Planetary Thought and the Much More-Than-Human

Nigel Clark and Bronislaw Szerszynski

forthcoming in Franklin, Adrian (ed) *The Routledge International Handbook of More-than-Human Studies*

Introduction

As of late August 2022, a third of the land-area of Pakistan and some 33 million people are reported to be impacted by flooding. While policy and infrastructural shortfalls have been implicated in the crisis, there is widespread consensus that recent heatwaves, monsoon rains and glacial melt have all been intensified by climate change. The longer-term prognosis is, if anything, more frightening. Together with neighbouring countries, semi-arid Pakistan relies on glacial melt water from high-mountain Asia to mitigate water stress (Pritchard, 2019). While slowing the passage of water through the hydrological system by locking it in ice for decades or centuries, glaciers also provide timely and reliable summertime melt supplies of water. But glaciologists predict that climate change-driven acceleration of glacier runoff may peak as soon as 2030, after which declining long-term stores of glacial ice will significantly decrease melt-water flows, with potentially serious repercussions for food production (Pritchard, 2019).

What we call 'nature', then, bears a considerable human fingerprint – a familiar claim rehearsed by urban theorist Mike Davis in *Late Victorian Holocausts* (2001), his fiery indictment of the impacts of European imperialism on the monsoonal regions. But Davis quickly added that 'there is an extraordinary amount of hitherto environmental instability in modern history' (2001: 279). The point he wanted to drive home is that if we wish to understand historical socio-economic injustice in the Indian subcontinent, it is essential to understand how the vagaries of the global capitalist economy have interacted with the rhythms of the monsoon and the El Niño Southern Oscillation. And this, Davis insisted, requires taking very seriously new scientific understandings of the Earth's coupled atmospheric, hydrological and biotic systems (2001: 234): an important aspect of what he elsewhere described as a 'permanent revolution in the Earth sciences' (1997).

In many ways, the unfolding climatic predicament in Pakistan, like Davis's late-Victorian tropical famines, epitomises the inextricable entanglement of society and nature, the centrepiece of more-than-human thinking. But if we heed Davis's counsel and dig deeper into the operating systems of our planet, things start to look a little different. Deciphering the way that the Earth system works requires us to look at where the continents are positioned, the particular conditions of high-mountain Asia drawing our attention to the continuing collision between the Indian plate and the Eurasian landmass, which geophysicists describe as 'the most significant tectonic event to have occurred in the past 100 Ma (million years)' (Aitchison et al., 2007: 3). It takes us far beneath the interzone of human-nature encounters: into the great convection currents of the mantle that help propel plate tectonics, onward to the tilt and wobble of our planet's axis, and out to the Earth's shifting orbit around the sun.

By a 'permanent revolution in the Earth sciences', Davis (1997) referred to a series of research projects from the 1960s onwards that pieced together many of the fundamental workings of our home planet. As historian John Brooke (2014: 25–36) elaborates, the years 1966–73 alone saw the emergence or maturation of four major perspectives on the dynamics of the Earth: confirmation of the theory of plate tectonics; recognition of the role of extra-terrestrial impacts in shaping Earth history; the concept of tight coupling between the living and non-living components of the Earth, and the thesis that evolution is punctuated by catastrophic bursts linked to major geophysical events. These developments laid the groundwork for the theory of abrupt, planet-wide climate change and the more general idea of an Earth system capable of shifting between different operating states that became a key part of the Anthropocene hypothesis.

Whereas more-than-human scholarship typically takes as its focus mutual, reciprocated and co-constitutive relations between human and nonhuman actors, it's noteworthy that, however much they have helped make sense of human impacts on Earth processes, none of the 'revolutionary' perspectives depicted by Davis and Brooke directly address our species. And this could help explain why more-than-human theory has frequently distanced itself from the Anthropocene debate and related Earth-scaled inquiry in favour of approaches that more explicitly revolve around human experience. As political scientist Eva Lövbrand and her colleagues put it:

> The advent of a truly entangled socio-physical nature emerges as a reason to radically challenge and rethink the possibility and desirability of unified scientific

> accounts of environmental change, and to experiment with multiple and situated ways of seeing and acting upon the hybrid world that we now inhabit (2015: 215)

Informing this kind of critique is a recognition that there is a long, troubling history of Western knowledge claims which disavow the latter's own particularity and partiality, and in so doing are implicated in the infliction of epistemic and ontological violence – and oftentimes physical violence – on peoples with other ways of understanding the world. Consequently, acknowledging where we speak from, and what conditions, contexts and powers make our speech possible, have become axioms of more-than-human theory and practice.

But what does this prioritizing of human-nonhuman co-implication – this privileging of the congruity of humankind and its material environment – mean for narratives which probe deeply into inhuman or prehuman processes, such as the accounts of high-mountain and monsoonal Asia that we opened with? Is it possible, we ask in this chapter, to at once insist that knowledge claimants situate themselves and recognise that all situations sooner or later exceed the reach or measure of the human? And can there be a place for planetary rupture and discontinuity in theories that hinge upon the generativity of entanglement and interconnectedness?

