# Experience & Abstraction:

## A Study of Speculative Knowledge Production in Reconceptualising Our Relation to The World

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# Declaration

I declare the following thesis to be my own work. Where the work of other is used, they are cited and referenced in the bibliography. Any assistance from others is listed in the acknowledgements.

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# Abstract

The central claim of this thesis is that a method of knowledge production grounded on *experience* is required to think the profound alteration of, and resulting alienation from, our relation to the world created by catastrophic climate change. The demand by waves of environmentalism to re-situate humanity at large within nature—both physically and theoretically—is echoed in contemporary calls by the Anthropocene discourses and the environmental humanities. This thesis questions whether this can be achieved by using the same methods of knowledge production and theoretical tools that have directly or indirectly produced this current situation. Through a critique of the historical formation of this fundamentally *modern* position, from decolonial, process philosophical, and pragmatist perspectives, this thesis sets out a strategy to construct knowledge based on, and to enrich, experience.

Responding to various attempts by the environmental humanities to conceptually overcome the sense of alienation that characterises "our relation to the world", as Bruno Latour dubs it, this thesis argues that a critique of the frameworks and methods of knowledge production of the West is required before new concepts can be constructed to reconfigure and overcome this sense of alienation. Although such critiques do exist, the contribution of this thesis is approaching this problematic from the perspective of experience. To do so, the work of Sylvia Wynter and Alfred North Whitehead is used to develop a critique of abstraction that makes clear the ways in which experience has been expunged in favour of an "objective" perspective of reality itself. The thesis then goes on to sketch out a method of knowledge production that would reestablish experience as both its foundation and outcome, arguing for the value of a particular understanding of figuration and speculation for this task. To further explore and test this argument, the thesis ultimately turns to the speculative fiction of Amos Tutuola and N. K. Jemisin in order to propose speculative figures through which "our relation to the world" can be reconceptualised. The core problematic with which this thesis engages is the critique of knowledge production and the speculative, constructive intensification and enrichment of experience that is missing in many contemporary discursive attempts to characterise and overcome the alienation that results from the "profound mutation in our relation to the world".

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# Introduction

> So for us to deal with global warming, this will call for a far-reaching transformation of knowledge—this pari passu with a new mutation of the answer (its "descriptive statement") that we give to the question as to *who* as humans *we are*.[1]
>
> **Sylvia Wynter**, "Unparalleled Catastrophe For Our Species?"

> You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your *modes* of abstraction.[2]
>
> **—Alfred North Whitehead**, *Science and the Modern World*

> Let's start with the end of the world, why don't we? Get it over with and move on to more interesting things.[3]
>
> **—N. K. Jemisin**, *The Fifth Season*

For over thirty years, the Intergovernmental Panel on Climate Change (IPCC) has reported on the changing state of global anthropogenic climate change. At the behest of the United Nations, each report presents empirical evidence detailing changes in the global climate system with the aim of advancing scientific understanding of past, present, and future effects and affects. On 9th August 2021, the IPCC Working Group I published their contribution to the Sixth Assessment Report titled 'Climate Change 2021: The Physical Science Basis' featuring the alarming statement that many of the effects of climate change detailed in previous reports have occurred sooner than expected. Indeed, the press release accompanying the report, compiled by over 200 authors who distilled 14,000 individual studies, states clearly that: "Many of the changes observed in the climate are unprecedented in thousands, if not hundreds of thousands of years, and some changes already set in motion—such as continued sea level rise—are irreversible over hundreds to thousands of years."[4] For example, the previous decade spanning 2011-2020 was hotter than

[1] Katherine McKittrick and Sylvia Wynter, 'Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations', in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham: Duke University Press, 2015), 24. Emphasis in original.
[2] Alfred North Whitehead, *Science and the Modern World* (New York: The Free Press, 1997), 59. Emphasis in original.
[3] N. K. Jemisin, *The Fifth Season* (London: Orbit, 2016), 1.
[4] 'Climate Change Widespread, Rapid, and Intensifying - IPPC', The International Panel on Climate Change (IPCC), 9 August 2021, https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/.

any period over the previous 125,000 years, with greenhouse gas emissions raising the global surface temperature 0.99°C higher than the nineteenth century average. If this rate of emissions continues on its present trajectory, the long-term mean global temperature goal of 1.5°C above pre-industrial levels set by the Paris Agreement will be surpassed in just a few decades. Indeed, the period 2011-2020 saw the global surface temperature rise to 1.09°C greater than the period 1850-1900. And, while there has been some hesitancy in the past, the report states that specific weather events can now be linked *causally* to human-induced climate change. On this point, the report is explicit. The 'Summary for Policy Makers' details the ways in which hot extremes, heavy precipitation events, increases in global land monsoon precipitation and tropical cyclone occurrences since the 1950s are due to human-induced climate change. The chance of compound extreme events has also increased. These are events whereby a variety of climatic phenomena occur simultaneously, such as drought coupled with heat waves, coastal flooding coupled with wind hazards, and sea level rises and storm surges. Ultimately, each IPCC report presents an overview of a much-changed and quickly-evolving global climate, and demands the appropriate steps be taken to avoid large-scale collapse.

While each report makes patently clear that the climate system has been *irreversibly altered*, phrases such as 'climate change,' 'ecological crisis,' and 'global warming' arguably fail to communicate the severity of past and future irreversible alterations, conceptualising such events instead as temporally-restricted issues that can be treated or solved. Bruno Latour agues that the narrativising of climate change as a singular, albeit complex, issue belies the fundamental shift in *being* it has enacted. It is not a crisis nor a catastrophe, argues Latour, but a "*profound mutation in our relation to the world*."[5] Echoing the long-held arguments of first and second wave environmentalists—from the Romantic poets, to those in 1960s USA—who decried the alienation of human beings from the natural world, Latour's argument about the "profound mutation in our relation to the world" concerns our collective inability to escape the potentially-catastrophic planetary situation created by human activity. That is to say, there is a paradoxical *re-entrenchment* of human being in the natural world accompanied by ongoing profound alienation from it. In further echoes of the environmentalists that came before, Latour proclaims that "the present situation, in which the physical framework that the Moderns had taken for granted, the ground on which their history had always been played out, has become unstable."[6] Latour dubs this situation a "new climatic regime", opposed to the singular "crisis", which forces a reconsideration of the relationship between human beings and the natural world *in perpetuity*,

[5] Bruno Latour, *Facing Gaia: Eight Lectures on the New Climatic Regime,* trans. Catherine Porter (Cambridge: Polity Press, 2017), 8. Emphasis added.
[6] Latour, *Facing Gaia,* 3.

rather than the production of a salve or cure for the so-called 'climate crisis'.[7] As so many from across the natural sciences, humanities, politics, and other discourses, have argued, there is no one 'quick fix' that will rid humanity of the current and impending extreme effects triggered by global heating. What is needed, as many argue, is a fundamental change in the conceptual and material relationships between human civilisation at large and the natural world, away from an *extractive* mode of being to one of *care and enrichment*.

To enact such a move, however, is no simple task. In an example of the conceptual bind in which the current terminology is caught up, Latour himself concedes that the phrase "our relation to the world" is a sign of collective *alienation*.[8] Throughout the history of the West, Latour argues, concerted efforts have been made to *distinguish* the human race from nature. Ideas such as 'society' and 'culture', for instance, cleave humanity from nature and cultivate alienation. Indeed, a collective sense of exceptionalism from, and mastery of, nature is one of the grand tropes of Western modernity.[9] And so, the phrase "our relation to the world" enacts a bifurcation that results in 'nature' on one side, and 'culture' on the other: a division with a long intellectual, cultural, and material history in the West, against which successive waves of environmentalisms have argued. And while the ideas such as 'nature,' 'culture,' and 'society' are contestable in themselves, it is the *logic* they evidence that functions most malevolently. The bifurcation enacted on the concept of the world, creating fissures in modes of thought and modes of being, produces division. Nature-culture, in their conceptual conjunction and disjunction, evidences a logic that can be found, for example, in the refraction of the concept of the human into 'man' and 'woman,' as Latour suggests, and according to the category of race, as Sylvia Wynter and Maria Lugones have argued.[10] It is a logic that cleaves apart the world, propagating divisions that turn into essentialisms.

What is important here is to not protest categorisation *per se*, but to question the conceptual configuration of those categories, the ways in which power is granted to those categorisations, and the ways in which that power is enacted on the things categorised. As the introductory quotations from Sylvia Wynter and Alfred North Whitehead attest, both the *modes of abstraction* employed to conceptualise ourselves and the world, and the concepts themselves—such '*descriptive statements*'—are formulations through which the inner workings of a form of knowledge production that has produced a bifurcated world can be glimpsed. The core project

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[7] Much to the chagrin of proponents of geoengineering, such as The Breakthrough Institute, who are vocal proponents of the technological intervention in the natural world. See: Michael Shellenberger and Ted Nordhaus, *Love Your Monsters: Postenvironmentalism and the Anthropocene* (United States: Breakthrough Institute, 2011).

[8] Latour, *Facing Gaia,* 14.

[9] It is important to note that this is the definition of the West as, following Edouard Glissant, 'a project, not a place'. See: Edouard Glissant, *Caribbean Discourse: Selected Essays*, trans. J. Michael Dash (Charlottesville: University Press of Virginia, 1989), 2.

