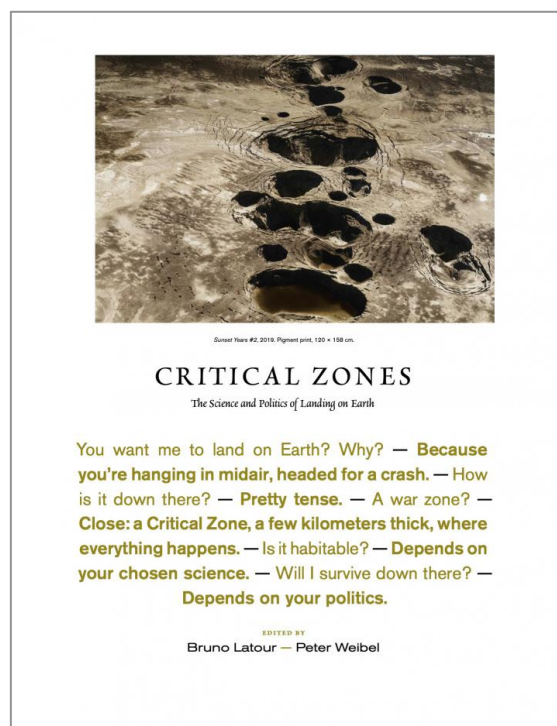


BOOK REVIEW: *Critical Zones – The Science and Politics of Landing on Earth*, edited by Bruno Latour and Peter Wiebel

Observatories for Terrestrial Politics

Guy Mannes-Abbott



If only *Critical Zones* had the cut-through of *Don't Look Up*, we would be enacting the radical changes within our grasp instead of left to nod vigorously at mainstream media noise in the hope it represents a consensual 'tipping point'. This was also the aim of the movie; to engage in the discursive economy and tropic imaginings of mass audiences as a form of last resort. I worry that that is like lauding the Spice Girls for politically effective feminism, as Kathy Acker was not alone in doing,¹ which merely exposes our abjection.

Critical Zones assembles seventy-four widely variant texts in five hundred outsize pages of cutting edge scientific and speculative thinking, according to editors Bruno Latour and Peter Wiebel. This volume is subtitled *The Science and Politics of Landing on Earth*, an important doubling of scope that can also be traced back and verified for sharpness in occasional shorter conference papers online. *Critical Zones* grew from an exhibition of visual art exhibited at ZKM, Karlsruhe,² and incorporates a catalogue of that work by Forensic Architecture, Pierre Huyghe, Jumana Manna, Otobong Nkanga, Ben Rivers, Sarah Sze, et al. One aim throughout was to make visible – and thus more accessible – opaque elements or ideas of the science and broader thinking; interconnectedness, holobionts specifically ('a cast of different, interdependent ecological entities that together live as a whole'),³ and certain forms of ecological data, the complexity of forests, or 'ubiquitous wetness',⁴ which loops us back to the Hollywood disaster movie.

¹ See Hayley Campbell and Kathy Acker, "'The world is infested with evil!' When Kathy Acker met the Spice Girls", a reframing in 2018 of the encounter in 1997, *The Guardian*, 26 February 2018 <https://www.theguardian.com/music/2018/feb/26/when-kathy-acker-met-the-spice-girls>

² 'Critical Zones: Observatories for Earthly Politics', ZKM Centre for Media and Art, Karlsruhe, Germany, 23 May 2020 – 9 January 2022 <https://zkm.de/en/exhibition/2020/05/critical-zones>

³ Bettina Korintenberg, Rachel Libeskind, Robert Preusse, Stefanie Rau, 'Glossalia', in *Critical Zones: The Science and Politics of Landing on Earth*, Bruno Latour and Peter Wiebel, eds, ZKM, Karlsruhe and The MIT Press, Boston, Massachusetts, 2021, p 321

The threat of a single meteor impact in *Don't Look Now* contrasts with how we believe water (two parts hydrogen to one part oxygen) arrived on this planet in the late meteor storms of Earth's formation,⁵ and, specifically, how that meant we also have granite, plate tectonics and continental formations – the infrastructure of creaturely evolution as we know it. In a sentence. A sentence built on James Lovelock's Gaia hypothesis that describes planetary life as a self-supporting system, and which is fundamental to Critical Zone thinking. That system also produces American cinema and catalogues like this because, as the graffiti reads, 'we are nature defending itself'.⁶ Thus the meteor-warning movie is linked to, even generated by, the meteor storm billions of years ago.