We set out by surveying both the nascent planetary thinking that emerged in late 20th century continental philosophy and the retreat from the Earth-centred themes in post-1980s more-than-human social thought. From there we turn to the relationship between planetary self-differentiation and human difference, and the challenge of negotiating between larger geologic or planetary scales and the more intimate spheres of human life. This brings us to some concluding thoughts on what a confrontation with the excessive forces of the Earth might mean for matters of social injustice and epistemic violence.

Emergent Planetary Thinking

It's worth recalling that even as the rich tangle of threads, linkages and attachments of more-than-human thought were gathering, they were already being unravelled. Philosopher Michel Serres' *Natural Contract*, first published in 1990, was a watershed meditation on the mutual implication of human beings and their planet. But towards the end of the book Serres recounts his personal experience of an earthquake, thereby reminding us that the human domain is always underpinned by the deeper workings of the Earth – and that these supports may be abruptly withdrawn: 'All of a sudden the

ground shakes off its gear: walls tremble, ready to collapse, roofs buckle, people fall, communications are interrupted … the thin technological film tears … A thousand useless ties come undone' (1995: 124).

Serres' depiction of urban agglomerations as 'enormous and dense tectonic plates … colossal banks of humanity as powerful as oceans, deserts, or icecaps' (1995: 16–17) is at once an anticipation of the Anthropocene concept and an indication of his own openness to contemporary Earth sciences. And he went on to make it clear that his thinking both about rising environmental destruction and Earth processes in general was informed by natural science. As Serres proposed: 'we must decide about the greatest object of scientific knowledge and practice, the Planet Earth' (1995: 30).

Writing in the early 1990s, philosopher Edgar Morin explored the idea of an emergent planetary consciousness that he explicitly related to developments in the Earth sciences. As he reflected: 'A new cosmos, together with a new Earth, appeared during the 1960s. Plate tectonics made it possible to link together the sciences of the Earth in a coordinated fashion, and the planet … became a complex being with a life of its own and its own history' (1999: 31). Like Serres, Morin was galvanised by human-induced ecological crises, but he too was insistent that the Earth is itself shaped by its own self-generated turbulence and its openness to the cosmos:

> Our crust has experienced and will go on experiencing stupendous adventures made of dissociative and reassociative movements, both vertical and horizontal, of drifts, collisions, shocks (earthquakes), short-circuits (volcanic eruptions), catastrophic impacts from huge meteorites, and periods of glaciation and thaw (1999: 31).

Several decades earlier, writing on the cusp of the geoscience transitions identified by Brooke, philosopher-sociologist Henri Lefebvre was already posing questions about the relationship between social worlds and Earth dynamics. In a 1965 review of fellow philosopher Kostas Axelos's untranslated book *Vers la Pensée Planetaire*, Lefebvre affirms the idea of the Earth 'as a unity of cycles, self-regulating, stable systems' (2009: 255). But at the same time, we can see him beginning to unsettle this sense of unicity and closure by pointing to our planet's openness to the cosmos, and, in conversation with Axelos, toying with the idea that philosophical questions about the 'relation between unity and multiplicity' might extend to the Earth itself (Lefebvre, 2009: 257).

There are echoes here of fellow philosopher-sociologist Georges Bataille, who in the 1940s and 50s explored the idea of a turbulent and generative Earth pulsed by the

unilateral and excessive flux of incoming solar energy (1988). Bataille's resistance to notions of systemic closure in favour of the idea of an abyssal opening of all terrestrial systems to the cosmos was an inspiration for later post-structural thought. But we shouldn't forget that his speculative geophysical social thought was strongly influenced by the natural sciences – and especially geochemist Vladimir Vernadsky's early 20th century investigations into the Earth's solar-charged biosphere.

In important ways, we are suggesting, mid-to-late 20th century continental philosophy, centred in France, had begun to engage with, and even to anticipate the new generation of geoscience perspectives. What seems to have caught the attention of philosophical thinkers was the move away from stasis and gradualism toward more dynamic visions of Earth processes. With hindsight, it has become clear that novel understandings of the interconnectivity of the different components of the Earth were beginning to fuse into a sense of its ability to reorganize itself – the recognition that the planet could break with its existing mode of operation and shift into an entirely new state or regime. As geologist Jan Zalasiewicz later put it: 'The Earth seems to be less one planet, rather a number of different Earths that have succeeded each other in time, each with very different chemical, physical and biological states' (cited in Hamilton, 2014: 6) – an idea we have shorthanded in our own work as 'planetary multiplicity' (Clark and Szerszynski, 2021a: 8, 88–90).