[10] Latour, *Facing Gaia,* 16. See: María Lugones, 'Toward a Decolonial Feminism', *Hypatia* 25, no. 4 (2010): 742–59, and Sylvia Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation - An Argument', *The New Centennial Review* 3, no. 3 (Fall 2003): 257–337.

of this thesis is to examine and seek a path to overcoming the logic of bifurcation by tracing the ways in which modes of abstraction, categorisation, and concept-creation have produced, in Latour's words, a relation with the world that is fundamentally alienated. While there have been numerous attempts to address this alienation conceptually—that is, with new concepts, as will be shown in the following chapter—the logic of bifurcation as a fundamental problem for thought remains, for the most part, unaddressed. This thesis contributes to and expands upon existing scholarship that addresses the function and effects of the logic of bifurcation and modes of abstraction—by Latour, Whitehead, Wynter, and others—that have produced the alienated relation mentioned above. Building from an analytic base, the thesis then proposes a method of constructing concepts that overcomes the bifurcation by grounding experience as the basis and output of knowledge production.

## The World According to Contemporary Environmentalism

> Climate change is a message, one that is telling us that many of our culture's most cherished ideas are no longer viable. These are profoundly challenging revelations for all of us raised on Enlightenment ideals of progress, unaccustomed to having our ambitions confined by natural boundaries.[11]
>
> **—Naomi Klein**, "Capitalism vs. the Climate"

This thesis started from a confrontation with the concept of *degrowth*, and an intuition which suggested such an idea posed an irreconcilable contradiction in meaning. The concept of degrowth offers a critique of the dogmatic obsession with never-ending economic growth, with which capitalist ideology is so enamoured. Although the term "degrowth" was first coined by French intellectual André Gorz in 1972,[12] the critical position occupied by the idea of degrowth stems from the heartland of modern Western environmentalism, from the work of Rachel Carson, Donella Meadows, and The Club of Rome in the 1960s and 1970s USA in particular. Situated within the environmentalist discourses, this anti-growth movement was nevertheless responding to a broad set of changing economic, political, and social conditions that arose following the post-war societal rebuild of the West. As ecological economist Giorgos Kallis writes, the post-war West was fully concentrated on creating wealth and building an affluent

[11] Naomi Klein, 'Capitalism vs. the Climate', The Nation, 9 November 2011, https://www.thenation.com/article/archive/capitalism-vs-climate/.
[12] Giacomo D'Alisa, Federico Demaria, and Giorgos Kallis, 'Introduction: Degrowth', in *Degrowth: A Vocabulary for a New Era*, ed. Giacomo D'Alisa, Federico Demaria, and Giorgos Kallis (London: Routledge, 2015), 1.

society, with the production and consumption of goods such as expensive cars and the latest technology representative of progress.[13] As such, the idea of growth was intimately entwined with prosperity, a better society, and a better life. Fundamentally, this was a new principle rooted in hardship. Growth, as a universal economic principle, was only developed during the 1930-50s, coincident with the Great Depression of 1929-39 and the Second World War. It is, in this sense, a metric allied to the idea of societal rebound. The conditions to which Carson and others responded were the environmental costs of unrelenting growth, particularly the question: could nature, and the planet at large, handle the natural resource extraction required to fuel this growth? What would the costs be? Could the planet handle the strain of such growth?

The Club of Rome, formed in the spring of 1968, explored such questions and the so-called "world *problematique*" in their Project on the Predicament of Mankind. "The intention of the project," stipulated by the report, "is to examine the complex of problems troubling men of all nations: poverty in the midst of plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban spread; insecurity of employment; alienation of youth; rejection of traditional values; and inflation and other monetary and economic disruptions."[14] Modelling exponential growth across five key elements—population, food production, industrialisation, pollution, and consumption of non-renewable natural resource—led The Club of Rome to posit that a point at which planetary resource would be exhausted—a *limit to growth*—would be reached within a hundred years (2072, roughly). Although many variables were taken into account—those that could accelerate and decelerate the advance toward this limit point, bringing it forward and pushing it back—the report was bullish about the inability of new technologies to dramatically alter the so-called world system. The central claim of 'The Limits to Growth' report made this clear: "*The basic behaviour mode of the world system is exponential growth of population and capital, followed by collapse*."[15] Imposing limits on growth, rather than waiting for natural limits to be reached, and altering behaviours in respect of them, were put forward as the only actions that could curb rampant growth and potentially mitigate the collapse of the world systems on which human civilisation is dependant. Only the imposition of limits, or a complete revolution that would depose the capitalist system powered by, and powering, the desire for unrelenting growth, were said to prevent collapse.

Following a submerged existence throughout the twentieth century, the idea of degrowth has once again gained purchase within the contemporary environmentalist discourses. Brought to back to prominence by authors such as Naomi Klein, Jason Hickel, and Bill McKibben, the core

[13] Giorgos Kallis, *Degrowth* (Newcastle upon Tyne: Agenda Publishing, 2018), 2-3.
[14] Donella H. Meadows and Club of Rome, eds., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972), 10.
[15] Meadows and Club of Rome, *The Limits to Growth*, 142. Emphasis in original.

argument of degrowth resonates with many people as the effects of catastrophic climate change grow more acute, widespread, and impact many nations in the Global North, instead of just those in the Global South.[16] The principle of degrowth remains the same: the notion of growth at all costs is so fundamental to the ideology of the Global North that, left unchecked, it will lead to a total collapse of the world system. Therefore, as a society and indeed, as a species, the core value of growth needs to abolished if near-certain catastrophe is to be at the very least mitigated, and, at the very best, averted. That would require the abolition of *capitalism itself* as the value system and machinery of growth that has, arguably, caused the current climate emergency. Adopting something akin to 'capitalism lite' or a watered-down version of an ideology whose logical progression is toward unrelenting growth would, therefore, be insufficient.

In the best-selling *This Changes Everything: Capitalism vs. The Climate*, Naomi Klein applies this criticism to the so-called "Green Capitalists", whose purported solution to climate change is merely a switch from fossil fuels to renewable energies. Such a business-as-usual-but-powered-by-renewables approach, argues Klein, does nothing to address the unrelenting consumption that drives growth, and the inequalities and broader systemic issues that arise from a capitalist ideology. Yet, within the same discussion about the inadequacies of the business-as-usual approach, Klein offers a vision as to what an idealised planetary state of affairs would look like. "The truth is that if we want to live within ecological limits," writes Klein, "we would need a return to a lifestyle similar to the one we had in the 1970s, before consumption levels went crazy in the 1980s."[17] Is advocating for a moderate form of capitalism—that which operated in the 1970s—whilst criticising "Green Capitalism" not a contradiction? Or, perhaps the statement is a performative rhetorical device used to highlight the absurdity of arguing for a return to something like capitalism of the 1970s when the central thesis of the book concerns the destruction capitalism has wrought on the planet? Unfortunately not. Klein doubles down on the notion of a return and, therefore, the contradiction, by citing climate scientist Kevin Anderson, who also argues that there is a need for a little bit of capitalism. Anderson seems to advocate for a more planetary-balanced capitalism, which would mean the "developed countries" consume less in order for so-called "industrialising countries" to catch up. Ultimately, Anderson writes that: "In the 1960s and 1970s we enjoyed a healthy and moderate lifestyle and we need to return to this to keep emissions under control."[18] While Klein develops the idea of degrowth in-line with the original French meaning provided by Gorz, lingering throughout the rest of *This*

[16] See: Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (London: Penguin Books, 2015); Jason Hickel, *Less Is More: How Degrowth Will Save the World* (London: William Heinemann, 2020); Bill McKibben, *Deep Economy: The Wealth of Communities and the Durable Future*, (New York: Times Books, 2007).
[17] Klein, *This Changes Everything,* 91.
[18] Klein, *This Changes Everything.* Anderson is originally quoted in Paul Moseley and Patrick Byrne, 'Climate Expert Targets the Affluent', BBC News, 13 November 2009, http://news.bbc.co.uk/2/hi/uk_news/england/8358626.stm.

*Changes Everything* is the notion of a "return" to an idealised past in which the world, as far as growth, consumption, and Klein is concerned, was about right.

It was the sense of disjunction between the notion of a return to a nostalgically-imagined past allied with the concept of degrowth, and the worldview they produce, that initiated the research on which this thesis is based. Putting aside the specifics of what a return to the material reality of the 1960s and 70s would look like—that is the same materiality reality in which The Club of Rome found stark warning sings of rampant, unsustainable growth that would lead to total societal collapse—the fundamental questions raised are: what future is it necessary to construct? What tools are required to construct it? The original thrust of the degrowth concept and movement was a demand for systemic change to the ideology of unrelenting growth in order to create a better future for the planet and human civilisation alike. It was not a demand to return to the socio-economic and material reality of the pre-War years, for example. To posit an image of the future based on a return to a nostalgic past is, simply put, a failure of thought, and a dereliction of hope.