Philosophising 'means nothing other than being a beginner'⁷ and Latour and Weibel do an elegant job of framing beginnings here. They engage a series of sceptical questions by way of introduction, and then divide the book into responsive sections titled 'Disorientation', 'Disconnected', 'Critical Zones', 'Gaia', 'Terrestrial', 'Divided', 'Depiction', etc, each with generous prefaces. Texts and images jostle productively in those sections as they wrestle with the past and future scope of Life as such. One unavoidable conclusion is that we remain in the very early stages of the impact of Gaia theory, while there is a ferocious urgency required by it – and that looming comet of climate breakdown – to engage, develop and implement its import, if we are to live with any fullness (never mind justly) on this planet together.

Lovelock and the hard science are not detained much with marshalling human responses, because, if understood properly, Gaia is well able to protect its 'self' and ongoing worlds. While humans are not essential to that system, Lovelock insists that creaturely life and/or organic matter is its crucial marker. Meanwhile, beginnings here are characterised by terms like Anthropocene, Critical Zone Observatories, as well as elemental notions like symbiosis; 'the living together in physical contact of organisms of different species',⁸ Lynn Margulis's pioneering work on endosymbiosis (the merging of cells within cells) and Donna Haraway's sympoiesis or 'making with'.

Let's take the term Critical Zone itself. The most consistent elements in multiple definitions here describe a 'thin biofilm no thicker than a few kilometres up and down'⁹ covering the planet, which extends 'from the top of the tree canopy to deep underground, encompassing all of the processes that make life possible'.¹⁰ It is a heterogenous 'permeable zone'¹¹ composed of soil, groundwater, river, trees, swamps, glaciers, cells and genes connected together across 'human, biologic and geologic time'.¹² Critical Zone Observatories (CZO) have begun to gather the data of this 'possible'

⁴ Anuradha Mathur and Dilip da Cunha, *The Invention of Rivers*, University of Pennsylvania Press, Philadelphia, 2019, p 8

⁵ See Robert Kandel, *Water from Heaven: The Story of Water From the Big Bang to the Rise of Civilisation, and Beyond*, Columbia University Press, New York, 2003, p 23

⁶ See Nadine Bloch, 'COP21 actions go ahead: "We are not defending nature – we are nature defending itself"', *The Ecologist*, 28th November 2015 <https://theecologist.org/2015/nov/28/cop21-actions-go-ahead-we-are-not-defending-nature-we-are-nature-defending-itself>

⁷ Rüdiger Safranski, *Heidegger: Between Good and Evil*, Harvard University Press, Cambridge, Massachusetts, 1998, p 1

⁸ Lynn Margulis, *The Symbiotic Planet*, Wiedenfield & Nicolson, London, 1998, p 2

⁹ *Critical Zones*, p 14

¹⁰ Jeanne Etelain, 'This Planet Which Is Not One: On the Notion of Zone', in *Critical Zones*, p 160

¹¹ Jérôme Gaillardet, 'The Critical Zone, a Buffer Zone, the Human Habitat', in *Critical Zones*, p 122

¹² Latour and Wiebel, from their introduction to the 'Critical Zones' section, p 121

life in its increasing precarity, ‘restoring importance to local heterogeneity and deep time’¹³ as opposed to global homogeneity and digital time.

