Anthropocene 2

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For a growing chorus of scientists, the Holocene is history. Through our collective actions we have jolted the planet into a new, unprecedented epoch, the Anthropocene, which, according to one influential view, dates back to the late-eighteenth-century beginnings of the Industrial Revolution. The ecologist Eugene Stoermer coined the term *Anthropocene* (age of humans) in 2000, and the Nobel Prize–winning atmospheric chemist Paul Crutzen quickly popularized its core assertion that for the first time in Earth's history, a sentient species, *Homo sapiens*, has become not just a biomorphic but a geomorphic force. The grand species narrative that drives the Anthropocene hypothesis is, in both senses of the phrase, epochal: it moves the geological boundary markers while also disturbing conventional assumptions about human agency, IDENTITY, and temporal power. The Anthropocene is a story of massive, lasting anthropogenic changes—to the lithosphere, the atmosphere, the hydrosphere, and the biosphere—that will be legible, in many cases, tens of millennia from now. In other words, over the past two and a half centuries we have been inadvertently laying down in stone a geological archive of human impacts.

This ascendant twenty-first-century grand narrative is unsettling some of our most profound assumptions about what it means to be human—imaginatively, biologically, existentially, ethically, and politically. Since George Perkins Marsh in the 1860s, many thinkers have recognized humanity's capacity to transform the planet, among them Rachel Carson who observed that "only within the moment of time represented by the present century has one species—man—acquired significant power to alter the nature of his world" (1962, 23).

But between Carson's mid-twentieth-century perspective and that of twenty-first-century Anthropocene mandarins, we have witnessed a marked technological and narrative shift. For Anthropocene scientists, the new metrics of accelerating human impacts indicate that we have not only been changing the world environmentally but changing the planet's deep chemistry in ways that demand radically new modes of storytelling.

New metrics demand new metaphors. Taking her cue from paleobiologist Anthony Barnosky, Elizabeth Kolbert argues that "we are the asteroid" (2015). We may be meteoric in our capacity to catalyze mass extinctions and other long-lasting planetary effects, but we are not insensate: the humanity at the center of the Anthropocene is a hurtling hunk of rock that feels. Much Anthropocene theory addresses the complex implications of translating the feeling human species into a species of unfeeling geological agency. But less attention has been paid to the other assumption in this metaphoric equation: if "we are the asteroid," who exactly is this high-impact "we"? What is gained and what sacrificed through this geologic-biologic turn that places, at its center, "we the species"?

Arguably, the central challenge posed by this new version of planetary history is this: How do we tell the story of *Homo sapiens* as an Anthropocene actor in the aggregate, while also insisting that the grand species narrative be disaggregated to reflect the radically divergent impacts that different communities have had on planetary chemistry? To approach the matter in this way is to ask searching questions about the geopolitics of Anthropocene geology's layered assumptions. Historically and in the present century, how have social institutions, cultural practices, and forms of governance affected the way diverse communities have exercised radically different levels of geomorphic and biomorphic power? *Homo sapiens* may constitute a singular actor, but it is not a unitary one. Oxfam reports that in 2013 the combined wealth of the world's richest 85 individuals equaled that of the 3.5 billion people who constitute the poorest half of the planet (Wearden 2014). In 2009, the 1.2 billion inhabitants of low-income countries were responsible for 3 percent of CO_2 emissions, while the 1 billion inhabitants of high-income countries were responsible for 47 percent, an immense difference per capita (World Bank 2009). Moreover, a 2013 study concluded that since 1751—a period that encompasses the entire Anthropocene to date—a mere ninety corporations have been responsible for two-thirds of humanity's greenhouse gas emissions (Goldenberg 2014). That is an extraordinary concentration of earth-altering power.

The advent of the Anthropocene story has profound consequences for how we conceptualize the environmental CRISIS and the inequality crisis, two of the greatest crises of our time, which are joined at the hip, although the join is often invisible. The implications of Anthropocene perspectives for environmentalism have been extensively examined, but there has been little attention to the Anthropocene's implications for how we address—and redress—inequality. In terms of the history of ideas, what does it mean that the Anthropocene has gained credence during the twenty-first century, during a time when, in society after society, we are seeing a widening chasm between the ultrarich and the uberpoor, between resource capture at the top and resource depletion at the bottom (Nixon 2011)? What does it mean that the Anthropocene as a grand explanatory species story has

taken hold during a plutocratic age? For "we the species" is being positioned as a planetary actor when, planet-wide, in most societies, what it means to be human is breaking apart economically, exacerbating the distance between extremes of affluence and abandonment. Those extremes are profoundly consequential for the way human impacts are distributed, recorded, and deciphered in earth's geophysical archive.