Such conceptualisation of the planet is not confined to Klein nor degrowth discourses. Advocates of large-scale geoengineering and climate engineering projects, for instance, conceive the planet as something to engineer, despite the vast complexity with which any interventions have to contend. Projects such as the stratospheric aerosol injection of sulphur to reflect sunlight,[19] or supplementing the ocean with iron and other nutrients to enhance microscopic marine plant growth that increase the uptake of atmospheric carbon dioxide,[20] situate the problems with climate change in the mechanics of nature which, accordingly, are conceived as correctable.[21] The technological solutions offered by green capital are increasingly touted as the only viable option remaining, with climate engineering projects gaining supporters.[22] Scientifically-grounded Promethean techno-positivist approaches to the engineering of planetary processes, such as molecular environment-engineering nanobots,[23] thus seem to conceive of nature, the planet, and its processes as fundamentally *artificial*; as something that can be engineered, manipulated and, to some extent, built anew.[24] In many senses, artificiality is so deeply embedded in the way in which nature is conceived that there seems to be an implicit, insidious bifurcation in the relationship between human existence and the power of nature. And

[19] Paul J. Crutzen, 'Albedo Enhancement by Stratospheric Sulfur Injections: A Contribution to Resolve a Policy Dilemma?', *Climatic Change* 77, no. 3 (1 August 2006): 211–20.
[20] Doug Wallace et al., 'Ocean Fertilization: A Scientific Summary for Policy Makers', IOC - Intergovernmental Oceanographic Commission (UNESCO, 2010).
[21] See: Tim Flannery, *Atmosphere of Hope: Solutions to the Climate Crisis* (London: Penguin Books, 2016).
[22] David W. Keith, *A Case for Climate Engineering*, Boston Review Books (Cambridge: The MIT Press, 2013).
[23] Christopher J. Preston, *The Synthetic Age: Out-Designing Evolution, Resurrecting Species, and Reengineering Our World* (Cambridge: MIT Press, 2018), 21.
[24] Conrad Moriarty-Cole and James Phillips, 'The Artificial Earth: A Conceptual Morphology', in *Incomputable Earth: Digital Technologies and the Anthropocene*, ed. Lola Pfeiffer and Antonia Majaca (London: Bloomsbury Academic, Forthcoming 2024).

while the discourses of degrowth and geoengineering seem fundamentally at odds with one another, there appears a shared logic that bifurcated nature historically, and continues to do so in the present, and in the future.

It seems that what is needed is not *degrowth* per se, but *growth according to different values and on new terms; growth in other directions and toward other aims.* Many strands of contemporary environmental thought ascribe to these aims, particularly those from the environmental humanities. Recent work by Andreas Malm, for instance, points to the broader systemic issues not just with capitalism as an ideology, but the ways in which relations between the planet, the world, and human civilisation have already changed and should change in the future.[25] The structures of knowledge production and the concepts used, for example, require revaluation as to their applicability to not just articulate the current relationship and broader state of affairs but, crucially, to construct the the future required. This thesis asks: how can an adequate and necessary future be constructed using the very tools and methods of knowledge production that directly or indirectly created the current situation? By deploying a critique of scientific knowledge production from a decolonial and process philosophy perspective, this thesis sketches a propositional method of knowledge production with which to construct concepts. The over-reliance on the tools of scientific thought to produce concepts about the planet and our relation to the world, on which geoengineering, climate engineering, and degrowth discourses are based, needs confronting. Such an over-reliance, it will be shown, has led to a bifurcated in our modes of thought about the environment, nature, the planet, and the world.

## Scientific & Social Facts

Given that the diagnosis of the multitude of physical effects comprising the phenomenon of climate change have come from the physical sciences, it is no surprise that their individual discourses have led the broader discourse of climate studies. Yet the scientific basis is only one aspect of a problematic that is also fundamentally *social* in consequence. As such, there seems to be a tension within the broader climate discourses between scientific and social dimensions of the broader issue, and the importance given to each.

In the introduction to the *Theory, Culture & Society* 'Special Issue on Changing Climates', Bronislaw Szerszynski and John Urry argue that, because climate change requires massive reconfigurations of social organisation, social theory must play an integral role in climate discourses, both as a diagnostic tool, and a method of thinking future "post-carbon" social configurations. They discuss three discourses of climate change literature: *Scepticism*, which

[25] Andreas Malm, *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso, 2018).

challenges the scientific determinism of climate change, arguing that climatic fluctuations are natural when considered on a long time scale, normally from an unbiased perspective; *Gradualism*, which states that human activity is responsible for climate change and that, through calculation and incentives, individuals, societies and economies will adapt to the demands placed upon them; and, finally, *Catastrophism*, which adopts a scepticism of scientific certainty to state that the reality of climate change is located in unpredictability of extreme climatic event, but also the predicability of absolute catastrophe.[26] A central contention levelled by the authors against the three discourses of climate change is the division between the claims of "big science" to the "unequivocal truth" of climate change, and the politics thereof, which amount to a politics of science generated from within the discourses of natural sciences themselves. The authors point towards the lack of discursive engagement with the social sciences by climate science as paradoxical when the latter grounds the consequences of its research within the former.

From the perspective of social theory, Elizabeth Shove posits, this offers an opportunity for the reconfiguration of the conceptual scheme with which the discourses of climate change configures its ideas. While Shove discusses this point from the perspective of social theory's influence on climate change policy, Sheila Jasanoff argues that the usefulness of science is limited because its epistemological function detaches its objects of knowledge from the specific context in which they exist. Jasanoff argues that the process of abstraction through which science creates its objects of knowledge, and by which it is able to make its claims to universality, makes them impersonal, thereby eliminating experience and meaning. She writes that "scientific facts arise out of detached observation whereas meaning emerges from embedded experience" which raises the question of how an "impersonal, apolitical, and universal imaginary of climate change, projected and endorsed by science, takes over from the subjective, situated and normative imaginations of human actors engaging directly with nature."[27] Jasanoff points out how some cultures are more embedded within nature, so have a more affective reaction to climate change compared to cultures whose relationship with nature is mediated by science's impersonal abstract scheme of knowledge. Epistemic communities dictate the terms of engagement with nature and therefore the response to the machinations of climate change. On this basis, "representations of the climate have become decoupled from most modern systems of experience and understanding."[28] By questioning the function of meaning within scientific epistemology, Jasanoff argues that social theory of climate change can insert the human condition within scientific discourse, as well as on the juridical level, and in policy. However, the

[26] Bronislaw Szerszynski and John Urry, 'Changing Climates: Introduction', *Theory, Culture & Society* 27, no. 2–3 (1 March 2010), 1-2.
[27] Sheila Jasanoff, 'A New Climate for Society', *Theory, Culture & Society* 27, no. 2–3 (1 March 2010), 235.
[28] Jasanoff, 'A New Climate for Society', 249.

epistemic shift here amounts to social theory picking up the human element that science lacks. The epistemically constitutive opposition between science and the human—between objective facts and subjective experience—is, therefore, perpetuated as division rather than addressed and tackled.

Tom Bristow and Thomas Ford argue that the layers of discursive mediation between climate change itself—understood as a constellation of effects—and individuals account for the lack of efficacy in communicating the causes, dangers and, therefore, any mitigating action. In other words, the inter-epistemological assemblages required to communicate the complexity of climate change fundamentally stymie communicability. This argument is located in similar terrain to Jasanoff—scientific abstraction divorced from experience—but emphasises the impact of communication on the material and affective dimensions of experience. They write that climate change "marks an acute disjunction between what we know and how we feel, between our affective, discursive and epistemological selves" and that "it appears at once cognitively and discursively ever-present, and yet experientially and even materially invisible, at least in any direct form."[29] Like much work within critical climate change discourses, Bristow and Ford agree that the inherited intellectual foundations of Enlightenment frameworks of knowledge require analysis and a fundamental conceptual reconfiguration. They point towards a new "cultural materialism" imbued with the recognition of the material agency of inhuman and nonhuman entities—the stark reality that the climate produces tumultuous effects—along with the extended temporalities left by the material remnants of human civilisation.[30]

On this point, Bristow and Ford are not alone. Recent shifts within the humanities, social theory, and philosophy have moved the focus away from human exceptionalism—such as those concentrated on the hard problem of consciousness—and toward theories focussed on things themselves. Whilst there are similarities in the conceptual tenets of animism, multispecies studies, and object-orientated ontology—for example, in how they work with a Copernican revolution of the human—there is a broader, critical turn developed by decolonial and feminist critiques of the intellectual armature of Western thought and its fundamental concepts. Thinkers such as Sylvia Wynter, Walter Mignolo, Sarah Harding, and Donna Haraway, for instance, have developed critiques that make clear biases and logics of exclusion latent in the epistemological, metaphysical, ethical, and political structures of Western science in particular, which have produced a specific pattern of understanding, and vision of, the world, and the people and things that populate it. And whilst there is not a shared concentration on things and their generation of meaning *per se*—as there is with Haraway's notion of the "Chthulucene" for

[29] Tom Bristow and Thomas H. Ford, 'Climate of History, Cultures of Climates', in *A Cultural History of Climate Change*, ed. Tom Bristow and Thomas H. Ford (London: Routledge, 2016), 6.
[30] Bristow and Ford, 'Climate of History, Cultures of Climates', 12.

example—there is a shared acknowledgement that modern science, on which the social reality of the West has been built, is an inadequate source of ways of thinking and constructing the future required.

Rejecting human exceptionalism in favour of a broader ontological focus on the relations between human and non-human entities—how meaning is generated through relations—is a move favoured by Haraway, Thom Van Dooren, Deborah Bird Rose, among many others.[31] This is a shift away from the *what* of being to the *how* of being, focussing instead on its constitution as an activity in relation to other entities, by which the whole complex of existence is perpetually created. Underlying such a shift towards relations is the question of *experience*. This thesis argues that the concept of experience is fundamental to the frameworks of knowledge used to understand the large-scale problem of "our relation with the world". Experience, however, is not to be conceived as exclusively human. Rather, it is posited as a metaphysical term with which to conceive the activity of all entities. To establish experience as the purview of knowledge production—its starting and ends points—is to speculate on the ways in which existence can be *intensified*. Central to this thesis is the contention that grounding knowledge production on the concept of experience is necessary to overcome the bifurcation of nature that has plagued the ways in which "our relation to the world" has become alienated. Speculating on the ways in which that relation can be conceptualised to overcome alienation and thus intensify experience is a fundamental aim of this thesis.