A number of things follow from this conceptual composition of planetary space. The specific character of the Critical Zone is glimpsed through Alexandra Arènes’s visit to the Strengbech CZO located in a catchment basin: ‘There is no river, there are levels of wetness, clouds, molecules, and chemistry. There is no ground, there is water around grains of sand.’¹⁴ This links to the work of Anuradha Mathur and Dilip Da Cunha excerpted here, too,¹⁵ which proposes the ubiquitous wetness referred to above, an epistemic shift from the moment in the water cycle named ‘river’ to a more monsoon-like experience of planetary life in full cycle, as developed in their brilliant work on the Mississippi and Ganges rivers.¹⁶

Forests provide another example of a porous, penetrative, enveloping Zone. Jérôme Gaillardet writes: ‘it is known that trees communicate with each other, so what about all the other agents in the critical soils – water, bacteria, clays, and carbon dioxide?’¹⁷ These are the stakes; a transformed understanding of human existence amidst elements that constitute Life. Aleksandar Rankovic points out that ‘urban regions are also the most complex, and least well known parts of the Critical Zone’,¹⁸ a trigger for his tentative studies of silver linden trees in the streets of Paris that ‘simply need more space’ in a city that needs the canopy cover.¹⁹ It reminds me that what we are now noticing about complexities developed over billions of years is *not* being applied to the urban forest of London either.

Critical Zones concludes with ‘Suspended’, bookended by Weibel and Haraway but centring on a curatorial account of their exhibition as a form of observatory ‘for Terrestrial Politics’.²⁰ Curators Martin Guinard and Bettina Korintenberg offer a Latourian conceit: ‘Becoming terrestrial therefore can only be a collaborative practice, in which we recompose together the common ground on which we are living’.²¹ Latour’s veiled politics irritate Marxian thinkers but this ‘landing on Earth’ for the first time or ‘becoming terrestrial’, as he puts it, is a moment of radical recognition. As ‘heirs of the industrial and imperial impetus’ we ‘live not on one but on two territories; the legal and political territory of the national state, and the ecological and economic territory defined by the space required to mobilise the goods that we consume’.²² Becoming terrestrial or recomposing a common ground requires a future beyond global capitalism, even if Latour won’t say so.

¹³ Gaillardet, p 129

¹⁴ Alexandra Arènes, ‘Traveling through the Critical Zone’, in *Critical Zones*, p 130

¹⁵ Anuradha Mathur and Dilip da Cunha, ‘Wetness Is Everywhere; Why Do We See Water Somewhere’, in *Critical Zones*, p 182

¹⁶ See Anuradha Mathur and Dilip da Cunha, *Mississippi Floods: Designing a Shifting Landscape*, Yale University Press, Cambridge, 2001; and Dilip Da Cunha, *The Invention of Rivers: Alexander’s Eye and Ganga’s Descent*, University of Pennsylvania Press, Philadelphia, 2019

¹⁷ Gaillardet, p 126

¹⁸ Aleksandar Rankovic, ‘A Stroll through the Critical Zone: Exploring the Agency of Trees, Soils, and Microbes in the Streets of Paris’, in *Critical Zones*, p 150

¹⁹ Ibid, p 153

²⁰ Martin Guinard and Bettina Korintenberg, ‘Observatories for Terrestrial Politics: Sensing the Critical Zones’, in *Critical Zones*, p 402

²¹ Ibid, p 410

²² Bruno Latour and Dipesh Chakrabarty, ‘When the Global Reveals the Planetary: Bruno Latour Interviews Dipesh Chakrabarty’, in *Critical Zones*, p 77

A conversation about the socio-political character of the Critical Zone between Latour and Dipesh Chakrabarty is placed at the front of the book.²³ It reminded me of McKenzie Wark's recent *Capital is Dead* (2019) in which 'information technology is becoming for capitalism that which the steam engine was to feudalism: a death knell'.²⁴ Chakrabarty puts it like this: 'the more unencumbered technology gets the more you can expand the realm of work'.²⁵ This, he says, 'makes Marx somewhat obsolete because all of his notions of value, abstract labour, living labour, are based on the presence of human beings, whereas work does not require human presence to the same degree'.²⁶ He and Latour jostle over naming 'labour' or (Latour's) 'industry' as the historical agents of change, but neither can answer who or what 'is the new agent of history?'²⁷