In an even more sustained way than Serres, Morin or Lefebvre, it is philosophers Giles Deleuze and Félix Guattari (1987) who began to explore the idea of a planetary body with multiple possibilities beyond its 'actual' state. *A Thousand Plateaus* probes the idea of self-organization at every level of earthly existence from the geologic through the biological to the socio-cultural, with each 'stratum' having its own capacity to move across critical thresholds into new operating states (see Clark and Yusoff, 2017). If in conjectural and sometimes cryptic ways, Deleuze and Guattari anticipate key aspects of the interaction between the more fluid outer Earth systems and the slower-moving stratified lithic layers of Earth's crust in their extended exploration of the relations between stratification and deterritorialization (see Clark and Szerszynski, 2021a 87–90). In turn, they contextualize terrestrial self-organizing capacities within the still larger potentiality of the universe, in a series of moves that take us from 'the ingathered forces of the earth to the territorialized, or rather deterritorializing Cosmos' (1987: 337;

What is also significant about Deleuze and Guattari's work from a more-than-human perspective is the way they approach the Earth – in both its more structured and

more dynamical guises – as 'the material through which human beings tap cosmic forces' (1987: 509), a theme we will return to. It's important to keep in mind that for them, the interaction between human agents and the stuff of the Earth is but one of many articulations and points of transition in the much vaster realm of material existence – and it is by no means privileged over any other site. When we turn to the incipient thematization of the planetary in the Anglophone world (some of which retains French inflections), aspects of this decentralization of the human persist. However, there is also a discernible re-emphasis on human experience as the gateway to reimagining earthly existence.

In his 1984 'Perceptual Implications of Gaia' essay, US ecophilosopher David Abram engaged with the third of Brooke's quartet of new planetary perspectives: the hypothesis developed by chemist James Lovelock with biologist Lynn Margulis that the tight coupling between biological life and the inorganic processes is key to the Earth sustaining itself in a far-from-equilibrium state. Abram's innovative move was to fuse the Gaia concept with Maurice Merleau-Ponty's phenomenology of perception to envisage the human subject as inescapably immersed in the dynamics of planetary self-regulation. If Merleau-Ponty helped him to conceive of an embodied human subject whose powers of cognition arise out of communion with an active and solicitous material world, Gaia theory showed how that physical environment was itself generated by the totality of the planet's living creatures interacting with the gaseous, lithic, and hydrologic components of the Earth. In this way, Abram made use of contemporary Earth and life science itself to undermine the assumption of an immaterial intelligence observing the world as if from outside, in favour of a notion of mutual exchange between sensate human and nonhumans: an 'ecology of the senses' predicated on what he referred to in Merleau-Pontean terms as the 'continuous intertwining, or "chiasm" between one's own flesh and the vast "Flesh of the World"' (1984: no pagination).

It was Abram's 1996 book-length elaboration of some of these ideas in *The Spell of the Sensuous*: *Perception and Language in a More-than-Human World* that popularised the formulation at the heart of this handbook. But already in the 'Perceptual Implications of Gaia' essay, key themes that would later crystallize into explicitly more-than-human social thought are already prominent: the taking-to-task of the human exceptionalism and society/nature dualism deemed characteristic of Western modernity; the reimagining of what it means to be human in terms of mutual exchanges with the rest of existence; the redistribution of sensing, cognition and agency throughout an inclusive web of

interconnected entities of manifold kinds; and the understanding of experience or knowing as inseparable from bodies and the localities in which they are embedded.

Retreat from the Earth

Today, as these very perspectives are frequently mobilised to critique geoscience knowledge claims, it's worth recalling that Abram's 'Gaia' essay was partly inspired by the very discoveries and impulses that generated Earth system science and the Anthropocene hypothesis. Yet for all the intellectual fertility of this 'earthing' of the perceptive body, we want to suggest that Abram and many fellow more-than-human theorists made choices that came at a cost – especially with regard to the priorities and themes in Francophone philosophical engagement with planetary sciences that we sketched out above.

First, the thematizing of a fundamental reciprocity between humans and the rest of existence tends to privilege relationships in which one set of participants is human: a prioritisation expressed in concepts of socio-natures, natureculture and other formulations of hybridity. In practice this has discouraged concerted attention to planetary or cosmic processes where humans have no or negligible presence (Clark 2011: xv–xvii).

Second, and closely related to the first point, what counts as 'nature' or the Earth is often contracted to the slender envelope at and around the planet's surface where organic life is present. As philosopher Manuel DeLanda contends, such unwillingness to conceptually venture beyond the biosphere manifests a deep-seated 'organic chauvinism' (1997: 103–4), literary theorist Claire Colebrook concurring that 'vitality is the dominant motif in Western philosophy in general' (2010: 43). In this regard, Deleuze and Guattari's concept of 'nonorganic life' (1987: 411) should be read not as instance of the bias towards the biologic or ecologic, but as an acknowledgement of the powers of self-organization and expressiveness proper to geological or mineral realm (see DeLanda, 1997: 103–4) – in a similar way that Morin interpreted plate tectonics as evidence of our planet having a 'life' and history of its own.