## Storytelling & Speculation

In recent times, the concept of the "Anthropocene" has come to define the "profound mutation in our relation to the world". From the natural sciences to the humanities, and even in popular culture, the idea of a geological epoch characterised by the incursion of human activity into the natural processes of the planet resonates with the deeply unsettling feeling that humanity at large has broken something fundamental about the way this planet works. The Anthropocene concept was formulated in 2000 by Nobel prize-winning atmospheric chemist Paul Crutzen and biologist Eugene Stoermer, as a hypothesis for a new geological epoch. Crutzen and Stoermer argue that human activity has enacted such a qualitative shift in planetary morphology, that a new geological epoch has begun. Such is the impact of the "expansion of mankind", that mankind can no longer be considered as just an inhabitant of the planet, but rather a geological agent affecting all

[31] See: Donna Jeanne Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003), and Thom van Dooren and Deborah Bird Rose, 'Lively Ethography: Storying Animist Worlds', *Environmental Humanities* 8, no. 1 (1 May 2016): 77–94.

natural earth systems.[32] Research during the intervening years has pinpointed various historical markers of when this qualitative shift purportedly occurred, with the current scientific consensus settling on 1945, when Plutonium isotopes 239 and 240 were released in the aftermath of the Trinity nuclear weapons test in New Mexico and the Atomic bombings of Hiroshima and Nagasaki in Japan. While a multitude of other markers and data points suggest a variety of inceptions points to the Anthropocene, the Anthropocene Working Group conducted a binding vote in May 2019 that stated that the mid-twentieth century of the so-called "Common Era" would be taken as the base point for this propositional epoch.[33]

And yet, despite the insistence on scientific facts and geological data accurately identifying the beginning of this epoch, the power of the Anthropocene concept lies in the way in which it *narrativises our relation to the world*. It tells a story about both a state of affairs and an unfolding drama. The tension between facts and narrative is perhaps why there has been such a discursive explosion within the natural sciences and the humanities about what each piece of geological data and each proposed starting point *mean*. Although there is an entrenched tendency to take facts in isolation, or as purely illustrative of a deviation in a linear process, for instance, their meaning and context are inextricable. The massive decrease in atmospheric carbon dioxide in 1610, for example, cannot be separated from its cause or meaning: the genocide of indigenous people from the Americas by European colonisers.[34] As such, the Anthropocene does not narrativise a constellation of facts, but rather it weaves a story from a constellation of events. What stories do events tell about *us* and who *we* are? A common criticism levelled against the concept of the Anthropocene is that it homogenises humanity into a single, amalgamated causal force responsible for the newly-manufactured state of the planet.[35] Associating humanity with man, the figure of the *anthropos,* constructs a very particular narrative: one said to repeat the grand narrative of Modernity,[36] indexing the human species according to the "generic masculine universal",[37] as a figure of man "invented by Enlightenment thought and brought into operation by modernisation and state regulation".[38] Not only does this generalisation efface the power imbalances and differences in responsibility between the so-called "Global North" and "Global South", for instance, it perpetuates a Eurocentric framing of humanity and does little to question the biases and exclusions along the line of race, sexuality, and gender by which the figure of man

[32] Paul J. Crutzen and Eugene F. Stoermer, 'The "Anthropocene"', *Global Change Newsletter*, no. 41 (2000), 17.
[33] http://quaternary.stratigraphy.org/working-groups/anthropocene/ [Accessed 12/10/19]
[34] Simon L. Lewis and Mark A. Maslin, 'Defining the Anthropocene', *Nature* 519 (11 March 2015), 174.
[35] Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History, and Us* (London: Verso, 2016), 65-84.
[36] Christophe Bonneuil, 'The Geological Turn: Narratives of the Anthropocene', in *The Anthropocene and the Global Environmental Crisis*, ed. Christophe Bonneuil, Clive Hamilton, and François Gemenne (London: Routledge, 2015), 23.
[37] Donna Jeanne Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016), 47.
[38] Anna Tsing in Donna Haraway et al., 'Anthropologists Are Talking – About the Anthropocene', *Ethnos* 81, no. 3 (26 May 2016), 544-5

was historically produced.[39] As Katherine Yusoff writes, there "can be no address of the planetary failures of Modernism or its master-subject, man, without a commitment to overcoming extractive colonialism."[40] As such, the narrative of the Anthropocene is but one story about "our relation to the world"; which is why various other concepts have been created to tell different stories by grouping together events in different constellations, narrativising this relation in ways that emphasise other facts, factors, and dynamics. For example, Alf Hornborg's notion of the "Technocene" narrates the ideological, social, cultural, and biophysical dimensions of the technologic that have influenced, caused, and come to define, "our relation to the world".[41] "Anthrobscene",[42] "Anthroposcene",[43] "Capitalocene",[44] "Misanthropocene",[45] and "Plantationcene"[46] all attempt to grasp and articulate *the* integral factor that characterises the cause and state of "our relation to the world". Be it the integral factor that unites a constellation of events out of which a narrative emerges, such as the Anthropocene, or a concept that categorises events, such as the Capitalocene, the story told—its cast of conceptual characters, dramas, and sub-plots—matters.

It seems that the Anthropocene concept has introduced a novel framework for conceptualising a planetary state of affairs: one characterised by a tension between scientific facts, scientific concepts, and storytelling. Yet, whilst it may seem novel, this tension is the very same that has plagued environmentalist discourses since at least the 1960s and persists as the central dynamic of "our relation to the world". And while there may be ways to ease this apparent irreconcilability—ways that modify the conceptual instruments of science, for instance —there remains a more fundamental question over the applicability of the sciences as a source of concepts with which to think *socially*. That is to say, the inequality and biases that exist socially are also baked-into the mechanisms and modes of thought of the natural sciences, as Sarah Harding and others have argued.[47] To merely adopt scientific concepts and use them to not just think the current state of planetary affairs, but utilise them as tools with which to construct a future, is to perpetuate those biases. Those are not the stories to be told. There is therefore a patent need to think differently and construct stories from a different basis and point of view. Donna Haraway's concept of the "Chthulucene", for example, adopts the epochal framework of

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[39] Heather Davis and Zoe Todd, 'On the Importance of a Date, Or, Decolonizing the Anthropocene', *ACME: An International Journal for Critical Geographies* 16, no. 4 (2017), 763-5.
[40] Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: Univeristy Of Minnesota Press, 2018), 61.
[41] Alf Hornborg, 'The Political Ecology of the Anthropocene: Uncovering Ecologically Unequal Exchange in the World-System', in *The Anthropocene and the Global Environmental Crisis*, ed. Clive Hamilton, Christophe Bonneuil, and François Gemenne (London: Routledge, 2015), 67.
[42] Jussi Parikka, *The Anthrobscene* (Minneapolis: University of Minnesota Press, 2014), 6.
[43] Noel Castree, 'Changing the Anthropo(s)Cene: Geographers, Global Environmental Change and the Politics of Knowledge', *Dialogues in Human Geography* 5, no. 3 (1 November 2015): 301–16.
[44] Jason W. Moore, *Anthropocene or Capitalocene?: Nature, History, and the Crisis of Capitalism* (Oakland: PM Press, 2016), 82-3.
[45] Joshua Clover and Juliana Spahr, *#Misanthropocene: 24 Theses* (Oakland, CA: Commune Editions, 2014).
[46] Haraway et al., 'Anthropologists Are Talking', 535–64.
[47] See: Sandra G. Harding, *The Science Question in Feminism* (Ithaca: Cornell University Press, 1986).

the Anthropocene concept but, crucially, reconfigures the ground out of which stories are constructed, weaved, and told. Informed by the principle of symbiosis at the heart of the Gaia theory developed by James Lovelock and Lynn Margulis, the "Chthulucene" looks to the earth to counter the "Euclidean figures and stories of Man" on which the Anthropocene is based.[48] Calling upon the Greek word *chthonios*, meaning "of, in, or under the Earth and the sense", rather than H.P. Lovecraft's fabled figure of Cthulu, Haraway does not seek to narrativise an epoch, but rather set the stakes of our current epoch as an engagement with the entangled "myriad temporalities and spatialities and myriad intra-active entities-in-assemblages, including the more-than-human, other-than-human, inhuman" that make up reality.[49] For Haraway, turning to these entities and the stories they tell is a necessary step to recalibrate the human relationship with the things of this earth—as humans are just one species within a multitude of others—and to build new equitable "worldings".

What are these stories? How are they constructed and what do they tell? What does turning to the earth mean? Turning to the work of William James, particularly the reading of certain aspects of his work by Didier Debaise, allows for a reconsideration of the nature of stories. James suggests that there are stories of things themselves; that the notion of a story is not something solely imposed on them by the mind. In this sense, he refuses a qualitative separation between the narrative function of the mind—the ability to produce and weave stories—and the characteristics of things. He does not, it seems, suggest there is a kind of thought latent in things, nor does he argue for a kind of panpsychism. The key question for this thesis is the nature of these stories: is this a proposition to find such stories, or a theoretical position that refuses separation? James develops this argument from the work of German physicist, philosopher and experimental psychologist Gustav Fechner who suggested that plants have a soul. Indeed, James praises Fechner for his skill in crafting analogies which vivify argument and ideas. However, the point on which James seems to have been hooked is the notion of an earth-soul and what it suggests. Fechner's theological monism posits that everything is constituted equally throughout: "In ourselves, visual consciousness goes with our eyes, tactile consciousness with our skin. But altho neither skin nor eye knows aught of the sensations of the other, they come together and figure in some sort of relation and combination in the more inclusive consciousness which each of us names his self."[50] This therefore posits that insofar as one has consciousness, then one must suppose that others do too without discriminating between things. Based on James' work here, Debaise suggests that following James' proposal means to take

[48] Haraway, *Staying with the Trouble*, 52.
[49] Haraway, *Staying with the Trouble*, 101.
[50] William James, *A Pluralistic Universe: Hibbert Lectures at Manchester College on the Present Situation in Philosophy* (Lincoln: University of Nebraska Press, 1996), 155.

things as narratives proper, then trace a line that ultimately ends up with the composition of the universe. James' extrapolation of the story and narrative of things, as Debaise points out, is premised on a conviction of the varied fabric of existence in which multiple things are in relation to one another; interlaced, in communication, but always partially. In *Pragmatism*, James writes that: "The world is full of partial stories that run parallel to one another, beginning and ending at odd times. They mutually interlace and interfere at points, but we cannot unify them completely in our minds."[51] The empiricist insistence that things have a story of their own leads to the statement in the latter part of the above passage that our minds likewise only grasp stories partially and after the fact.

