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# Interrogating the Anthropocene: Truth and Fallacy

## Opening Essay for a GTI Forum

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*In the Anthropocene, what does your freedom mean?*<sup>1</sup>

The Anthropocene concept advances the stunning proposition that human activity has catapulted Earth out of the relatively benign Holocene into a hostile new geological epoch. The recognition of our species as a planet-transforming colossus has jolted the cultural zeitgeist and sparked reconsideration of who we are, where we are going, and how we must act. What are the implications for envisioning and building a decent future? If we care about a Great Transition, how should we think about the Anthropocene?

### Resonances

An examination of the Anthropocene idea must start with a disturbing scientific truth: human activity has altered how the Earth functions as an integral biophysical system. For decades, evidence has mounted of anthropogenic disturbance of planetary conditions and processes, notably, the global climate, ocean chemistry, the cryosphere, the nitrogen cycle, and the abundance, diversity, and distribution of fauna and flora. Rippling synergistically across space and time, this multipronged disturbance compromises Earth's stability and heightens risks of a disruptive state-shift of the system as a totality.

Such pronounced human modification of the planet prompted earth scientists to propose the designation of a new geological epoch in a landmark 2000 article.<sup>2</sup> They christened it "the Anthropocene," an evocative neologism signifying the Age of Humanity ("Anthropos"). If formally adopted by geological authorities, the Anthropocene would add a new tick to Earth's timescale, closing the curtain on the 11,700-year old Holocene, the comparatively stable geological epoch

that enabled the emergence of civilization. *Homo sapiens* would join the list of other great Earth-shakers, such as the cyanobacteria explosion that oxygenated the atmosphere, the astronomical alignments that triggered Ice Ages, and the killer asteroid that wiped out the dinosaurs.

The process of making the geoscientific case—establishing a distinctive anthropogenic “geological signal”—has been a long slog through the stratigraphic weeds. After years of extensive debate, scientific opinion seems to be coalescing around validation of the Anthropocene with a starting date in the mid-twentieth century.<sup>3</sup>

Ultimately, scientific authorities may determine that the Anthropocene fails to meet geological criteria for a new epoch, but the term almost certainly will persist as scholarly shorthand and popular buzzword for an epochal phenomenon: Earth transformed by human hand.<sup>4</sup> The Anthropocene cat is out of its geological bag, prowling and insinuating itself into far-flung precincts of cultural, intellectual, and political zeitgeists. The coinage has struck a chord far beyond the scientific community, reverberating across academic disciplines and the broader culture. This burgeoning “Anthropo-scene” has generated a fertile cacophony of ideas feeding a flood of books, journals, conferences, blogs, arts, and films.<sup>5</sup>

The shock of the Anthropocene jolts old paradigms and worldviews.<sup>6</sup> For the social sciences and humanities, the entanglement of human and planetary history realigns fundamental questions—about our place in nature, our responsibility to the community of life, our concepts of progress, and our visions of a good society. For political culture, looming eco-dangers sharpen strategic debate on who is to blame and what is to be done. For human psyches, the sense of living in a world pivoting from a familiar past to an alien future induces both disorientation and despair, as well as defiance and action.

The cultural and political import of the Anthropocene idea lies in its capacity to shake up complacency, problematize the familiar, and reorient perspectives. Far more than a shopworn term like sustainability, it dramatizes the ecological critique of business-as-usual, stirring the inattentive from their daydreams and gradualists from their illusions. As faith in the status quo erodes, space opens for dialogue on alternative visions and initiatives for systemic change. The Anthropocene’s important contribution to a Great Transition is to stimulate a new consciousness attuned to our

shared planetary fate. The Anthropocene stands as a powerful, if incomplete, truth for our fraught moment.

## Dissonances

Notwithstanding the Anthropocene's merits as a geological thesis and ideological provocation, its formulation of the global moment as the "Age of Humans" has spurred considerable controversy independent of the natural science discourse. In the humanities and social sciences, the debate centers on the implications for historical theory and political narrative. Two questions are key for advancing a transformative praxis. First, does the Anthropocene adequately elucidate the contemporary global predicament? Second, does it offer an account of our collective experience useful for guiding action?

