support continued and perhaps even more radical technological intervention into the Earth's systems and beyond, from geoengineering schemes to space colonization. As we already know, many techno-optimists are actively advocating for this vision of humanity and its future, from Elon Musk's SpaceX program to unprecedented schemes that involve spraying sulphate into the stratosphere to reflect solar radiation.

Rather than lobby for another extreme makeover of the Earth's systems or otherwise seek to escape from the planet entirely, we should think more ambitiously

about how we address the Anthropocene both socially and politically. Of course, this would first require us to spend time thinking more deeply about our collective history on this planet and confront how we have come to this point of crisis. Indigenous scholars like Kyle Powis Whyte (2018) have shown that the unfolding apocalypse associated with climate change and global environmental change more broadly is only seen as new to European settler colonial society. For indigenous peoples of the Americas and those whose lives were swept up in the horrors of the transatlantic slave trade, it has been ongoing for the last 500 years.

Some environmentalists today argue that due to the urgency and imminence of the climate crisis, it must command all of our attention if we hope to avoid planetary catastrophe. The question is if we can truly address such a crisis without meaningfully addressing the forms of social and environmental inequality that brought us here in the first place. If we continue to see the world as divided in half, between nature and culture, then it is only logical that we will see violence against humans and non-humans as separate problems. But, if we begin to see the world as one, then we may find that these problems are in fact one and the same.

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