James, however, is aware that to suggest a fundamental shift from stories *about* things to stories *within* things is far from self-evident. The turn to Fechner mentioned above is the way in which this shift is grounded. But, this does mean that the traditional mechanics of how stories are constructed also need to change. Moving perspective from stories and narratives imposed upon things, to ones that are weaved in concert with, and derived from, things is a speculative step. It requires, for instance, an adjustment in what abstraction and concepts are considered to be and how they function. If stories are within things, as James suggests, then the construction of concepts thus serves to emphasise those stories, and to extrapolate from things narratives that can be weaved together in ways that make a difference—primarily, as James, Alfred North Whitehead, and Sylvia Wynter would attest, to make a fundamental difference to experience. Constructing new stories from and with things is thus to speculatively weave a story about the composition of the universe according to which existence is alive, brimming full of things and their stories, in a way that can intensify the existing, diminished, state of experience conditioned by disinterested knowledges. To explore the richness of possibilities, this thesis introduces the speculative and fictional to play with what existence, experience, and things can be, and the stories we can find in them and weave together with concepts to form new stories and narratives.

Although speculation has for many been considered the "very antithesis of sober empirical research," as Alex Wilkie writes, there has been a renewal in the value of thinking speculatively.[52] Much like James' assertion that the shift from stories about things to stories within things is far from self-evident, the turn toward speculation requires a fundamental reorganisation of the starting point and aims of research in general, particularly relating any knowledge production to the question it attempts to answer. Moreover, speculation as Whitehead conceived it, is "untrammelled by method" and the confines of pre-existing approaches, instead functioning to "pierce into the general reasons beyond limited reasons, to understand all methods as

[51] William James, *Pragmatism and Other Writings*, ed. Giles B. Gunn (New York: Penguin Books, 2000), 71.
[52] Alex Wilkie, 'Speculating', in *Routledge Handbook of Interdisciplinary Research Methods*, ed. Rachel Fensham et al. (Georgetown: Routledge, 2018), 347–51.

coordinated in a nature of things only to be grasped by transcending all method."[53] As Martin Savransky writes, "its function is none other than that of *inventing* the very methods that here and there push thought and life out of bounds, over the guardrails, to the outlaw edges of the territory governed by the rational, the probable, and the plausible."[54] While Whitehead's speculation advanced according to the notions of logic and coherence, the thrust of speculation inspired many others to take flight. Donna Haraway credits Whitehead and Isabelle Stengers as figures who inspired her own speculative thinking, out of which the idea of "worlding" took form from thinking with "speculative fabulation, speculative feminism, science fiction, speculative fiction, science fact, science fantasy," otherwise referred to by the "potent material-semiotic sign" of "SF".[55] For Haraway, the plurality of practices under the sign of SF are engaged in "multi-form worlding", each with their own figures, forms, and relations that constitute a world. Speculative and science fiction in particular are not understood as "make believe" or some kind of fabulated escapism, but as generators of ideas not confined by method or application. Indeed, as Haraway writes, "SF has given me the ideas, the stories, and the shapes with which I think ideas, shapes, and stories in feminist theory and science studies."[56] Speculation is necessary for inventing the tools with which worlds are constructed.

## Thesis Outline

This thesis argues that a mode of abstraction premised on the refusal of experience has created a method of knowledge production that has contributed to the alienation in "our relation to the world". This mode of abstraction diminishes experience which, I claim, then affects the ways in which "our relation to the world" is conceptualised. The aim of this thesis is, therefore, to set out the terms of the problematic, propose a strategy for overcoming the function and effects of this mode of abstraction, and explore what can be achieved with this strategy. As such, this thesis operates critically and constructively through an engagement with the work of Donna Haraway, William James, Alfred North Whitehead, and Sylvia Wynter, to intervene in and contribute to the discourses of the environmental humanities, cultural studies, and speculative thought.

Developed over the course of six chapters, the argument is established in Chapter One through a review of historical and contemporary literature. Titled 'Evaluating Mutating Worlds',

[53] Alfred North Whitehead, *The Function of Reason* (Princeton: Princeton University Press, 1929), 65.
[54] Martin Savransky, 'Afterword: Speculative Earth', in *Speculative Geographies: Ethics, Technologies, Aesthetics,* ed. Nina Williams and Thomas Keating (Singapore: Palgrave Macmillan, 2022), 286.
[55] Donna Jeanne Haraway, 'SF: Science Fiction, Speculative Fabulation, String Figures, So Far', *Ada: A Journal of Gender, New Media, and Technology*, no. 3 (November 2013).
[56] Haraway, 'SF'.

Chapter One serves as a contextualisation of the problems that arise in this thesis and an examination of the various ways in which the "profound mutation in our relation to the world", as Latour writes, has been theorised by a range of different discourses. Given the breadth of possible interpretations of, and interventions to, the phrase "our relation to the world", as well as possible characterisations of what such a "profound mutation" means, this chapter begins by establishing the contemporary context as one defined by the Anthropocene concept. The reason for this is that, broadly speaking, the Anthropocene not only attempts to characterise "our relation to the world" as a contemporary condition, but also charts the historic causes that have conspired to produce such a situation. The conceptual protagonist—the *anthropos* itself, man or the human—at the core of this sprawling problematic is troublesome precisely because of the level of generality at which it functions. Who is 'man' and what is its corresponding idea of 'nature' or the 'world'? Such questions raised by the use of the Anthropocene concept—by its usage within the field of earth systems sciences, and in the wild of the humanities—are the contemporary footholds of various critiques of the broader term, raising further questions about its applicability and adequacy as a concept to articulate "our relation to the world". What this chapter aims to make clear is that the myriad conceptual and theoretical issues and tensions arise from a fundamental incompatibility between the scientific methods of knowledge production based on the concept of objectivity and the broader humanities-based discourses that are focussed on, broadly speaking, *the activity of living on this planet*. In tracing the conceptual, philosophical, and theoretical attempts to characterise this mutation and the resulting *alienation*, as well as the propositions to *overcome* such a condition and relation, this chapter aims to demonstrate the need to ground knowledge production and its methods on *experience*. The argument advanced over this chapter incorporates historical and contemporary contestations with the key terms of 'man' and 'nature'—from second wave environmentalism of the 1960s and 1970s, to contemporary discourses of postnaturalism and posthumanism—before considering the speculative attempts to rework or construct anew the concepts and figures used to think "our relation to the world".

Chapter Two examines the conceptual and methodological transformations that removed experience from knowledge production and produce the sense of alienation in "our relation to the world". Following the previous chapter in which the identification and analysis of the concepts of 'man' and 'nature' as fundamental points of friction in the conceptualisation of "our relation to the world", Chapter Two locates their concomitant mutation in the colonial expansion of Europe and the fundamental changes the cosmology of the West would undergo following the "colonial encounter" of 1492. Through an engagement with the work of Sylvia Wynter, this chapter traces the increasing power abstractions are given by the mutating methods

of Western knowledge production that arise from colonisation and with which the new social realities of the West, as a project, were constructed and imposed upon being itself. It is argued that fundamental to this mutation is the refusal of experience as the premise of knowledge production; a refusal of experience either in its entirety, or the acceptance of a very limited and impoverished form of experience, which strips knowledge of its unique spatial and temporal context. The consequent construction of the objective viewpoint that undergirds scientific knowledge would create a sense of reality that is effectively split in two. Wynter charts the cultivation of this method of knowledge production, which universalises Western knowledge, from the fifteenth century, diagnosing a method of abstraction that Alfred North Whitehead would call the "bifurcation of nature"—a diagnostic for a problem with the scientific conception of nature that arose in the eighteenth century. This is the problem according to which the conception of reality by modern scientific thought casts off experience as purely subjective and therefore not worthy of consideration in the same terms as the fundamental building blocks of the universe. As the scientific perspective and its frameworks of knowledge production become more commonplace in the construction of the social reality of the West, this bifurcate viewpoint becomes enshrined in modern thought, thereby tacitly accepting an impoverished empiricism based upon an impoverished upon the impoverishment, or refusal, of experience. The function of this chapter is both an examination of the historical development of this problematic and a critique of its function. Although there would appear to be a fundamental contradiction in putting the work of Whitehead, who is from the very heart of the canon of Western knowledge, with the decolonial work of Sylvia Wynter and Walter Mignolo, I argue that there is a shared diagnosis of this problem and a productive analysis of these conditions when their disparate works are put in conversation with one another.

