

# Stuck between two worldviews and two futures



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VANDANA SHIVA

THE Earth is living. She is *Gaia*, *Pachamama*, *Vasundhara*, *Terra Madre*. For indigenous cultures, she is Mother Earth. Even scientists like James Lovelock call her *Gaia*, because they have understood that she is living. The living Earth is a self-organised, self-regulated living system. She is autopoietic. She has evolved her biodiversity and her complex biosphere over billions of years. Through the biosphere, she creates and regulates her climate systems. The Earth's living system, the "Gaian system," self-regulates global temperature, atmospheric content and ocean salinity, thus maintaining the infrastructure for life to persist and evolve.

Without life, the CO2 in Earth's atmosphere was 98 percent, and the temperature was 290 degrees Celsius. Over 3.3 billion years, the Earth has been cooled down by her living systems. The same process that cooled the planet and allowed life to emerge in its diversity are living processes and living technologies that sustain, maintain, and regenerate life and create living economies.

Climate change is the disruption of Earth's self-regulatory processes by using junk fossil energy—coal, oil, gas—that the planet fossilised over 600 million years ago and put underground. The climate emergency and related emergencies are rooted in the colonisation of Earth, her ecosystem, resources, and diverse cultures. It is a worldview shift from the Living Earth to Terra Nullius, the dead and empty Earth. The same worldview shift that declared indigenous peoples as inferior and created apartheid, also declared the Earth as dead and created barriers between her and the humans through the illusion of eco-apartheid. The worldview that creates hierarchies between people and divides humanity on the basis of race, gender, religion and class also creates the false hierarchy of anthropocentrism, treating our Earth relatives as inferior—mere objects to be owned and manipulated. The false assumption that Earth is a dead, inert matter has made the vibrant, biodiverse, living planet disappear, reducing her to a mine for "raw materials" for an inefficient and wasteful corporate, industrial system, and a sink of industrial pollution.

The Dead Earth view leads to the artificial imposition of a fictitious "Creation Boundary"—that creation begins with extraction, exploitation and manipulation of Earth's resources. The Dead Earth worldview is connected to the technological paradigm that is blind to nature's superior and sophisticated living technologies. Genetic engineering, climate engineering or geoengineering, and carbon engineering are all based on a deep denial that the Earth is living, her technologies of organising, regenerating and renewing life are complex, and our instruments of engineering are crude and clumsy when compared to her sophistication, subtlety, and lightness.

The Dead Earth view is also connected to an extractive economic system that imposes a fictitious "production boundary" that makes nature's creative and productive processes disappear, appropriates what nature and people have co-produced, and are inefficient, use more resources and energy than they produce, and increase entropy. The dominant economic model is based on extractivism, dependence on external inputs, external control, allopathy, and externalisation of the high financial and entropic costs. It is based on the denialism of nature's

zero cost, zero external input, negative entropy, and high efficiency systems of living economies of creating abundance through multifunctionality and multiple outputs.

Real climate solutions lie in working non-violently with Earth, her biodiversity of plants and soil organisms, her ecological technologies, her living economies.

False solutions continue the path of separation and superiority, greed and control, profits and power, manipulation and mastery—causing an existential emergency for our species.

We are members of one Earth Family, and part of the web of life woven by biodiversity. We cannot and do not live outside the food web and the web of life. Every illusion of

separation and superiority, mastery and control ruptures the fragile web and ecological cycles that sustain life on Earth. The arrogant notion that nature has no creativity and only humans are intelligent is a flawed, obsolete, colonial worldview that has no place in a regenerative world.

In total denial of the power and potential of plants and living soil to recycle carbon and cool the planet, the moneymakers and profiteers are trying to set up a "carbon capture and storage" industry to continue to pollute while making more money from a new pollution industry. Just as all wasteful, socially and ecologically destructive industries—such as fossil industrialism, green revolution/industrial agriculture, factory farming—that are violent, non-sustainable, and financially unviable have been made artificially profitable for corporations at the cost of planet and people through subsidies, the industrial carbon capture and storage technologies can only exist through massive public subsidies and a continued denial of the more sophisticated technologies that nature offers.

Even the Intergovernmental Panel on Climate Change (IPCC) is falling for the industrial carbon capture trap.