The primary criticism of the Anthropocene as a social paradigm is that it yokes a profound insight about planetary history to a profound misconception about human history. The misconception lies in the ascription of cause and culpability for the Earth-shift to the human species as an undifferentiated "we." The emphasis on aggregate human agency obscures the roots of the crisis in the evolution of the modern world system, and thereby distracts from root-and-branch remedies for transforming that system.<sup>7</sup>

To caricature only a little, the Anthropocene narrative can be told as an epic tragedy. The drama features two leading protagonists: the Promethean creature Anthropos and the bountiful planet Earth. Over the centuries, reckless Anthropos has unleashed its boundless technological prowess to appropriate and subdue Earth, unwittingly devastating its own home and haven. The God-species prospered and multiplied, beating a path to the four corners of the wounded planet. Anthropos and Earth were on a collision course: endless growth on a small planet was a contradiction that could be denied but not revoked. Now, the moment of truth has arrived. Avenging Earth is striking back with a ferocious onslaught of fire, flood, and famine. Anthropos slowly awakens to the danger of its ways but, compelled by ancient urges, seems unable to desist from its suicidal march.

What might happen next? The Anthropocene narrative arc can be logically extrapolated in several directions, none promising. In one storyline, Anthropos redirects its Promethean powers to the task

of engineering a way out of the fix. In a contrasting narrative, Anthropos atones for its predations, transforming its nature to find humility, rectitude, and self-restraint. In a dark scenario, hopes for tech-fix and enlightenment prove illusory, and the colossi remain locked in an inexorable dance of doom.

One prominent school of techno-optimists reframes the crisis as a grand opportunity for human ingenuity to pave the way to a “good Anthropocene,” cheerfully oblivious to the staggering environmental and political pitfalls on this road. In celebrating the very domination of nature that brought Anthropos to the brink, this self-styled “ecomodernism” argues that we are, in fact, anthropocentric to the bone and had better get good at it.<sup>8</sup> What could go wrong with this uber-Promethean remaking of Earth for human needs? This is not the place for cataloguing the possibilities: the unintended side effects of trying to design an altered planet, the unanticipated curveballs that Earth will toss back at us, and the battles over who gets to decide in a world of asymmetric power and impacts. But without doubt, billions would suffer in the pursuit of technocratic utopia.

Dissenters from the church of technology seek a humbler denouement to the Anthropocene narrative. They beseech Anthropos to shrink back to simpler lives, smaller numbers, and dematerialized ambitions. But calls for prudence and self-restraint, while admirable, would fall on deaf ears if the impulse to grow and dominate is etched into the genetic makeup of our species. Within the confines of the Anthropocene mythos, investing hope in degrowth, downshifting, and small-is beautiful seems little more than happy talk and wishful thinking.

If the dream of re-engineering Earth is deranged and of reinventing Anthropos far-fetched, where does the relentless logic of the Anthropocene lead? Many who grasp the depth of the crisis are left reeling at the brink of an existential abyss. Seeing no way out, they are haunted by visions of eco-catastrophe. An apocalyptic disposition tugs at psyches, spreading an epidemic of despair and resignation. The Anthropocene narrative segues into premonitions of utter dystopia: Anthropos falls and transfigured Earth sails onward free of its unlamented passenger.

How do we bypass these dead ends of hubristic techno-fix, voluntary simplicity, and ecological Armageddon? For a viable way forward, we need a larger story that anchors the shift in planetary

history in the shift underway in human history. Then, the Anthropocene, rather than an inevitable consequence of an unbound species, becomes understood as rooted in social evolution. The geological moment is a contingent outcome of the historical path etched by human agency, social struggle, and the inherent uncertainty in the dynamics of social-ecological systems. Like the past, the future can unfold along different civilizational trajectories. The hopeful path ahead would transcend modernity, not re-engineer it, shrink from it, or succumb to it.

By indicting a homogeneous “we,” rather than a spent stage of history, the Anthropocene conceals a contested social system from scrutiny and shields it from culpability. Moreover, its species thinking masks the differential responsibility of colonizers and colonized, haves and have-nots, capitalists and workers, entrenched and excluded. Yet these distinctions are essential for understanding the etiology of a world beset by the crises of disparity, injustice, and ecology—and for fashioning a transformative politics. We may not be able to engineer a good Anthropocene or good homo sapiens, but we can create a society that elicits and nurtures the better angels of our collective nature.

## Welcome to the Planetary Phase

We have discussed how the Anthropocene falls short as scaffolding for critical thinking and collective action. Although its geological lens brilliantly illuminates a *planet in transition*, its species thinking obscures the way forward for a *world in transition*. Its ecology shouts “awake,” but its sociology whispers “too late.” Still, any credible account of the world and its future must grapple with a game-changing reality: human transformation of Earth. Vestigial worldviews and ideologies that fail to foreground the Anthropocene will be consigned to the proverbial dustbin of history.