Where the problematic mode of abstraction that disregards experience is critiqued in Chapter Two, Chapters Three and Four put forward the terms by which experience can once again be instated as both the premise of knowledge production and its ultimate goal. That is to say that the function of knowledge production about "our relation with the world" should be aimed at the qualitative intensification of experience. Chapters Three and Four address the relationship between experience and abstraction, with Chapter Three focussing on the nature of experience in relation to knowledge production, and Chapter Four focussing on the nature of abstraction in relation to knowledge production. These two chapters address two sides of the same problem, presenting the terms with which to overcome the problem of the exclusion of experience from knowledge production. Chapter Three outlines the nature of experience, eschewing a post-Kantian enquiry into the structuration of experience in favour of a position that takes experience as *given*, from which the nature of experience can be established in order to

explore the ways in which it can then be incorporated into the mechanisms of knowledge production. This method is characterised as the "reconstruction" of experience—a process that is explicated throughout the chapter. The aim of this chapter is to establish the terms by which experience can be established as the foundation of knowledge production. Chapter Four further explicates the problematic function of abstraction in terms of Didier Debaise's theory of "predatory abstractions" which are those abstractions that diminish and reduce experience instead of aiding to enrich it. The introduction of this theory serves to further characterise the fallacious function of abstraction and what is required of a method to overcome this problematic function. As such, the *situated* nature of abstraction is thus established, prior to explicating a theory of *figuration*. Turning once again to the work of Sylvia Wynter, the theory of figuration is here discussed in terms of literature as the space in which to construct *figures* that in various ways establish the semiotic and behaviour-orientating landscape of Western social reality. Wynter demonstrates the power of figuration both historically as one of the methods by which the central figure of Western Humanism was constructed in the fifteenth century, and as a method with which new figures of the human that empirically alter experience can be cultivated —as Haraway also argued. The latter part of this chapter establishes the rationale for turning to works of speculative fiction in Chapters Five and Six in order to propose new figurations with which to explore "our relation to the world".

Building on the critique of knowledge production that excludes experience, discussed in Chapter Two, and the work of reestablishing experience in the practice of knowledge production advanced in Chapters Three and Four, these two concluding chapters propose conceptual engineering of the figures of the materiality of the earth and of the contingency and risk inherent to experience itself. Speculative fiction lies at the heart of this conceptual engineering; as an extremely powerful tool to probe the *unknown* that sits as the perpetual horizon of experience and thought. It is, in other words, generative of *worlds*, the plurality of which breaks apart the singularity of terms in the phrase "our relation to the world". The speculations of the final two chapters explore the plurality of this relation. In Chapter Five, titled 'Tellurian Figurations', the ways in which the earthly things themselves are generative of meaning and their own narrative is explored through the work of Didier Debaise and William James. This is in order to critique the conceptual foundations of the "geosocial": a theory developed by Nigel Clark and Katherine Yusoff, according to which the geological is generative of social structures. I argue that the concept of matter on which these social formations are based enacts the bifurcation of nature. To overcome this problematic, a figuration of the materiality of the earth is developed through N. K. Jemisin's *Broken Earth* trilogy. Through the construction of a not-unfamiliar planet wracked by climate instability, Jemisin cultivates a figure of materiality that is

vibrant and expressive, and on which the social organisation of the planet is based. It is through the conceptual engineering of this relation that Jemisin's work is valuable and arresting.

The final chapter, titled 'Life Ungrounded', turns to the speculative and at times magical fiction of Amos Tutuola. *The Palm-Wine Drinkard* is an extraordinary text that explores the contingency of existence and risk inherent therein. Tutuola's work fundamentally rejects the notion of the individual as a substantial, self-consistent subject that lies at the heart of colonial European modernity. Instead, the bush in which *The Palm-Wine Drinkard* is set bristles with relations that are simultaneously constructive and destructive; where life is, paradoxically, a form of adventure and exploration of the infinitudes of death. The purpose of this chapter is to explore the character of contingency as it relates to experience, utilising speculative fiction to think something that, at its extreme, is unthinkable by nature. As such, this chapter seeks to figure experience in terms of contingency and risk, with which the plurality of experience that constitutes the plurality of "relations to worlds" can be thought.

Ultimately, this thesis aims to present the terms by which the experience at the heart of the plural "relations to worlds" can be emphasised and enriched. Prior to conceptual engineering and speculative figuration, however, there is a crucial requirement for a critique of the frameworks and methods of knowledge production, and the way in which the colonial encounter has determined these methods and the social reality of the West that has been constructed as a result. As such, this thesis sketches out a problematic founded on the "profound mutation in our relation to the world" and its resulting alienation, and works towards identifying and putting into practice the terms by which this alienation can be overcome.

# Chapter One: Evaluating Mutating Worlds

*Are we now living in the Anthropocene?* What might have been a provocative question at the turn of the 2010s now rings a little hollow. A wealth of evidence supporting the claim that *yes, indeed, we are now living in the Anthropocene*, has been collected and canonised. As of April 2023, however, neither the International Commission on Stratigraphy (ICS) nor the International Union of Geological Sciences (IUGS) has ratified the term as officially designating a new geological epoch distinct from the Holocene. And yet, the mountains of evidence collected by the Anthropocene Working Group (AWG) suggests in relatively stark terms that the material conditions of the planet are distinct from those of the 1940s.[57] Aside from the presence of Plutonium isotopes 239 and 240 that have been presented as markers of a fundamental incursion of human activity into the natural rhythms of the planet, the increased intensity and pervasiveness of effects associated with climate change would further suggest that something fundamental has changed. Although the goal of the AWG is to have the Anthropocene officially introduced as a new epoch on the Geological Time Scale (GTS) by the ICS, their work is not confined to the geological as such. Indeed, in order to identify evidence supporting the designation of a chronological marker of the fundamental perturbation to natural planetary rhythms caused by anthropogenic activity, the AWG need to look for evidence in other areas, such as those investigated by Earth Systems Science (ESS). Jan Zalasiewicz, chair of the AWG from 2009 - 2020, writes that this search concentrates on the *material character* of perturbations, assessing characteristic "fingerprints" of so-called Anthropocene strata as well as considering trajectories in Earth surface processes.[58] Describing a planetary state change induced by anthropogenic factors cannot be determined by counting successive sedimentary laminae alone, so other processes, such as changes in ocean acidification for example, are utilised. Johannes Lundershausen, a "Climate Advisor", notes that the introduction of ESS methodologies into the traditional stratigraphic methods, along with other non-geoscientific approaches such as those from the social sciences, complicates the attempt to define the boundary point of the Anthropocene in strictly geological terms in keeping with the criteria established by the ICS.[59] So, while it may not officially designate a geological epoch, the Anthropocene nevertheless seems to attempts to characterise a contemporary planetary state of affairs in terms of anthropogenic activity at large and the various imprints it has left of the planet.

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[57] Jan Zalasiewicz et al., 'The Working Group on the Anthropocene: Summary of Evidence and Interim Recommendations', *Anthropocene* 19 (1 September 2017): 55–60.
[58] Jan Zalasiewicz et al., 'Petrifying Earth Process: The Stratigraphic Imprint of Key Earth System Parameters in the Anthropocene', *Theory, Culture & Society* 34, no. 2–3 (13 February 2017), 86.
[59] Johannes Lundershausen, 'The Anthropocene Working Group and Its (Inter-)Disciplinarity', *Sustainability: Science, Practice and Policy* 14, no. 1 (1 January 2018): 31–45.

Although there are scant contestations about the material reality of anthropogenic climate change, other than those from 'climate deniers', the Anthropocene concept is not universally accepted as a means of characterising the "profound mutation in our relation to the world". Whether these objections are on the grounds that the Anthropocene concept perpetrates the structures of discrimination along the lines of race, gender, and sex, among others, latent in the Western-centric notion of man—the figure of man to which *anthropos* refers—or that it is simply too big, are hotly contested.[60] Might it be that instead of characterising a complex of relations, or analysing a state of planetary affairs, the Anthropocene concept is itself *propositional of a world*? And the world it proposes is simply inadequate to the myriad demands of the present? That there are other worlds—more fulfilling, necessaries worlds—required?

To pose this question in such a way is to suggest a plurality of worlds; what Martin Savransky, following William James, dubs the *pluriverse*. The myriad conceptual problems—that is, problems with the creation and application of concepts—explored over the course of the following chapter can be contextualised by the simple contrast between a singular world-story, such as the Anthropocene, and a plurality of worlds comprising the "pluriverse". As the Anthropocene concept is increasingly used to tell *the* story of *this* existing world, it yields a sense of finality about the story told: how it will all end, the culminating extinction, if the current anthropogenic activity at large continues unchecked. The world of the Anthropocene is conceived not so much as a proposition, than as something that we, as a species, have collectively brought into being. There is a sense of inescapability to the situation, as if our bodies and minds are stuck in a planetary-sized swathe of quicksand, the material conditions of which render the possibility of a different outcome almost nil. Are we doomed to perish in the earth? In contrast, for Savransky the "pluriverse" is "a pluralistic universe underway and yet to be made, one and many, ongoing and unfinished" which elicits an engagement with those partial, unfinished, and yet-to-be-made stories that make possible other beginnings, stories, and worlds.[61] What the pluriverse offers is the possibility of thinking the *discontinuous plurality of worlds* and a steadfast refusal to be beholden to the presumed Oneness of the World that the story of the Anthropocene posits.