A planet imbued with dynamism that extends far beyond the sphere of the living, however, is also one on which human and other lifeforms are ineluctably exposed to processes over which they have little control or influence – leading to our third point. Of the four revolutionary Earth-life science perspectives identified by Brooke, the idea of closely coupled organic and inorganic processes which Abram focuses on is by far the least catastrophic or disjunctive. For Abram (1997: 63) and many subsequent more-than-

human thinkers, emphasis on the more generative and enabling aspects of the human-environment relationship is a corollary of seeking to overcome the modern rational dissociation of subject and world. Affirming relations of mutuality or reciprocity between humans and the rest of the living world in this way has an ethical dimension: it is advanced as a prompt or summons to care for nonhuman others. But in this regard, it can also divert attention from the dissociative or self-divisive aspects of planetary self-organization and change – leaving little room for Serres' quake-driven undoing of ties, Morin's planet-scaled collisions and shocks, or Bataille's solar-powered excess.

Finally, and drawing the other three points together, we would suggest that the version of contextualisation of the human subject advocated by Abram and many other more-than-human theorists favours a certain perspective on locus and scale. As Abram puts it, 'one's senses are … interwoven within a single specific region of the planet. … Gaia reveals herself to us only locally, though particular places' (1984: no pagination). Such attentiveness to who is speaking, where they are speaking from, and to the embedding of all knowledge claims within broader extra-human contexts has become definitive of more-than-human thought and practice.

The insistence that positionality matters received a boost from the work of feminist science studies scholarship, not least from Donna Haraway's copiously cited 1988 paper 'Situated Knowledges'. Resonating with Abram's assertion that we speak from *within* the Earth, Haraway called on those of us offering truth claims not just to acknowledge the situatedness of our working practices but to make a virtue of the insuperable predicament of partiality and particularity, in the interests of producing 'a better account of the world' (1988: 579). While Haraway is less prescriptive than Abram about how and where we ought to locate ourselves, she later singled out the extra-terrestrial gaze of scientific-militaristic space projects and their fantasies of 'escape from the bounded globe in an anti-ecosystem called, simply, space' (1992: 315) as an occasion to further trouble disembodied, unaccountable truth-telling and to raise the question that still echoes through critical discourse on the Anthropocene – 'Who speaks for the earth?' (1992: 318).

Although it doesn't appear to have been Haraway's intention to put scalar or regional restrictions on knowledge claims – she did, after all, affirm the necessity of 'an earth-wide network of connections' (1988: 580) – many readers seemed to assume that any depiction of the entire planet relies on 'the god trick of seeing everything from nowhere' (1988: 581). Our own guess is that even, or especially, for social scientists and

humanities scholars who wished to include a wider range of things into their research, a sense that the planetary scale was a step too far helped to focus the 'more-than-human' impetus and prevent it from lurching out of control.

As philosopher Timothy Morton reminds us, for all its importance, the will to contextualize ourselves and our objects of concern is not in itself innocent or devoid of self-interest: 'contextualization – the search for some cause of what we are studying – wants to *contain* the context explosion' (2018: 10). And that risk of the situating or contextualizing impulse veering off in directions which are disorienting for most social thinkers is likely to be particularly acute in the case of geologic, planetary or cosmic themes. For, as the nascent continental planetary philosophy of the latter twentieth century had begun to recognise, there are aspects of what our planet is, what it can do or have done to it, about which we may wish to know more, yet theorising such matters from a position of immersion or entanglement defies human possibility. Indeed, this very unliveability is one of the reasons why we ought to be concerned with our planet in all its geohistorical and cosmic context.

For some two decades following Haraway and others' denunciation of the 'god-trick', explicit engagement with the Earth *qua* planet was rare in more-than-human inquiry. It's revealing too, that when 'planetary' considerations began to make a comeback around the turn of the millennium, a primary impetus was science studies scholar Bruno Latour's embrace of the relatively 'non-catastrophic' Gaia concept. In the following section, we look at what is at stake for more-than-human thought in confronting those events and processes where the Earth veers away from self-regulation, and we ask what the tendency of our home planet to break with its own identity means for understanding human difference and self-expression.

Between Planetary and Human Scales

Over the last half century, as we've been discussing, the Earth sciences have alerted us to the propensity of our planet, under certain circumstances, to shift from one operating state to another – a capability that resounds at every level from the smallest region of a planetary subsystem to the entire planetary body. If we are not to foreclose on the lesson of more-than-human theory that our positioning in the world matters, then, we face a challenge: how to negotiate between the realm of localized, embodied or 'lived'

experience and the domain of larger scale planetary processes – including those 'unliveable' upheavals that have brought our planet to its current state.