"The IPCC report says that without capturing significant amounts of carbon over the next 30 years, it will be impossible to get humanity to net-zero emissions by 2050—and, consequently, to limit warming to 1.5 degrees Celsius." The reason billionaires are investing in inefficient, nature-denying, costly and false solutions to climate change is because it lets the fossil fuel industry continue to pollute, while they collect our tax money to be invested in false solutions and create new markets in carbon trade and the fake economy of "net zero."

Public taxes and public investment need to protect the common public

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good, regenerate the planet's plant and soil biodiversity, and through those cool the planet, while providing food and livelihood security via local living circular economies.

The world's biggest industrial carbon capture industry, named Orca, was set up by a Swiss Company named Climeworks in Iceland. It is highly inefficient. Over one year, it will capture just three seconds of global emissions. Christoph Gebald, co-founder of Climeworks, admitted that it was a costly and energy-intensive technology, costing at least USD 600 to capture one tonne of carbon dioxide.

Removing all of humanity's annual carbon emissions would cost more than USD 5 trillion per year, according to Bill Gates' book "How to Avoid a Climate Disaster." Gates admits, "It's probably the most expensive solution." It would require 50,000 Orca plants, and still

not perform the ecological functions of living carbon in plants and living soil.

While knowing the financial non-viability of industrial carbon capture, Gates is investing in the Canadian company Carbon Engineering, which has started designing a similar facility as Orca in northeastern Scotland and plans to start construction on a plant in Texas this year.

Elon Musk also announced that he was funding a USD 100 million carbon-capture contest.

Climeworks hopes that the price can be dropped to USD 100 by selling carbon commercially to beverage companies making fizzy drinks. This is a recipe for obesity, diabetes, and chronic diseases, and aggravating the health emergency. It will make more people sick without healing the planet.

The mechanical mindset of industrial carbon capture and the denial of Earth's capacity to absorb and recycle carbon dioxide to create and regenerate life is evident in the statement of Julio Friedmann, an energy policy researcher at Columbia University who describes industrial carbon capture as follows:

"Think of it like a vacuum cleaner for the atmosphere... Nothing else can do what this tech does."

He forgot the living Earth's technology of photosynthesis in the green leaves, which does a better, more sophisticated job. Nature recycles carbon for free, creates the food and fibre that sustains us, creates living soil that grows life and stores water to regenerate our springs, streams, wells and rivers.

Compare the waste, inefficiency, and high cost of the industrial carbon capture and storage to the living processes of carbon capture and storage by nature, by using the free energy of the Sun for photosynthesis to produce oxygen, fertile soils and food.

We are witnessing a clash of civilisations, of worldviews, of technology paradigms, and of economic systems.

On the one hand, we have the colonising industrial worldview that Earth is dead and imperfect. She can be engineered for profits and control. And the expensive engineering experiments and technological fixes will fix her. And for this, the billionaires need to divert our public resources to bad ideas so they can make more money while the planet burns.

On the other hand, we have the ecological worldview that the Earth is living, we are a part of her and not her masters, and working with her, we can regenerate her green mantle so she continues to cool herself as she has done over millennia.

On the one hand is hubris; on the other hand, humility. On the one hand is oneness with Earth; on the other hand, limitless greed of the one percent. On the one hand is the possibility of a human future as a member of the Earth family. On the other hand are destructive conditions for life on Earth, increasing the threat of extinction.

Each and every one of us has to decide which worldview, which technology paradigm, which economic system we will support and participate in—in our minds, our lives and our participation in citizen democracy and Earth democracy.

A longer version of this article was first published on the author's blog.