And while it would seem that the contestations of the Anthropocene concept mentioned previously, and the explosion of new epochal conceptual configuration to which those contestations have given rise, work towards or with exactly this kind of pluralism, there is a subtle but fundamental difference. This is the difference between the creation of concepts that engages in the *critique of their conditions of possibility* as a necessary precursor to their creation, and

[60] See: Haraway. *Staying with the Trouble.*
[61] Martin Savransky, *Around the Day in Eighty Worlds: Politics of the Pluriverse* (Durham: Duke University Press, 2021), 2.

the creation of concepts from their existing conditions of possibility. In the case of the Anthropocene and the related *-ocenes* that purport to counter or challenge the dominant narrative of the *anthropos*, there is a lack of critique and therefore a failure to address the ways in which the biases—along the lines of race, gender, sex, for instance—are baked into the systemic conditions of knowledge production. Simply discarding a concept premised on the *anthropos* and swapping it with a different concept that does not embody such biases, arguably does little to address the overarching, fundamental reasons why those biases continue to exist. What seems to have grown out of the Anthropocene discourses within the humanities is a rampant thirst to create more and more new concepts that purportedly re-characterise "our relation to the world" in different terms that either address biases, or give a new sense of hope. Critique, as will be argued throughout this thesis, is the necessary condition of concept creation; of the speculative production of worlds.

Explored over the course of the current chapter are ways in which the "profound mutation in our relation to the world" has been thought in the contemporary context announced by the Anthropocene. In tracing the conceptual, philosophical, and theoretical attempts to characterise this mutation and the resulting alienation, as well as the propositions to overcome such a condition and relation, this chapter aims to demonstrate the need to ground knowledge production and its methods on *experience*. This argument will be made through a review of recent literature that attempts to grapple with this sprawling subject in order to establish the theoretical basis of this thesis. Section One covers the core tenets of first and second wave environmentalism in order to establish the modern historical attempts to understand the shifts in the 1960s-70s USA that caused such a profound mutation in our relation to the world. While there was an apparent rift in the aesthetisation of nature by mainstream environmentalists and those more philosophically inclined—who attempted to establish a fundamental value of nature —there was however a unified and overarching urge to identify that which needed protecting from destruction. The lingering effects of *how nature was conceptualised*, its implicit biases and broader representative issues led to many people in the humanities to contest the very applicability of nature: was it an impediment to forming a caring, functional, and protective relationship with the natural environment?

Section Two covers the headline contestations of the concept of nature and the epistemological and ontological rationales for these contestations. As with the previous section, there is a palpable tension between the way in which nature is allied with notions of essentialism and purity—of gender, sex, and race, for example—and its role as a mediator in the relationship between humanity at large and the natural environment. In such a sense, from a Western point of view nature is figured as a fundamental blockage to overcoming alienation from the natural

environment. Moreover, these same criticisms appear in the historical formation of the concept of the human, which is historically and discursively allied to nature. That is why Section Three engages with the field of postnaturalism and posthumanism. According to postnaturalism, the concept of nature is a relic of a bygone age, either because of the overwhelming imprint humanity at large has left on the planet, as argued by Bill McKibben, or because the natural state of the planet only existed *prior* to human existence, which is the position occupied by Steven Vogel. The historic idea of the purity and essentialism of nature is considered by both to be fundamentally invalidated. The discourses of posthumanism at large echo this argument in regards to the human. Although there are many strands of posthumanism—and the associated inhumanism and transhumanism—there is a shared contention that the historic concept of the human as an isolated, self-confined being is outdated, given the way in which the creation of subjectivity is distributed across cultural, political, technological, and biological realms. As such, the being of posthumanism is conceived as a "cyborg", in Donna Haraway's terminology, which is to say a meeting point of the diverse realms. What the discourses of postnaturalism and posthumanism respond to is the changing material and cultural conditions of existence on this planet in order to propose analytic and constructive means to revaluate the dominant conceptual figures in "our relation to the world".

Section Four continues in this vein by investigating the notion of 'we'/'us' on which many of the attempts to critically analyse and conceptually reconstruct "our relation to the world" are based. While many of these are anchored to specific notions of individualised *beings*, albeit those whose agency and composition is distributed across a range of realms, they continue to foreground the construction of a broader concept of existence on individualised concepts such as the posthuman, inhuman, or transhuman. Contrary to this strategy, this section engages with Gayatri Chakravorty Spivak's notion of the "planetary" around which a 'we' may be formed. For Spivak, the "planetary" is a conceptual figure, much like "Nature" or "God", from which a different sense of being, one founded on alterity, can be constructed; one that engenders disfiguration rather than determination under a singular figure. As with Spivak, Latour, Haraway, and others, the necessity of constructing anew a conceptual figure that instantiates new ways of being with other species and with the planet is of vital importance.

The final section of this chapter, Section Five, takes a broader view of what is required of a methodology to work through the epistemic and conceptual issues raised throughout this chapter. In particular, this is focussed on the question of relations: what methodology is generated by an ontology premised on agency, in the case of Latour, and an interdisciplinary practice that ties together science and storytelling, in the case of Sylvia Wynter and Katherine McKittrick. The purpose of discussing these two approaches is to argue for the return to

experience as both the basis and outcome of knowledge production that attempts to conceive and characterise not just the relation between 'our' and 'world', but the terms by which "our relation with the world" can be constructed anew. This section therefore sets out the terms of engagement for the thesis.

Overall, this chapter aims to demonstrate the ways in which contemporary attempts to characterise "our relation to the world" stumble on not just the vastness of the problematic under consideration, but what the keys tenets of an appropriate methodology should be.

## Legacy Environmentalism

Environmentalism, broadly considered as the cultural and political response to a crisis in humans' relationship with the natural environment at large, grew out of the late eighteenth and early nineteenth centuries in Europe and North America. Although there is something akin to an environmental consciousness present in many religions that predate this period,[62] it is generally accepted that the so-called "First Wave" of Environmentalism commenced in the early 1800s with the British Romantic poets whose writings extolled the unique beauty of nature. Although the evocative descriptions of the British countryside found in the writing of Samuel Taylor Coleridge, William Wordsworth, and Robert Southey, for example, exalted the arresting splendour of nature, their attraction to the natural environment was heavily inspired by the writings of German geographer, naturalist, and scientist, Alexander von Humboldt. It is from this point that a thread can be traced to modern protectionist forms of environmentalism.

From 1799-1804, Humboldt travelled throughout Latin America on a voyage of scientific observation and discovery, measuring altitude, gravity, and humidity of landforms such as the Chimborazo volcano in the Ecuadorian Andes, and cataloguing plant species that hitherto no European had encountered. Yet Humboldt was not a dispassioned scientist. As Andrea Wulf notes, he wanted to "excite a "love of nature" … At a time when other scientists were searching for universal laws, Humboldt writes that nature had to be experienced through feelings."[63] He is credited as being the progenitor of environmentalism for two reasons in particular. Firstly, Humboldt conceived of nature as an interconnected living whole, in which everything was part of a "never-ending activity of animated forces", a fundamentally *ecological* conception of nature, which prefigured the theory of Deep Ecology developed by Norwegian philosophy Arne Næss by some 175 years.[64] Secondly, with this idea in mind, Humboldt observed that the destruction

[62] See: Peter A. Coates, *Nature: Western Attitudes Since Ancient Times* (Berkeley: University of California Press, 2005).
[63] Andrea Wulf, *The Invention of Nature: The Adventures of Alexander von Humboldt, the Lost Hero of Science* (London: John Murray, 2016), 4.
[64] Andrea Wulf, 'The Forgotten Father of Environmentalism', *The Atlantic*, 23 December 2015, https://www.theatlantic.com/science/archive/2015/12/the-forgotten-father-of-environmentalism/421434/.

of forests in Venezuela by European colonists had knock-on effects on the broader landscape. Droughts, for instance, became more common as the felling of trees and consequent lack of leaf cover exposed and killed off grass and moss of the undergrowth, which had hitherto mitigated heavy rainfall flowing too quickly to rivers, thus leading to torrential flooding. With this observation in particular, Humboldt theorised a kind of anthropogenic climate change; how the destruction of one vital element could have extreme consequences locally and further afield.[65] Humboldt was not alone in his fears about the impact wrought by European colonialists on nature. British explorer, James Cook, had likewise documented the environmental impacts of deforestation, developing a deep concern about the costs to nature if such activity continued relentlessly.[66]

These legacies of Romantic era scientific and poetic thought are apparent in the environmentalism that developed in the USA around the 1960s, 70s, and 80s in particular. Writing in the introduction to *The Oxford Handbook of Environmentalism*, Andrew Isenberg notes that even up until the early 1970s, most texts covering the intellectual and cultural development of the West almost entirely neglected the question of the environment, until a raft of new thinkers broke ground on the topic.[67] Rachel Carson's seminal *Silent Spring*, for instance, gave shape and form to an issue that hitherto few of the general public had considered important. In documenting the devastating effects of pesticides on animal and plant life, Carson cast nature as both an aesthetic and material object under threat from industry: aesthetic in the sense of an idealised, picturesque nature similar to that expounded by the Romantic poets, and material in the sense of deforestation, death, and degradation of the entities comprising nature. Within the Northern American context, Henry David Thoreau shaped the Romantic idea of nature that environmentalists such as Donald Worster adopted, characterising it in nostalgic terms as a nature soon to be lost owing to the environmental destruction mentioned by Carson.[68] Yet, this is not to suggest that this wave of environmentalism was united around the protection of a unified idea about what the environment or nature was. Indeed, as Ramachandra Guha writes in *Environmentalism: A Global History*, modern environmentalism was broken down into two distinct fields: the factual domain of the natural sciences concerned with material analysis of, for

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See also: Arne Næss, 'The Shallow and the Deep, Long-range Ecology Movement. A Summary.', *Inquiry* 16, no. 1–4 (1 January 1973): 95–100.

[65] Wulf, *The Invention of Nature*, 57-58.