Various styles of more-than-human thought help us to see how quite ordinary human activities make use of energy and materials that have been generated by dynamic planetary processes. Anthropologists Elizabeth Hallam and Tim Ingold (2014: 1) offer a cogent example: 'The story of clay does not begin with the potter, since the material he throws on the wheel has already had to be dug out from the ground. ... Before that, it was sedimented through the deposition of water-borne particles, over eons of geological time.' Abram reminds us that when we work with Earth-sourced substances, we not only take advantage of their properties, but incorporate into our own world something that is other to or different from ourselves:

> our human-made artifacts inevitably retain an element of more-than-human otherness. … The tree trunk of the telephone pole, the clay of the bricks from which the building is fashioned, the smooth metal alloy of the car door we lean against—all these still carry, like our bodies, the textures and rhythms of a pattern that we ourselves did not devise (1997: 47).

Philosopher Elizabeth Grosz makes a related point, while more strongly emphasizing the volatility of the physical processes that human practices connect with and enfold. Human creative or productive activities, she suggests, can be seen as 'an exploration of the excessiveness of nature …. (t)he territorialization of the uncontrollable forces of the Earth' (2008: 11). Heeding Deleuze and Guattari's counsel to experiment cautiously, Grosz speaks of the need to isolate and frame the powers of the Earth in order to bring them down to a liveable, human scale. Just as 'the living produce a barrier, a cell, an outline, a minimal space or interval that divides it from its world', she contends, creative human agents must develop ways of setting apart a more hospitable interior from a vast and potentially hostile exteriority (Grosz, 2011: 38).

Though he comes from a different lineage of more-than-human thought than either Abram or Grosz, we might view Bruno Latour's recent work as likewise concerned with negotiations between grander planetary forces and everyday collective life. While his actor-network theory of the 1980s and 1990s foregrounded co-constitutive human-nonhuman relations, Latour's later Gaia and Earth system-inflected work moves in directions that dramatically extend more-than-human contextuality. In the paper 'Agency at the Time of the Anthropocene,' he announces: '(t)he prefix "geo" in geostory does not stand for the return to nature, but for the return of object and subject back to the ground

— the "metamorphic zone"' (2014a: 16; see also 2017: 57–58). This 'metamorphic zone,' Latour elaborates, is 'where we are able to detect actants before they become actors … where "metamorphosis" is taken as a phenomenon that is antecedent to all the shapes that will be given to agents' (2014a: 13).

With the geologically inspired concept of the metamorphic zone, Latour admits of a planetary realm that precedes or exceeds human-nonhuman co-constitution. But this zone or region has a more accessible counterpart: the critical zone. The critical zone is a contemporary scientific term for a defined cross-section of the Earth system spanning the tree canopy to the rocky substrate where interdisciplinary teams including soil scientists, hydrologists, ecologists, biogeochemists and geologists collaborate with farmers and other practitioners to address environmental challenges (2014b, 2016, 2017: 93). In Latour's words: 'critical zones define a set of interconnected entities in which the human multiform actions are everywhere intertwined' (2014b: 3).

Whereas earlier more-than-human theory and practice may have arbitrarily limited the scope of contextualization, what's interesting about Latour's critical-zone focus is that he is now explicit about where cuts are being made. Counterposed with the rest of the Earth and cosmos – or the metamorphic zone – the critical zone is 'tiny, fragile, slim, contested' (Latour, 2016: 7). And it's precisely because of this careful delineation that the critical zone presents Latour with an appropriate real-world setting for human actors to trial and finesse their relations with the forces of the Earth: 'a neat empirical site where it is possible through fieldwork to obtain precise answers to speculative questions' (2016: 4).

In our own attempts to navigate between quotidian social worlds and a self-transformative planet, we too have identified particular sites or pockets of potentially effective human agency. Whereas 'planetary multiplicity' is our shorthand for the propensity of the Earth (and other planets) to self-organize into new operating states, 'earthly multitudes' is our corresponding term for groups of human actors who engage with the dynamic materiality that is available to them. Earthly multitudes, we propose, gather both in response to the threats of a turbulent world and take advantage of the structured matter-energy generated by past planetary self-differentiation (Clark and Szerszynski, 2021a: 9, 93–99; 2021b: 81–82).

We use the idea of earthly multitudes not to single out clear-cut or bounded groups, but as a particular angle on what it means to be human: most of us being lured and obliged to participate in a variety of earth-oriented practices by virtue of the dynamic

worlds in which we live. This includes working with elements such as wood, clay or metal, and interventions in transformative events such as chemical reactions, seasonal changes or animal migrations (see Deleuze and Guattari, 1987: 409–410). While many earthly multitudes develop finely tuned skills and values, we use the term without prior judgement, keeping it broad enough to encompass interventions that may be injudicious, clumsy or exploitative, but nonetheless utilize properties and dynamics of the Earth.