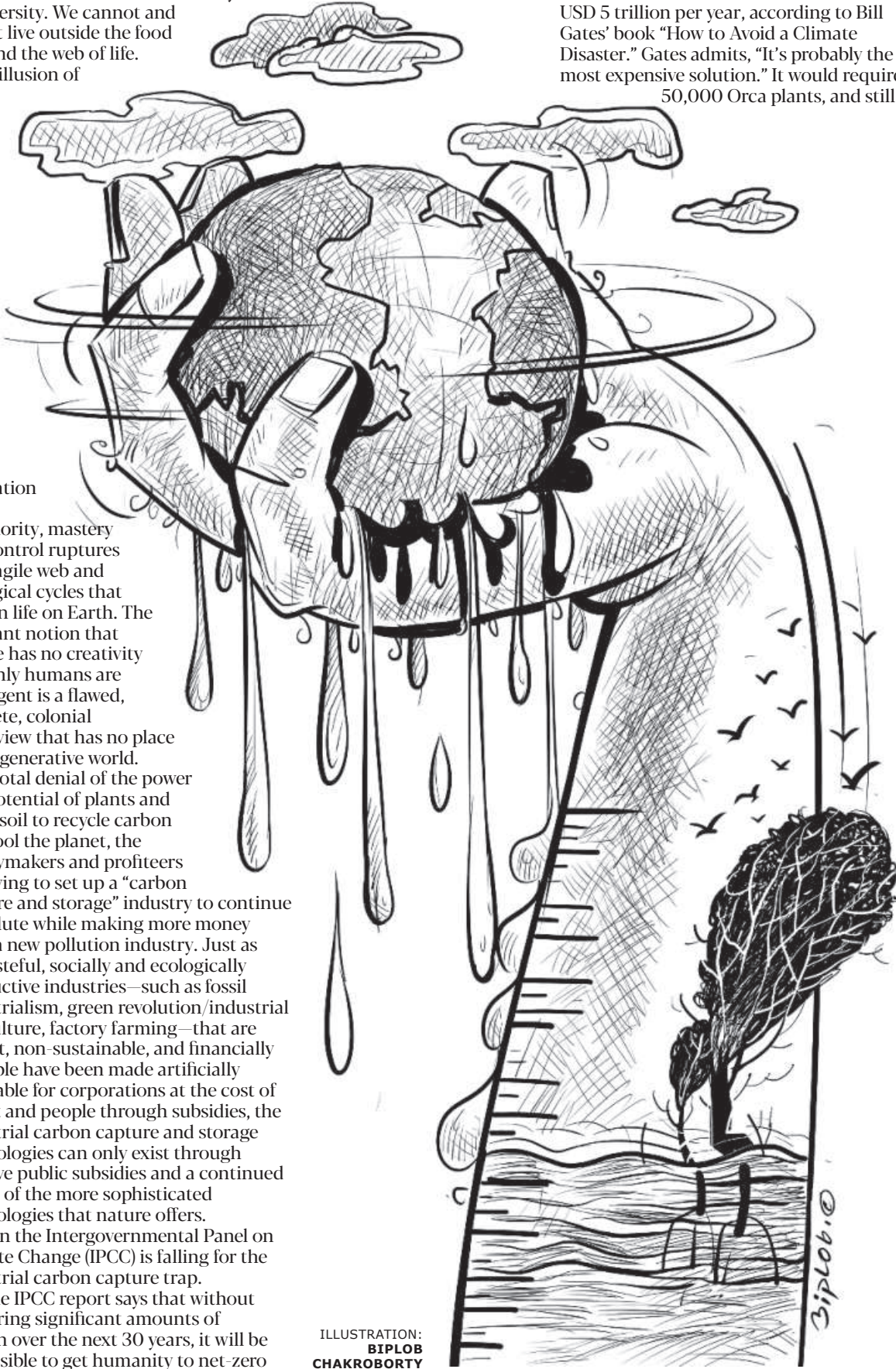


ILLUSTRATION: BIPLOB CHAKROBORTY

CROSSWORD BY THOMAS JOSEPH

ACROSS

1 Much of a chess set

6 Laughs heartily

11 Merman of musicals

12 Improvised

13 "Keen!"

14 Mother of Harry and William

15 Contrived

16 Gardener, at times

18 Cigar bit

19 Was inactive

20 Parched

21 Book part

23 Lushes

25 Kilmer of "The Doors"

27 — chi

28 Ibis's cousin

30 Office head

33 Pronoun for Miss Piggy

34 Oolong or pekoe

36 Humorist

37 Uncertain

39 Depression, e.g.

40 Planet circlers

41 Cake unit

43 Bert's chum

44 Make amends

45 Particulars, in slang

46 Grinch-creating Dr.

DOWN

1 Long-distance writer

2 Not tense

3 Regretful cry

4 Hoop attachment

5 Feeds the pigs

6 Bickered

7 Valhalla bigwig

8 Buyer's question

9 Antisocial sorts

10 Like horror movies

17 Judge's concern

22 Remote

24 Catch

26 Water flowers

28 Writer Balzac

29 S. Dak. neighbor

31 Ambulance sounds

32 Icy looks

33 Acted out

35 One of the Titans

38 "Consider the matter handled"

42 Had a nosh

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YESTERDAY'S ANSWERS

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