Hence, the task before us is to create a conceptual framework retaining the Anthropocene’s ecological truths while avoiding its historical fallacies. The key is to root the story of geological shift in the overarching story of contingent and contested social evolution. In this spirit, some critics of the ahistoricism reflected in the very term Anthropocene have proposed alternative names to accentuate social forces driving ecological change. The temptation to substitute a favored prefix has produced a copious catalog of portmanteaus: Capitalocene, Technoscene, Manthropocene, Plantationocene, Oligarchocene—and the list goes on.<sup>9</sup>

These neologisms, by refracting the Anthropocene idea through preexisting political lenses, risk appearing as special pleading for selective narratives. But to be fair, each “cene” highlights an important social correlate of anthropogenic pressure on the planet. Taken together, they suggest the multidimensional complexity of historic causation and underscore the poverty of the species thinking at the core of the Anthropocene formulation. Capitalocene, the most systemic of the alternative appellations, rightfully has gained the greatest traction.<sup>10</sup> But no strictly geological designation has the breadth to communicate the layered, holistic social-ecological transition now underway or to undergird a widely shared vision and collective action. At any rate, the important debate ahead will be over the meaning of the Anthropocene, not the name.

Great Transition (GT) theory emerged concurrently with the Anthropocene perspective, distinct responses to a common recognition: history had reached a major inflection point. Where the Anthropocene’s point of entry was the crisis of the Earth system, GT’s was the crisis of civilization: the macro-transition from the Modern Era to the *Planetary Phase of Civilization*.<sup>11</sup> The Planetary Phase is the child of the Modern Era. With capitalism its prime mover, modernity’s frenzy of revolutionary change—economic expansion, cultural upheaval, scientific discovery—relentlessly radiated from its European roots to engulf traditional societies in its midst and on its periphery. Over the centuries, the system’s growth imperative has progressively entangled all nations and peoples in a single global formation.

Thus, the Planetary Phase framework highlights the Anthropocene as a major prong in a multidimensional transformation. The social-ecological shift emanates from a spent and dysfunctional system unable to reverse the instabilities it has generated. Rather than the predestined culmination of an expansionist species, the rupture in earth history is a consequence of a contingent, contested phase of human history. The phenomenon of the Anthropocene, by whatever name, is best understood as the portentous geological manifestation of a systemic crisis with many faces. It is the inadvertent outcome of a historical path buffeted by the choices, struggles, serendipities, and bifurcations that shaped the modern world.

Therefore, the Anthropocene is the child of the Planetary Phase. A counterfactual helps demonstrate its paternity: what if somehow a tweak of chemistry neutralized CO<sub>2</sub> as a greenhouse

gas? The climate crisis would dissipate and, without its principal justification, so would talk of an Anthropocene. Yet, the Planetary Phase—the macro-transition to an interdependent, superordinate global system—would continue apace. By contrast, if world history had not reached its globalized stage, there would be no Earth system crisis. The Planetary Phase is the predicate of the Anthropocene.

The form of civilization that ultimately crystallizes from the chaos of transition remains inherently uncertain and deeply contested. In the chaotic interregnum between old and new, ecological, economic, and social instabilities intensify and risks multiply. Established institutions and ideologies, increasingly unable to cope with crises, lose legitimacy, leaving a vacuum of fear, dislocation, and resentment that breeds authoritarian politics and nativist inclinations. Fortunately for our future, another reconstructive force comes into play, as well, in the dialectic of transition.

The Anthropocene story nurtures depoliticized responses—the mad logic of geoengineering and the sad logic of apocalypse. The Great Transition idea returns the quest for the future to the teleology of social vision and the impetus of social struggle, calling us to forge a successor civilization. Our shared fate in the Planetary Phase underwrites the expanded identity, solidarity, and citizenship that makes us fit for the task.

What we choose to do—and not do—will shape the world and the Earth itself. The wise discharge of this awesome responsibility rests with a keen understanding of the contemporary predicament. The Anthropocene encapsulates a powerful geological truth, but also a pernicious historical fallacy that obfuscates the past and befores the future. An apt slogan for the Anthropocene comes courtesy of Pogo: “We have met the enemy and he is us!” The right rejoinder would be mass mobilization for a Great Transition: “We have met the solution and she is us!”