Latour returns to this later: 'Climate mutation means that the question of the land on which we all stand has come back into focus, hence the general political disorientation, especially for the left, which did not expect to have to talk again of "people" and "soil" – questions mostly abandoned to the right.'²⁸ The developed (offsetting) world cannot subsist from the land it inhabits, he writes, 'hence the increased feeling of homelessness, [and] a new set of more urgent and more tragic political struggles. People everywhere are again in need of land.'²⁹ He concludes that, in contrast to 'nature', Gaia is 'an agent with its own force and power that requests to be integrated, in some way, into the political domain'.³⁰

These are urgent issues; as the planet redistributes depleting resources, creatures and species will increasingly migrate too. Suzanne Simard writes elsewhere of the need to help speed tree species in their ongoing slow migration.³¹ In a climactically-reduced future beyond global capitalism, how might we share, distribute, make the land or soil that remains productive and whose land will it be? Answers involve integrating Gaia, the living planet of which we are a part, into any form of politics and collective presence on the planet. We need to learn how to 'think like a river [like] the entirety of Earth and the living species', as Michel Serres once wrote.³² Instead, we have been distracted by tech-fascism's forms of virtuality and dome-centred territorial grabs across the galaxy. While syncing perfectly with billionaire resource-capture, these visions of popular culture and imagination have no substance for the foreseeable, rapidly diminishing, future for us.

²³ Dipesh Chakrabarty is Professor of History, South Asian Languages and Civilizations at the University of Chicago

²⁴ See Yanis Varoufakis's recommendation in his blog of McKenzie Wark's *Capital is Dead: Is this Something Worse* (Verso, 2019) as one of his top books: 'Information has been a favourite subject of free marketeer social theorists, like Friedrich von Hayek, who have argued that only markets – and thus capitalism – have the capacity to process information effectively. This is the first book I know written by a left-wing theorist who takes information as seriously, who thinks of its management and ownership as crucial in determining the distribution of surplus value, and who dares convincingly to claim that information technology is becoming for capitalism that which the steam engine was to feudalism: a death knell.' 30 December 2021 <https://www.yanisvaroufakis.eu/2021/12/30/a-prediction-for-2022-plus-two-book-recommendations-happy-new-year-everyone/>

²⁵ Latour and Chakrabarty, p 15

²⁶ Ibid, p 14

²⁷ Ibid, p 27

²⁸ Bruno Latour, "'We don't Seem to Live on the Same Planet' – A Fictional Planetarium", in *Critical Zones*, p 276

²⁹ Ibid

³⁰ Ibid, p 277

³¹ Suzanne Simard, *Finding The Mother Tree: Discovering the Wisdom of the Forest*, Allen Lane, London, 2021

³² Michel Serres, *Biogeoa*, University of Minnesota Press, Minneapolis, 2012, p 23

Critical Zones is weighted against techboy visions of what Latour calls Planet Exit, where ‘it will soon be possible to download our mortal bodies into a mix of robots, DNA, clouds, and AI, thereby situated as far as possible from the humble and limited Earth’.³³ These transcendent visions are antique with religiosity. On the humble planet that produced us, Biosphere 2’s attempt to replicate life within sealed dome-worlds failed very quickly, as has every alternative attempt to date.³⁴ Ben Rivers’s film *Urth* (2016) revisits the ruins of Biosphere 2 to put this ruinous vision to task, mocking the idea of building ‘a whole from the parts’ in place of ‘open-ended assemblages of entangled ways of life’,³⁵ in Anna Tsing’s words.

