

## ECOLOGY

# The hitchhiker's guide to the Anthropocene

Finding our place in the world we created

By **Hillary Young**

**B**y 2016, a small group of humans, the members of the International Commission of Stratigraphy (ICS), will decide whether our species has so changed the world that even the rocks around us are no longer the same. Has the Holocene epoch that nurtured the flowering of modern humanity now given way to the Anthropocene? Have we, a single ape species with bad backs, hit the earth with a force as powerful as a 6-teraton meteoric explosion?

Although the ICS verdict will be intellectually satisfying, Gaia Vince points out in her new book, *Adventures in the Anthropocene*, that the mark of the Anthropocene has already been indelibly printed upon our planet and our bodies. Nearly half of the nitrogen coursing through our veins was produced in a factory, she informs us, and the current ratio of plastic to marine life in the world's major marine gyres is 6 to 1 by weight. Carbon dioxide levels are nearly 40% higher than in preindustrial times, and soil is eroding between 17 and 57 times as fast as it can be replaced. Through such rich detail, Vince seeks to convince us that we are living in a new kind of world. She surprisingly forgoes the traditional state-of-the-planet journalistic narrative, instead spinning rigorous science deftly into an absorbing, and occasionally even light-hearted, around-the-world travelogue. As we methodically review the declining state of the various components of our changed planet (e.g., oceans, rocks, and forests), we are introduced to a mixed flock of characters who are coping with new environments. In Nepal, we meet an enterprising, elderly civil engineer who has returned to his hometown to help local

communities deal with declining glacial melt. He does so by redirecting water runoff into a large depression near the village, where it refreezes and packs into an artificial glacier. Each of these glaciers provides an estimated 6 million gallons of water annually to communities in desperate need of it. In Peru, we encounter a poor father of three who is physically painting the nearby mountain white,



Residents of Licapa, Peru, paint the base of a mountain white in the hope that this will lead to reduced temperatures and bring back the glacier that once supplied water to the region.

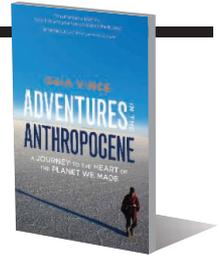
to increase reflectance and promote local cooling. The future, we are led to believe, will depend on improvisation, intelligence, and the collective strength of individual action. All of these anecdotes are given power because they are wrapped seamlessly into rich biophysical, evolutionary, ecological, and social contexts, thereby drawing readers deeply and painlessly into otherwise overwhelming or impenetrable scientific topics.

Given the many unknowns and the complexities of the issues, it was refreshing to find Vince unafraid of weighing in with strong opinions on a wide range of contentious topics, including genetically modified

## Adventures in the Anthropocene

A Journey to the Heart of the Planet We Made  
*Gaia Vince*

Milkweed Editions, 2014.  
465 pp.



foods, valuation of ecosystem services, and population control. In almost every case, she succinctly backs up her position with powerful, and generally well-referenced, arguments. There are some, perhaps unavoidable, examples of oversimplification—for example, a discussion of the effects of climate change on Pacific Island nations glosses over science that explores the complexities of how island atoll geomorphology may mute the effects of sea-level rise and facilitate island persistence. However, for the

most part, Vince does an admirable job both of acknowledging the unknowns and of addressing the complex blend of social, biophysical, and economic factors that will be critical to finding solutions.

The book's personal narrative style was particularly compelling in addressing the social component of environmental sustainability that is too often either missing or rendered as meaningless abstraction. For instance, Vince tells of a Ugandan woman whose education was interrupted and whose family was brutalized by recurring social conflict. She is now using improved seeds and training from a government outreach program to manage her land more sustainably and effectively and thus is able to pull her family out of poverty. This tale brings life to a broader discussion of the vital importance of women's education and empowerment in environmental and human sustainability.

The book's critical contribution is in convincing readers that the path to a vital and hospitable planet in this new era is only daunting and not impassable. Hydroponic crops can be fed on saltwater, freshwater can be harvested from the air, and artificial trees can be designed to remove carbon dioxide and cool our planet. Scientists, farmers, slum dwellers, and investors will all play critical roles in finding and implementing these solutions. By the end of this self-help guide for humanity, one is left convinced that we are not only the cause but also the potential cure of our sick planet.

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