## Endnotes

1. Singer-songwriter Nick Mulvey poses this question in his poignant lament “In the Anthropocene,” <https://www.youtube.com/watch?v=OYnaQlvBRAE>.
2. Paul J. Crutzen and Eugene F. Stoermer, “The ‘Anthropocene,’” International Geosphere-Biosphere Programme (IGBP) Newsletter, 2000, reprinted in “Have We Entered the ‘Anthropocene?’,” International Geosphere-Biosphere Programme, October 31, 2020, <http://www.igbp.net/news/opinion/opinion/haveweenenteredtheanthropocene.5d8b4c3c12bf3be638a8000578.html>. For an overview of the origins, meaning, and status of the idea, see Yadvinder Malhi, “The Concept of the Anthropocene,” *Annual Review of Environment and Resources* 42 (2017): 77–104.
3. To weigh the evidence, the International Commission on Stratigraphy (IGS), the guardians of Earth’s timeline, formed the advisory Anthropocene Working Group (AWG). After a decade of deliberation, the AWG recommended that the Anthropocene, indeed, be treated as a “formal chrono-stratigraphic unit” that began with the mid-twentieth-century Great Acceleration when the curves measuring human impact bent skyward. If the IGS accepts this recommendation, the question will be referred to the International Union of Geological Sciences (IUGS) for endorsement.
4. As a scientific matter, the criteria of geological verification, with its focus on rock layers and fossil records, is ill-suited to the holistic task of assessing the state of the Earth as an integrated system. However, the new discipline of Earth system science lacks the gravitas enjoyed by the IUGS.
5. Jamie Lorimer, “The Anthro-po-scene: A Guide for the Perplexed,” *Social Studies of Science* 47, no. 1 (2017): 117–142.
6. Rob Nixon, “The Anthropocene: The Promise and Pitfalls of an Epochal Idea,” *Edge Effects*, November 6, 2014, <https://edgeeffects.net/anthropocene-promise-and-pitfalls/>.
7. The essence of the Anthropocene’s social narrative is reflected in the title of Paul Crutzen’s highly influential “Geology of Mankind,” *Nature* 415, no. 23 (2002). For social scientific critiques, see, inter alia, Andreas Malm and Alf Hornborg’s “The Geology of Mankind? A Critique of the Anthropocene Narrative,” *The Anthropocene Review* 1, no. 1 (2014): 62–69, as well as Ian Angus’s *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System* (New York: Monthly Review Press, 2016), which locates the Anthropocene within a Marxist framework.
8. Notable tech-fix paeans include “An Ecomodernist Manifesto,” April 2015, <https://www.ecomodernism.org/>; Michael Shellenberger and Ted Nordhaus, eds., *Love Your Monsters: Postenvironmentalism and the Anthropocene* (Oakland, CA: Breakthrough Institute, 2011); and Mark Lynas, *The God Species: Saving the Planet in the Age of Humans* (Washington, DC: National Geographic Society, 2011). More measured versions of earth management appear in the mainstream policy discourse, e.g., Frank Biermann, *Earth System Governance: World Politics in the Anthropocene* (Cambridge, MA: MIT Press, 2014). Clive Hamilton has been among the most incisive critics of ecomodernism, e.g., “The Technofix Is In: A Critique of ‘An Ecomodernist Manifesto,’” *Clive Hamilton* (blog), April 24, 2015, <https://clivehamilton.com/the-technofix-is-in-a-critique-of-an-ecomodernist-manifesto/>.
9. Jean-Baptiste Fressoz and Christophe Bonneuil add seven alternative “cenes,” such as Thermocene, Thanatocene, and Phagocene emphasizing, respectively, climate, power, and consumerism. See *The Shock of the Anthropocene: The Earth, History, and Us*, trans. David Fernbach (London: Verso, 2017).
10. See, e.g., Jason Moore, ed., *Anthropocene or Capitalocene? Nature, History, and The Crisis of Capitalism* (Oakland, CA: PM Press, 2016), especially, Elmar Altvater’s “The Capitalocene, or, Geoengineering against Capitalism’s Planetary Boundaries,” 138–152. But Ian Angus, in a persuasive critique of Moore, cautions against diminishing the findings of Earth system science; see “‘Anthropocene or Capitalocene?’ Misses the Point,” *Climate & Capitalism*, September 26, 2016, <https://climateandcapitalism.com/2016/09/26/anthropocene-or-capitalocene-misses-the-point/>.
11. The concept was introduced in Paul Raskin, Tariq Banuri, Gilberto Gallopín, Pablo Gutman, Allen Hammond, Robert Kates, and Rob Swart, *Great Transition: The Promise and Lure of the Times Ahead* (Boston: Tellus Institute, 2002), <https://greattransition.org/gt-essay>. For an updated and expanded discussion, see Paul Raskin, *Journey to Earthland: The Great Transition to Planetary Civilization* (Boston: Tellus Institute, 2016), <https://greattransition.org/publication/journey-to-earthland>.

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## About the Author



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