The editors want art to propose ‘aesthetics’ for the Critical Zone; ‘it is the arts that are given the crucial role of giving a shape to the historical moment’ they write. Latour proves a champion of Sarah Sze’s installation of immersively scattered parts in which ‘Viewers must be surrounded... layer upon layer, veil upon veil, reflection upon reflection’ to be able to ‘escape the dichotomy between seeing inside-out or outside-in, as if they were caught in a vortex, or pushed onto a carousel’.³⁶ However, neither the Critical Zone nor the catastrophes of the anthropocene can be staged in so literal a form; we need art to be smarter than merely immersing us in immersiveness as such.

Pierre Huyghe captured our unhomely peril in his famous *Untilled* for dOCUMENTA (13),³⁷ and his tanked waterworlds condense strangeness too. Latour describes Huyghe’s *Nymphéas* (2016) as ‘a segment of a critical zone’,³⁸ highlighting its limits beyond representing ‘murkiness’.³⁹ Huyghe’s lavishly funded experiments with AI proved more lame; outcomes reminding me of the earliest mapping of the earth or the universe. We ought to resist this tech-transcendence. The modes that Forensic Architecture have developed using related technologies are the opposite; they invest creaturely time in expanding worlds for greater understanding and justice. The kinds of art we need now involve ‘the opposite of excelsior’, as Francis Ponge put it so brilliantly in his poem *Water*.⁴⁰

Critical Zones is an extraordinary endeavour; many a project with similar aspirations is sunk by inconsistent results. This provides an essential gathering point for many Critical Zone comrades and other creatures, with plenty of pathways or rivulets out towards greater detail or depth. Richard Powers is a brief but strong presence, along with Tim Mitchell, Simon Schaffer and Isabelle Stengers, who warns that ‘nothing earthly offers any guarantee’,⁴¹ while Ali Gharib takes on The Star Trek Universe and Haraway the ‘feminist sf’ of Marge Piercy, Octavia E Butler, etc.

³³ Latour, ‘“We don’t Seem to Live on the Same Planet” – A Fictional Planetarium’, in *Critical Zones*, p 272

³⁴ Bettina Korintenberg, ‘Life in a Bubble: The Failure of Biosphere 2 as a Total System’, in *Critical Zones*, p 131

³⁵ Anna Tsing’s words from *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, Princeton University Press, Princeton, 2015, p 4, quoted in Korintenberg, ‘Tied Back to *Urth*: Biosphere 2 Revisited’, in *Critical Zones*, p 176

³⁶ Bruno Latour, ‘Sara Sze as a Sculptor of Critical Zones’, in *Critical Zones*, p 149

³⁷ Pierre Huyghe, ‘Untilled’, 2011–2012, dOCUMENTA 13, 2012; see <https://d13.documenta.de/?m=n&L=0#/research/research/view/untilled-2011-2012>

³⁸ Johanna Ziebritski, ‘Sensorium of the Earthbound’, in *Critical Zones*, p 263

³⁹ Ibid, p 260

⁴⁰ Francis Ponge, *Water*, in *The Voice of Things*, McGraw Hill, New York, 1972, p 50

⁴¹ Isabelle Stengers, ‘The Earth Won’t Let Itself Be Watched’, in *Critical Zones*, p 223

The whole is underpinned or inspired by Lynn Margulis, including an introduction to her ‘Holobiontic Worlds’ by Lena Reitschuster.⁴² Anna Tsing is an ongoing presence, too, not least in Stengers’ contribution, but a notable non-participant detained, perhaps, with her *Feral Atlas* project, which looks closely at ‘anthropogenic ecological patches’ and their ‘feral effects’, both ‘wonderful or terrible’.⁴³

The book is rich with startling factoids like this: ‘Taiwan experiences greater erosion than anywhere else in the world, as a result, the island carries much more carbon into the ocean, a hundred times more than the global average.’⁴⁴ Beyond these another register reiterates all of the above but opens towards mind-boggling possibility. ‘Earth is widely recognised as a unique planet in the solar system because it shelters three singularities: Life, liquid water at the surface, and plate tectonics comprising both iconic and continental crust’, write Timothy M Lenton and Sebastien Dutreuil in one of three contributions of speculative work on Gaia which develops directly from Lovelock.

