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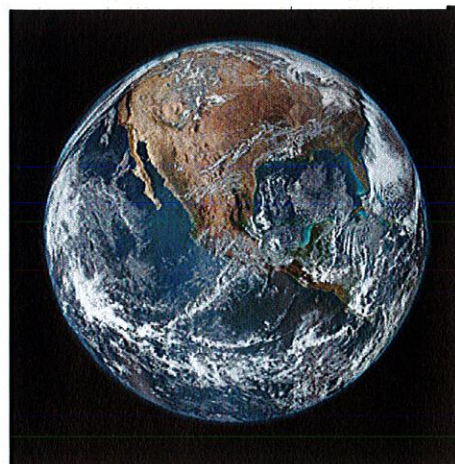
[Visionary or Vision-Impaired? Lovelock Is Both](#)

By [Melanie Lenart](#) | May 1, 2012 |  10

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Lovelock envisioned the Earth as a living system, which he dubbed Gaia. Image Credit: NASA/NOAA/GSFC/Suomi NPP/VIIRS/Norman Kurin

Just because someone has had some brilliant ideas, it doesn't mean every word he utters shines with truth. Let's keep that in mind in the furor about James Lovelock, inventor of Gaia theory. Lovelock finally stepped back from his doomsday interpretation of climate change last week, but he's still got a lot of the science wrong.

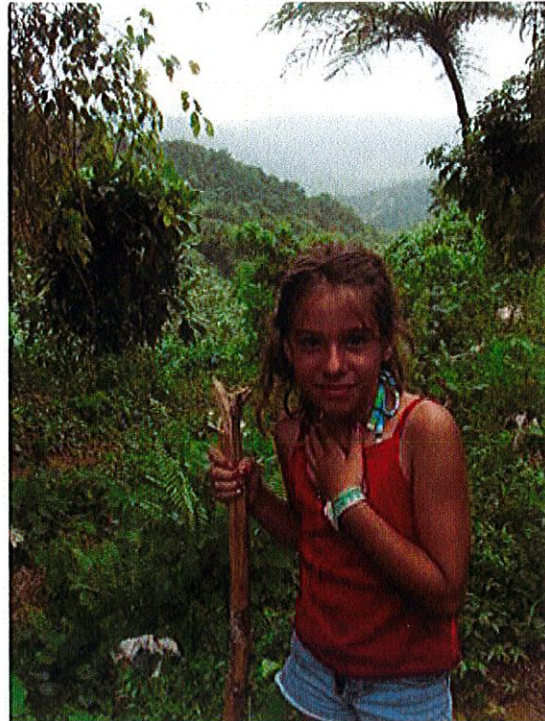


more, in his 2006 book *The Revenge of Gaia*, he basically invented a dire interpretation about how forests would respond to warmer temperatures with what he admitted were, in his words, “imaginary sketches.”

James Lovelock had claimed that both forests and people would not survive this century in the tropics. Here, Brook Kazmer hikes in tropical Puerto Rico. Photo by Melanie Lenart

This invention was unnecessary given that there’s plenty of evidence about how forests responded to past times when the planet suffered a hothouse existence. My 2010 book *Life in the Hothouse* – which delves into this evidence to re-examine how Gaia theory applies to the ongoing warming – was written in part to help counterbalance Lovelock’s overly active imagination as laid out in *The Revenge of Gaia*.

To address the climate issue first, clearly he was branching out into his own reality when he issued this claim in his book, repeated in a 2006 [Independent column](#): “... before this century is over billions of us will die and the few breeding pairs of people that survive will be in the Arctic where the climate remains tolerable.” No other scientists supported that wild exaggeration.



And who knows where he got the idea that a continuous increase in carbon dioxide should lead to a continuous increase in temperature. It wasn’t from the climate models that he blames for the supposed error. No models project the atmosphere to behave so linearly – partly for the same reasons that Lovelock identified when he proposed Gaia theory. The Earth is too big, with moving parts that include life and ocean currents, to expect it to respond with such predictable precision.

Seeing the Earth as a complex living system is the crux of Gaia theory. As described in his seminal 1979 book, *Gaia: A New Look at Life on Earth*, Lovelock’s theory suggested that life on our planet helps keep global temperature within a survivable realm. In modern times, temperatures can range from the icy existence of penguin territory to the humid tropics where bugs thrive year-round. Life survives in every realm. In the distant past, the planet has passed through ice ages and hothouses. Life forged ahead, and here we are.