The story of the Anthropocene links "earthly volatility to bodily vulnerability," as geographer Nigel Clark has noted (2011, xx). Yet the most influential Anthropocene mandarins have marginalized questions of unequal human agency, unequal human impacts, and unequal human vulnerabilities. If, by contrast, we take an environmental justice approach to Anthropocene storytelling, we can better acknowledge the way human actors' geo- and biomorphic powers have involved vast disparities in exposure to RISK and access to resources. In conceptualizing the Anthropocene, then, a critical challenge is how to think simultaneously about geological and social strata. The stratigraphers who are central proponents of the Anthropocene are specialists at reading layers of rock. But in studying the human contribution to those sedimentary layers, we also need to conduct another kind of reading, a reading of social stratification. We should acknowledge that different social strata, historically and increasingly in the twenty-first century, have exerted unequal agency.

Two other terms are pertinent here: the Great Acceleration and the Great Divergence. If most Anthropocene scholars date the new epoch to the late eighteenth century, they also note an exponential increase, beginning circa 1950, in the pace of anthropogenic changes to the carbon cycle, the nitrogen cycle, the water cycle, global trade, resource consumption and habitat clearance, and industrial-scale agriculture. This post-1950 Great Acceleration—which includes the appearance of unprecedented isotopes from atomic bombs—will be registered in the planet's physical systems for tens of millennia to come.

However, the most authoritative accounts of the Great Acceleration fail to position it in relation to the rise of neoliberalism since the late 1970s.[1] By now, more than half of the Great Acceleration has occurred during an era dominated by neoliberal policies: the concentration of wealth through privatization; assaults on the civic and environmental commons; the shredding of social safety nets and public services through structural adjustment and asset stripping; rampant deregulation and union busting; mega-mergers that have created corporations more powerful than the nations they operate in, leading to (often militarized) alliances between unanswerable corporations and unspeakable regimes; and, under the banner of an international free market, an increasing license, on the part of the most powerful, to internalize profits and externalize costs across national boundaries and across generations.

Together these policies have led to what Timothy Noah calls "the Great Divergence" (Noah 2012, 1). Noah's subject is the twenty-first-century economic fracturing

1. Clark (2011), Crutzen and Stoermer (2000), Williams et al. (2011), and Zalasiewiecz (2008 and 2011) are among the influential Anthropocene intellectuals who have either ignored or marginalized the question of Anthropocene inequality.

of AMERICA in the so-called new gilded age. But the Great Divergence is not just an American concern: it scars most twenty-first-century societies, including CHINA, India, Indonesia, South Africa, NIGERIA, Italy, Spain, Ireland, Costa Rica, Mexico, Greece, Jamaica, the United Kingdom, Australia, and Bangladesh. The Great Acceleration is not reducible to neoliberalism's ascent, but any account of human-induced planetary morphology since 1950 needs to keep neoliberalism's durable impacts front and center. Many of these impacts will be legible, long term, in what science writer Peter Brannen calls "the thin glaze of life-supporting chemistry that coats the earth" (2013, 32). A central failure of the dominant mode of Anthropocene storytelling is a failure to articulate the Great Acceleration to the Great Divergence.

Will the Anthropocene proffer, as geographer Nigel Clark believes, "an invitation to relearn what it is to be human" (2011, 17)? We are in the process of finding out. What we do know is that this iconoclastic idea unsettles habitual assumptions about humans as shapers of deep time—our time and the times of other species that share our rapidly changing earth. The Anthropocene debate is moving beyond the zone of interdisciplinary argument and entering a more public sphere, as museums, galleries, and film festivals wrestle with how best to animate this complex, provocative idea in ways that grant it imaginative energy and emotional traction. In so doing, such institutions are contributing to the shaping of environmental publics and the making of environmental policy. The turn toward the public Anthropocene has profound implications for the way humans perceive—and act upon—the planet we have inherited and the planet we will bequeath. But as we engage this public turn, it remains imaginatively, ethically, and politically crucial that we acknowledge the tensions within the Anthropocene, the centripetal and centrifugal tensions within this shared geomorphic story about increasingly unshared resources. We are all in the Anthropocene, but we are not all in it in the same way.

See also: ACCUMULATION, CHARCOAL, ENERGY REGIMES, FUTURE, PLASTIGLOMERATE.