



ANTHROPOCENE

Shaping Earth in our image

An interdisciplinary interrogation of the Anthropocene misses the chance to probe broader and deeper

By **Erle C. Ellis¹** and **Mark Maslin^{2,3}**

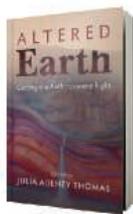
In 12 essays by 19 scholars, *Altered Earth* seeks to set out the scientific evidence and the “human terms” that define the Anthropocene—the unofficial era of Earth’s history defined by human activities. With a foreword by esteemed historian Dipesh Chakrabarty, chapters by geologist Jan Zalasiewicz and Earth system scientist Will Steffen, and essays by various scholars across the humanities, this would seem the ideal text for those seeking to connect Anthropocene science with the humanities. If only it were so.

The book employs a personal essay format designed to engage readers beyond the sciences. There are some positive visions of Anthropocene futures here, and editor Julia Adeney Thomas’s proposition that “stories...mold the real world” is an inspiring jumping-off point for a book in which “narratives can emerge from conversations across disciplines—geologists and Earth scientists, on one hand, humanists and social scientists on the other.” Chapters explore topics

as varied as disease (including COVID-19), the colonial politics of wind power, humans as political agents, the Chernobyl disaster, an expedition to Mars, and a vision of cities that “restabilize the Earth System.”

Despite a final chapter proposing that “the Anthropocene calls for opening up perspectives,” the book consistently defers to a “growing consensus that our planet entered a dangerous new state in the mid-twentieth century.” There is no doubt that a “Great Acceleration” in environmental and social trends occurred after World War II or that many of these—including greenhouse gas emissions—demand serious attention and action. But there is more to the Anthropocene than the events that have transpired since the 1950s.

Earth scientists have variously proposed Anthropocenes beginning 5000, 2000, 500, 200, and 70 years ago, defined by land clearing for agriculture, soil tillage, the European colonization of the Americas, the start of the Industrial Revolution, and nuclear fallout, respectively. Related terminologies, including “Plantationocene,” “Capitalocene,” “Technocene,” and even “Chthulucene,” have emerged in the social sciences and humanities, as scholars seek to articulate the myriad factors and behaviors that are changing the planet.



Altered Earth: Getting the Anthropocene Right
Julia Adeney Thomas, Ed.
Cambridge University Press, 2022. 300 pp.

The reviewers are at the ¹Department of Geography and Environmental Systems, University of Maryland, Baltimore County, Baltimore, MD, USA; ²Department of Geography, University College London, London, UK; and ³Natural History Museum of Denmark, University of Copenhagen, Copenhagen, Denmark. Email: ece@umbc.edu

Having voted to exclude other evidence prior to the 1950s, a working group may define the Anthropocene using radionuclide signatures from Crawford Lake.

All this scholarly ferment should surprise no one. At stake is no less than what it means to change the planet—and even what it means to be human. Yet these varied proposals are treated here as diversions from a single, “correct” scientific definition.

Perhaps the most remarkable thing about this book is what is left out. There are no archaeologists among the authors, and some of the most important works ever published on the subject are not cited. The early Anthropocene hypothesis, which posits that intense farming activities triggered considerable anthropogenic changes in Earth’s climate as long as 8000 years ago, goes unmentioned. Nor do any of the essays challenge how the Anthropocene might eventually be defined by scientists as an epoch of geologic time, despite ongoing efforts to do so by several of the authors.

One chapter explains the entangling of Indigenous history and sedimentary processes in Crawford Lake in southern Ontario and how a “golden spike” in those sediments due to radionuclide fallout from nuclear tests might come to mark the start of the Anthropocene in the year 1952. Less clear, however, is the fact that the working group responsible for epoch definition had already voted not to consider any earlier human evidence in these or any other sediments (1).

More concerning is the book’s failure to explain why leading stratigraphers and environmental scientists are increasingly convinced that defining the Anthropocene as an epoch of geologic time—1950s or otherwise—is neither useful nor scientifically accurate (2). Dividing Earth’s history into two parts at a single point in time seems arbitrary to them, when it is so clear that human transformations of this planet represent an ongoing and evolving geological event that has been spreading and scaling up for millennia.

Where is the essay on defining the Anthropocene in relation to the wealthiest people on Earth—those most responsible for climate change? Where are the billion black Anthropocenes (3) and the communities who suffered as a result of European colonialism? What of the Indigenous peoples who have sustained Earth’s biodiversity for millennia? In *Altered Earth*, this fertile and important ground for discussion is left to others. ■

REFERENCES AND NOTES

1. P. Voosen, *Science* 10.1126/science.abq8466 (2022).
2. P. Gibbard *et al.*, *J. Quat. Sci.* **37**, 395 (2022).
3. K. Yusoff, *A Billion Black Anthropocenes or None* (Univ. of Minnesota Press, 2018), pp. 130.

10.1126/science.abq1474

Shaping Earth in our image

Erle C. EllisMark Maslin

Science, 376 (6595), • DOI: 10.1126/science.abq1474

View the article online

<https://www.science.org/doi/10.1126/science.abq1474>

Permissions

<https://www.science.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of service](#)