We also employ the earthly multitude concept as a way of showing how the Earth's self-differentiation plays a part in the diversity and differentiation of social lives – without insisting that is the primary influence on who or what we become (Clark and Szerszynski, 2021a: 46–54). One reason for drawing out such connections, following Grosz's lead, is to make that point that when human agents enfold earthly powers, they not only augment their capabilities but also incorporate something of the excess and volatility of a dynamic planet (see Yusoff, 2013: 781). In Latourian terms, we might say that for us, all activities undertaken in critical zones are infused with the potency and potentiality of the metamorphic zone.

In this regard, our notion of earthly multitudes diverges from the stress on reciprocal relationships in much other more-than-human thought – in its acknowledging of fundamental asymmetries between human and planetary or cosmic forces. This incongruity, we would add, is far from overturned by the Anthropocene hypothesis, for the impressionability of Earth systems to human or any other influences is itself conditioned by a vast and anterior geohistory.

This is more than a matter of scale or magnitude. The idea of a self-differentiating Earth – planetary multiplicity – is also intended to question the prioritizing of the human-nonhuman juncture by shifting much of the attention to the divisions, differential forces, and conjunctures proper to the Earth itself. A planet in which multiplicity inheres, we contend, is an entity or category of being that explores its own possibilities, organizes and reorganizes its own components, and finds ways of doing things it couldn't do before (at certain points in its history, for example, the Earth settled into a series of solid and more fluid layers, developed a system of shifting crustal plates, and engendered a biosphere). But such a planet – and to an extent *any* planet – must also deal with its own internal inconsistencies, endure its own state or regime-shifting, and negotiate its own discontinuities.

This does not imply, for us, that relationships between the society and nature or between human collectives and their planet cease to be matters of concern or intrigue.

What it does mean is that our explorations of human-nonhuman interface are supplemented and complicated by the issue of the differences, junctures, inter-facings that inhere in the nonhuman side of the equation. In the final section, we consider some of the implications of thinking in terms of planetary multiplicity for questions of human difference – including matters of injustice and epistemic and physical violence.

Human Difference on a Differentiating Planet

At the outset of this chapter, we spoke of how more-than-human theorists foreground the ways that human collectives co-create worlds with diverse nonhuman others – and oppose attempts to overwrite this plurality with singular visions and orderings. This frequently involves attending to the ways that dispossessed or otherwise marginalised peoples affirm their own co-constitution with a panoply of nonhuman partners in the face of the epistemic and physical violence inflicted upon them by domineering Western social and intellectual orders. In such situations, thinking in geologic or planetary terms has often been associated with epistemological and ontological oppression, leading to a marked preference for smaller-scale, place-based ways of doing and thinking.

Complicating this reading, we have been advocating an extension of contextualization to the planetary scale and beyond, on grounds that this encourages us to take account of the more unruly and forceful aspects of material existence. We are keen to acknowledge that alongside and sometimes layered into the divisiveness within the field of the human are profoundly non-unitary and disjunctive planetary conditions. Rather than simply reading 'non-gradualist' planetary science as a singular, overarching vision, we suggest that it brings new dimensions to thinking about human difference.

In response to the question 'what makes us, as humans, different from each other?' the more-than-human planetary thought we have been working up makes room for the trace of geologic, planetary and cosmic processes. We would stress that this is most often a matter of an excess of force and potential as opposed to the restrictive and linear notion of causality that informs environmental and other determinisms. Simply put, there are multiple ways that embracing, for example, fire, fibre or fossilised hydrocarbons help shape us and our communities. So, too, is it worth considering that when human actors (our earthly multitudes) ally ourselves with planetary processes and powers, we inevitably imbibe something of their inherent multiplicity and differentiating tendency, their own power to become something other than their current state. Contingency, indeterminism and superfluity, therefore, are not just unintended

consequences of what *we* do with earthly matter; they are matters of the Earth's own mutability and multiplicity playing out within our bodies or lifeworlds. This includes the capacity of the mineral or inorganic to self-transform, but also the tendency of life to turn against itself or against other life: life 'fractured from within' as Colebrook puts it (2010: 13).

There is more at stake, we suggest, than a choice between affirming human-nonhuman co-constitution and remaining invested in the violence of modern Western binarism and the 'view from nowhere'. In this regard, it's noteworthy that some of the most important proponents of a planetary and thoroughly inhuman nature have been theorists with strong social justice, anticolonial or decolonizing agendas. It was postcolonial literary studies scholar Gayatri Chakravorty Spivak who introduced the term 'planetarity' in a 1997 lecture, summoning fellow social thinkers to 'imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities' (2003: 73). Spivak explicitly contested Western notions of universality by way of advocating a 'species of alterity' (2003: 72) or difference proper to the planet itself, and acknowledged that the Earth, while having a temporality of its own, remained 'inaccessible to human time' (2003: 88).