The atmosphere interacts with plants, such as in this fog-covered old-growth forest in Oregon. Photo by Melanie Lenart.

degrees. A chemist by training, Lovelock contributed vastly to the movement to see our planet as a living system in which animals, plants and bacteria play key roles in shaping the environment, including the atmosphere. It took decades before scientists really embraced his ideas, and still there aren't many of us willing to call it Gaia theory rather than the more scientific-sounding phrase that evolved from it, Earth system science.

Like many people, I was inspired by his vision of a living, breathing planet. I admire Lovelock for coming up with this vision, and for having the courage to share it with a community of skeptics. Still, I allowed my respect for his creativity and courage to keep me from directly challenging his more outrageous suggestions as much as I should have.

Along with the comment that humans were heading toward extinction this century, there was another major flaw from *The Revenge of Gaia* that demanded an outraged response. On page 63, he featured three drawings that looked like very basic vegetation maps – one of a colder past, one of the present, and one of a warmer future. These are the drawings he rightly described as “imaginary sketches.” In his imagination, forests virtually covered the continents of the ice-age Earth, while only a few specks of forests remained near the poles in his rendition of a hothouse Earth.

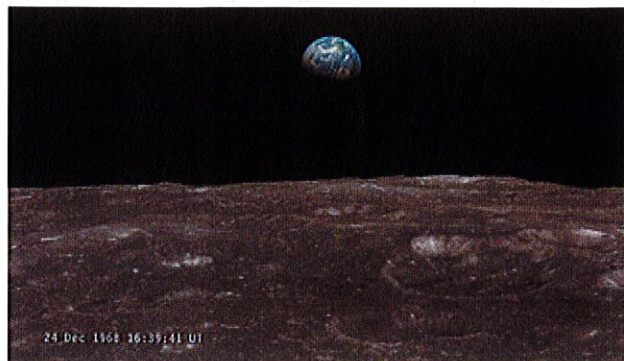


In fact, the opposite situation is closer to the truth, based on evidence from fossils, sediments, peats and coals, and anything else that survived time's passage. In the distant past, albeit in the absence of widespread human civilization, forests generally expanded during hothouse periods and shrank during ice ages. In addition to my book, recent articles in [Scientific American](#) and [National Geographic](#) have described abundant hothouse vegetation in places Lovelock pictured it absent.

Lovelock's imagination has given the world many gifts. Another invention of his, the [electron capture detector](#), helped point to the rise of chlorofluorocarbons. These are the CFCs that eat away at the ozone layer, the invisible stratospheric cloak that protects us from damaging ultraviolet rays. The depletion of the ozone layer was a disaster starting to happen. When measuring devices like his started backing up the scientific assessment by others that CFCs were accumulating in the atmosphere, we changed our habits as a global community.

A successful rescue of a planet with an altered atmosphere – it’s a tale that inspires many of us worried about climate change. Perhaps Lovelock, like many of us, had hoped for a repeat performance by calling attention to how the changing atmospheric was contributing to a dangerous condition – in this case, a warming and shifting climate.

Still, it’s one thing to invent a device to measure CFCs and other chemical compounds, or a theory proposing that the web of life on the planet affects the environment. These efforts are supported by facts. They’re akin to finding a pile of bones and fitting them together in a way that forms a plausible dinosaur skeleton.



It’s quite another thing to invent facts for imaginary sketches of how the Earth’s vegetation looked in the past, or to create single-handedly a climate change scenario in which humans dwindle off by century’s end. That amounts to building a dinosaur skeleton from wood and plaster, calling it a fossil, and then pointing to it as something alarming.

Lovelock deserves our respect for his visionary ideas, but not all of his thoughts are diamonds in the rough. Some are just rough sketches with no real basis in truth. It’s OK to toss around ideas like this with friends at a bar, but someone as influential as Lovelock should do his homework before sharing his thoughts with the world.



About the Author: Melanie Lenart is an environmental scientist and writer who lives in Tucson, Arizona. She initially came to Tucson to continue her studies in forests and climate, and in 2003 received a Ph.D. in Natural Resources with an emphasis in Global Change from the University of Arizona, where she now works on a variety of climate-based projects and teaches environmental writing. Her 2010 book *Life in the Hothouse: How a Living Planet Survives Climate Change* takes a Gaian view that the Earth is a living system to explore the interactions between plants, climate and the landscape. For more on her, see www.melanielenart.com. Follow on Twitter [@MelanieLenart](https://twitter.com/MelanieLenart).

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