It is the link between Life, water and plate tectonics that I want to hold with for its suggestive scale and concretion. ‘Organisms seem to have an uncanny ability to make their own rock’ Lenton and Dutreuil write, pointing to Dover’s chalk cliffs, but also ‘a large fraction of the diversity of Earth’s 4,300 minerals are either biologically precipitated or require oxygen (a biological product) in their creation’.⁴⁵ The role played in the formation of granite is most consequential, because it is unique to Earth and understood to generate continental mass and movement. Lenton and Dutreuil conclude: ‘the link between organisms and continent formation is energetically plausible, and if corroborated would represent one of the most extraordinary consequences of Life’.⁴⁶

Lovelock was stuck on the term Gaia and relaxed about referring to it as an organism, symbolically, while Margulis resisted that in their collaborations. Here, Latour and Weibel, referencing Lenton/Dutreuil, insist that ‘Gaia is not a big organism. It is Life’ plus animate and inanimate copartners ‘that have been transformed, mobilised, generated, inhabited, engineered by life forms over eons of time’.⁴⁷ Thus, Lenton and Dutreuil’s developing notion of Gaia should be taken as an occasion to redefine what both *life* and *whole* could signify’,⁴⁸ write the editors. Those distinctly politico-ethical redefinitions are as radical as can be with our foreshortened horizons.

The examples of ‘Gaia’ and ‘organism’ are an abrupt reminder of the need for precision in the Zone. Terminology comes and mostly goes, and *Critical Zones* has its share with the itchy contrasting of the Global and the Planetary, and Latour’s Seven Planets schema. In the wider zone, anthropomorphising language used to convey communicative networks amongst trees, for example,

⁴² Lena Reitschuster, ‘Beyond Individuals: Lynn Margulis and Her Holobiontic Worlds’, in *Critical Zones*, p 346

⁴³ See www.feralatlas.org

⁴⁴ Paul Jobin, ‘Extractivism in the Critical Zone’, in *Critical Zones*, p 80

⁴⁵ Timothy M Lenton and Sébastien Dutreuil, ‘What Exactly Is the Role of Gaia?’, in *Critical Zones*, p 163

⁴⁶ *Ibid*, p 165

⁴⁷ Bruno Latour and Peter Wiebel, ‘Seven Objections Against Landing on Earth’, in *Critical Zones*, p 8

⁴⁸ *Ibid*, p 17

can make for unnecessary obstructions. London exists within the Critical Zone; with its urban forest canopy of eight or nine million trees, down through its river system to its vital aquifers. Everything in-between is superficial in geological terms but makes our lives – if not Life itself – possible. Think how casually we drive 4x4s through it, how cyclical demo-and-build is valued as growth rather than destruction.

The need to think this through in densifying urban contexts is the most radical work ahead. Understanding what *Critical Zones* makes unavoidable requires that we get down in the mud and mulched forest residues of our lives to avoid the techboy fantasia of supernatural dome worlds replacing the city and undermining what we can and must urgently engage with. A simple question might help us dodge the lure of barbarism amidst the catastrophic violence of global capitalism. If you survive the coming comet, how do you want to eat, sleep, dwell, love, work or make?

Convention asserts that engagement relies upon story, including futurism and fantasy. Yet Life had no plot and will not succumb to one; we need poetics to engage and convey the most unthinkable and paradoxical circularities now revealed. We need to respond with alacrity and wit, collective humbleness and a kind of feral liberty. I think of Tsing's 'new values' in a non-scaleable economy of mushroom pickers and of Mimi Sheller's patchwork plots in the interstices of Caribbean slavery or single mango trees mid-Plantation,⁴⁹ as wings. I will leave you with an image of ripe cranberries being harvested by the release of the River Mississippi's waters into their fields, and a horizon of bobbing berries.

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⁴⁹ See Mimi Sheller, *Citizenship From Below: Erotic Agency and Caribbean Freedom*, Duke University Press, Durham, North Carolina, and London, 2012, p 207