Subsequently, in an influential paper, historian Dipesh Chakrabarty drew attention to the way that climate change and the Anthropocene debate call 'for thinking on very large and small scales at once, including scales that defy the usual measures of time that inform human affairs' (2014: 3). Citing Chakrabarty, philosopher Achille Mbembe (2022) recently called for a 'planetary consciousness' that he counterposes to prevailing capitalist modes of planetarization. Mbembe is clearly comfortable moving between a vison of 'magma-filled rock topped with the entangled orders of physical, organic phenomena' and African animist traditions in which he has an interest. Rather than once more asking 'who speaks for the Earth?', he poses the question 'Does the planet speak for itself? It has to speak for itself before we can listen. And I think it does speak for itself' (2022: no pagination). Conversing with Mbembe, amongst others, geographer Kathryn Yusoff demands that we think the dehumanizing construct of race and the inhuman forces of the geologic together, calling upon us 'to imagine another subject capable of apprehending the differentiated and differentiating geoforces it is historically embedded within' (2020: 4).

In powerful ways, these interventions insist that thinking through the planet emboldens rather than diminishes resistance to extreme forms of corporeal, social and

epistemic injustice. Yusoff's (2018: 6–7) and Mbembe's (2017: 18, 40) respective interrogations of the link between mineral extraction and the labour of black and brown bodies are a reminder that oppressed and racialised social groups have frequently been coerced into situations where they bear the brunt of exposure to the most dangerous forces of the Earth (see also Clark and Szerszynski, 2021a: 114–118). But so too can these 'forced alliances with the inhuman,' as Yusoff refers to them, serve as sources of symbolic and physical power for those denied access to more conventional sociopolitical resources – though such modes of resistance must often operate under cover or underground (2018: 19). Likewise, Mbembe (2017: 156) speaks of the anticolonial 'volcanic thought' of writer and politician Aimé Césaire, who poetically transfigured the physical forces of the Caribbean into an invocation of power and potentiality. Or in Césaire's words: 'the enormous lung of the cyclones breathes and the hoarded fire of volcanoes and the gigantic seismic pulse new beats the measure of a body alive in my firm blazing' (1995: 125).

In a more workaday sense, a full appreciation of the human-independent dynamism of the Earth directs attention to the long-term, demanding and often self-endangering efforts of so many human collectives (our earthly multitudes again) to learn to dwell amongst the ordinary variability and volatility of the Earth. If this is a matter of supporting and enhancing time-tested ways of riding out planetary change, it is also an issue of recognising and making amends where such strategies and practices have been interrupted, overridden and disavowed (see Whyte, 2018; Clark, 2011: 182–192; Clark and Szerszynski, 2021a: 116–118).

None of this is to deny that there are numerous occasions when human and nonhuman agencies are more symmetrical, where influence is more reciprocal, and figures of entwining, entanglement and interconnectivity are wholly appropriate. And it is not always easy to distinguish between radically asymmetrical and more co-constitutive relations, for both are likely to be present in most situations, and a degree of flipping between them is to be expected. One moment fire is adeptly folded into collective life, at another it is a rampaging, uncontainable force; at one historical juncture global climate is inaccessibly inhuman, at a later date our own climatic footfall echoes incessantly.

What we *have* been trying to show is that taking mutual relations as the norm or baseline for all human engagement with nonhuman domains can result in serious occlusions and oversights. In the past, we have suggested, this may have discouraged more-than-human theorists from grappling productively with planetary scales, and from

engaging with vital and urgent insights from the geosciences. We are not, of course, obliged to read the knowledge claims of physical scientists the same way as they do: if nothing else, thinking with and through planetary multiplicity is an invitation to interpretive diversity, plurality and contrariety.

Planets, ours and others, are a useful category of being, we have been arguing, and the planetary is a scale or set of nested scales deserving of attention (see Szerszynski, 2018). How we as collective agents explore, enfold, and extrapolate upon the multiplicity of planetary forces is a vital question. But this question, we suggest, needs to be supplemented by another set of concerns: how do planets probe their own possibilities, how do they acquire or sometimes lose the ability to do certain things, how do they hold themselves together even as they turn into something else (Clark and Szerszynski, 2021a: 27–32)? These are questions for more-than-human theorists and practitioners to ponder, but they are also matters for which our planet and other astronomical bodies will go on working out their own responses, regardless of whether or not we are on the scene.

References

Abram D (1984) The perceptual implications of Gaia. Available at: https://wildethics.org/essay/the-perceptual-implications-of-gaia/ (accessed 6 November 2022).

Abram D(1997) *The Spell of the Sensuous: Perception and Language in a More-than-Human World*. New York: Vintage Books.

Aitchison JC, Ali, JR and Davis AM (2007) When and where did India and Asia collide? *Journal of Geophysical Research* 112: B05423.

Bataille G (1988) *The Accursed Share: An Essay on General Economy, Volume I*. New York: Zone Books.

Brooke J (2014) *Climate Change and the Course of Global History: A Rough Journey*. New York: Cambridge University Press.

Chakrabarty D. (2014) Climate and capital: on conjoined histories. *Critical Inquiry* 41(1): 1–23.

Césaire A (1995) *Notebook of a Return to My Native Land*. Newcastle upon Tyne: Bloodaxe.

Clark N (2011) *Inhuman Nature: Sociable Life on a Dynamic Planet*. London: Sage.

Clark N and Szerszynski B (2021a) *Planetary Social Thought: The Anthropocene Challenge to the Social Sciences*. Cambridge: Polity Press.

Clark N and Szerszynski B (2021b) Planetary multiplicity, earthly multitudes: interscalar practices for a volatile planet in Dürbeck G and HüpkesP (eds) *Narratives of Scale in the Anthropocene: Imagining Human Responsibility in an Age of Scalar Complexity*. New York: Routledge, pp. 75-93.

Clark N and Yusoff K (2017) Geosocial formations and the Anthropocene. Theory, Culture & Society 34(2–3): 3–23.

Colebrook C (2010) *Deleuze and the Meaning of Life*. London: Continuum.

Davis M (1996) Cosmic dancers on history's stage? The permanent revolution in the Earth sciences. *New Left Review* 217: 48–84.

Davis M (2001) *Late Victorian Holocausts: El Niño Famines and the Making of the Third World*. London: Verso.

DeLanda M (1997) *A Thousand Years of Nonlinear History*. New York: Swerve.

Deleuze G and Guattari F (1987) *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.

Grosz E (2008) *Chaos, Territory, Art: Deleuze and the Framing of the Earth*. New York: Columbia University Press.

Grosz E (2011) *Becoming Undone: Darwinian Reflections on Life, Politics, and Art*. Durham, NC: Duke University Press.

Hamilton C (2014) Can humans survive the Anthropocene? Available at: https://clivehamilton.com/can-humans-survive-the-anthropocene/ (accessed 6 November 2022).

Haraway D (1988) Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies* 14(3): 575–599.

Haraway D (1992) The promises of monsters: a regenerative politics for inappropriate/d others. In Grossberg L, Nelson C and Treichler P (eds) *Cultural Studies*. New York: Routledge, pp. 295–336.

Ingold T and Hallam E (2014) Making and growing: an introduction. In Hallam E and Ingold T (eds) *Making and Growing: Anthropological Studies of Organisms and Artefacts*. Farnham: Ashgate, pp. 1-24.

Latour B (2014a) Agency at the time of the Anthropocene. *New Literary History* 45(1): 1–18.

Latour B (2014b) Some advantages of the notion of 'Critical Zone' for geopolitics. *Procedia: Earth and Planetary Science*, 10: 3–6.

Latour B (2016) Is geo-logy the new umbrella for all the sciences? Hints for a neo-Humboldtian university', Cornell University, 25th October 2016. Available at: www.bruno-latour.fr/sites/default/files/150-CORNELL-2016-.pdf (accessed 6 November 2022).

Latour B (2017) *Facing Gaia: Eight Lectures on the New Climatic Regime*. Cambridge: Polity Press.

Lefebvre H (2009) *State, Space, World: Selected Essays*. Minneapolis: Minnesota University Press.

Mbembe A (2017) *Critique of Black Reason*. Durham, NC: Duke University Press.

Mbembe A (2022) How to develop a planetary consciousness. *Noema.* Available at: https://www.noemamag.com/how-to-develop-a-planetary-consciousness/ (accessed 6 November 2022).

Morin E (1999) *Homeland Earth: A Manifesto for the New Millennium*. Cresskill, NJ: Hampton Press.

Morton T (2018) Third stone from the sun, *SubStance* 47(2): 107–18.

Pritchard H (2019 Asia's shrinking glaciers protect large populations from drought stress. *Nature* 569 (30 May): 649-668.

Serres, M (1995) *The Natural Contract*. Ann Arbor: University of Michigan Press.

Spivak GC (2003) *Death of a Discipline*. New York: Columbia University Press.

Szerszynski B(2018) A planetary turn for the social sciences? In: Jensen O, Kesselring S and Sheller M(eds) *Mobilities and Complexities*. London: Taylor & Francis, pp. 223–227.

Whyte K (2018) Settler colonialism, ecology, and environmental injustice. *Environment and Society*, 9(1): 125–44.

Yusoff K (2013) Geologic life: prehistory, climate, futures in the Anthropocene. *Environment and Planning D: Society and Space* 31(5): 779–95.

Yusoff K (2018) *A Billion Black Anthropocenes or None*, Minneapolis: University of Minnesota Press.

Yusoff K (2020) The Inhumanities*, Annals of the American Association of Geographers* 111(3): 663-676.