[66] Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600-1860* (Cambridge: Cambridge University Press, 1995), 313.

[67] Isenberg cites the following thinkers as fundamental to the development of the discourse of environmentalism in the West: William Cronon, Alfred Crosby, Thomas Dunlap, Samuel Hays, J. Donald Hughes, Carolyn Merchant, Martin Melosi, Arthur McEvoy, William McNeill, Roderick Nash, John opie, Stephen Pyne, Hal Rothman, Susan Schrepfer, Joel Tarr, Richard White, and Donald Worster.
See: Andrew C. Isenberg, 'Introduction: A New Environmental History', in *The Oxford Handbook of Environmental History*, ed. Andrew C. Isenberg (Oxford: Oxford University Press, 2014), 3.

[68] Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination* (Oxford: Oxford University Press, 1993), 3-12.

example, deforestation; and, a social "charter of action which seeks to protect cherished habitats, protest against their degradation, and prescribes less destructive lifestyles and technologies."[69] That is to say that Guha identified the cultural, political, and social dimensions of the interaction with, and protection of, nature are the sole occupations of environmentalism. The natural sciences, therefore, are said to concern themselves with a different nature: an objective, factual nature that formed the basis for the social perception of nature as such.

Rifts such as those between *environmental aesthetics* and the nature of the natural sciences grew throughout the 1980s and 1990s. Isenberg comments on one particular 1990 issue of *The Journal of American History* in which Cronon, Crosby, Merchant, Pyne, White, and Worster—the then-mainstream voices of modern environmentalism—came together to chart a direction for the field. Rather than reach any kind of consensus, the debate entrenched a rift between materialist and idealistic approaches that had been bubbling away beneath the surface up until that point.[70] The 1990 event, and the debates that lingered thereafter, are taken by Isenberg as symptomatic of a discourse engaged with a subject that is, in many ways, much too broad. Although one unifying proposal came in the form of environmental ethics, which attempted to define the inherent value of nature, the rift was not only between idealistic and materialistic methodological approaches to the subject matter, but also in the interdisciplinary approach to the causes of environmental destruction that inspired environmentalism itself.

A further contestation was evident during the 1960s and early 1970s, when the development of modern environmentalism coincided with numerous anti-racist and anti-colonial movements in the USA. As mentioned at the beginning of this section, there are clear, fully-entwined connections between anthropogenic climate change, the cultivation of an environmental consciousness, and European colonisation of the Americas and Caribbean in particular. Yet, there was a disconnection between the two movements: not so much a "rift" as an unwillingness to engage with anti-racist and anti-colonial activism by modern environmentalists. In *Decolonial Ecology: Thinking from the Caribbean World*, Malcom Ferdinand writes about this "colonial fracture" within 1960s and 1970s environmentalism in the USA, noting that the figures who inspired this wave of modern environmentalism, as well as those who popularised it, are predominantly "White, free, solitary, upper-class men in slave-making and post-slavery societies" whose "green interventions make little room for racial or colonial issues."[71] Despite the arts and humanities of the 1970s engaging in a critical environmentalism along the lines of sex and gender, the colonial fracture, Ferdinand remarks, was largely ignored. Even when questioning the fascination with the

[69] Ramachandra Guha, *Environmentalism: A Global History* (New York: Longman, 2000), 2-3.
[70] Isenberg, 'Introduction: A New Environmental History', 7.
[71] Malcom Ferdinand, *Decolonial Ecology: Thinking from the Caribbean World*, trans. Paul Anthony Smith (Cambridge: Polity Press, 2022), 6.

pristine idea of nature that persisted within modern environmentalism, as William Cronon does in *Uncommon Ground: Rethinking the Human Place in Nature*, the questions about racially and colonially-motivated legacies in environmental thought and fractures within modern environmentalism are missing.[72] While Ferdinand's work seeks to address and overcome the persisting colonial, racial, and misogynistic practices that continue to fracture thinking about, and living in, the environment, too often so-called contemporary environmentalism, whether it concerns the Anthropocene or not, fails to address these pro-generative logics of contemporary thought about the world.

Resonating with Ferdinand's criticism, a further rift within modern environmentalism is identifiable around the same time period; one whose central contestation is relevant within a contemporary context that will be explored over the next section. That is, the arguments for and against the concept of nature itself. Presently, this rift will be discussed in terms of the drive by the field of environmental ethics to identify some kind of essential property or inherent value of nature, the goal of which was to ground an argument for its protection against its destruction. The question of a different kind of essentialism—one based on sex, gender, and race, among others—will be covered in the section that follows.

In *The Rights of Nature*, Roderick Nash wrote a critique of the "managerialist attitude" of popular environmentalism, arguing that it was focussed on safeguarding natural resources rather than protecting nature as such. As one of the figures who helped bring environmentalism into the national consciousness, Nash concedes that although there are issues with the managerialist attitude, it did help bring into focus the question of the *rights of nature*—a question at the centre of environmental ethics as a discourse. Nash refers to the field of environmental ethics as the "greening of philosophy" which he claims is "the farthest extension of ethical theory in the history of thought."[73] J. Baird Callicott argued that modern systems of ethics take for granted their base line assumption that human beings are intrinsically valuable in and of themselves, resulting in a skewed worldview, especially in respect to the natural wilderness and the planet as a whole.[74] According to Callicott, value is held to be exclusive to human consciousness at the detriment to other entities. This bifurcation is the result of scientific naturalism, whereby value is decreed to an object by a subject in the form of instrumental value as a resource, and is therefore only extrinsically valuable. Against these anthropocentric models of ethics, such as Kantian rationalism, Callicott argues for a "bio-empathy" based on Humean moral philosophy, in which "all value is itself affective".[75] Within the context of Darwinian evolutionary theory,

[72] See: William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York: Norton, 1996).
[73] Roderick Frazier Nash, *The Rights of Nature: A History of Environmental Ethics*, (Wisconsin: University of Wisconsin Press, 1989), 121.
[74] J. Baird Callicott, *In Defense of the Land Ethic* (Albany: State University of New York Press, 1989), 131.
[75] Callicott, *In Defence of the Land Ethic*, 151.

"bio-empathy" argues that inter-entity relationships, such as paternal bonds between mammals, or even between plant life, operate according to the generation and reception of affect. Indeed, this is posited as the constitutive relationship of ecology. When taken as the basis of an environmental ethics, Callicott's "bio-empathy" introduces moral reason into the field of environmentalism, in which decision making is taken on the basis of whether a given action is either good or bad relative to the rights of a given entity. Yet, for Callicott, it is not the individual entity that takes predominance within the environmental ethic, but the ecosystem in a wider sense; it is holistic, rather than atomistic. This posed problems for the practical implementation of such an ethics in terms of environmental management as it was hard pressed to state where one issued began and another ends.

Callicott attempts to break with the type of moral extensionism that takes traditional anthropocentric moral philosophy and extends it to all entities by reducing it down to a question of affect. However, this theory does not effect a full break from moral extensionism because it requests that any action taken by humans against non-humans is done on a moral basis and within the framework of moral reason. John Rodman writes that for numerous thinkers involved in the moral extensionst theory of environmental ethics, the questions are: how far can the scope of moral concern be extended, which species does it involve, and according to which criteria are the decisions made?[76] In this instance, environmental ethics becomes highly selective over the exact entities that possess value. This means that value is not inherent at all, and only a conceptual projection conferred upon certain entities by humans, which is problematic in itself, as even with best interests in the preservation of the environment, it still follows the logic of human domination of the natural wilderness (or domination in a more broad sense). This logic is firmly established on the basis of the individual. As Rodman states, the central issue with extentionism is that it tends to "perpetuate the atomistic metaphysics that is so deeply imbedded in modern culture, locating intrinsic value only or primarily in individual persons, animals, plants, etc., rather than in communities or ecosystems, since individuals are our paradigmatic entities for thinking, being conscious, and feeling pain".[77] Therefore, the goal for environmental ethics should be developing a notion of value that is not only applicable to all entities, but also inherent to them as well, outside of any predication on human consciousness. This is the goal Callicott aims for, and is also the prize for Rodman, albeit in slightly different terms.

Whereas for Callicott the notion of value is key, for Rodman the requirement is to identify some principal inherent to all entities that would dictate the ways in which they are treated. This is a telos that is identified as a "capacity for internal self-direction and self-regulation".[78]

[76] John Rodman, 'Four Forms of Ecological Consciousness Reconsidered', in *Ethics and the Environment*, ed. Donald Scherer and Thomas Attig (New Jersey: Prentice-Hall, 1983), 87
[77] Rodman, 'Four Forms of Ecological Consciousness Reconsidered', 87.
[78] Rodman, 'Four Forms of Ecological Consciousness Reconsidered', 88

Although it can be contested that this is another extentionist notion, Rodman gives reference to trees, skunks, and other life forms as having telos on the grounds that their continuing existence is independent of human being and interference. Expounding on this point, Rodman writes that:

> While there may therefore be some difference in the degree to which certain aspects of what it means to have a telos are present in one organism or one system compared with another, the basic principle is that all items having a telos are entitled to respectful treatment.[79]

Additional aspects that go towards defining telos are "integrity" and "stability", but only if these principles are self-determined. Moreover, these are constitutional necessities in an ecosystem, which makes Rodman's ethics fundamentally ecological. Ethics, therefore, could be considered on the basis of individual entities as well as larger system: it is particular but also holistic.[80] This allowed Rodman to propose the use of this ethics in a variety of political and social contexts as a means to explicate environmental ethics in terms other than those utilised in nature writing and the historical individualistic framework of the 1960s environmentalism.

Although the impetus to establish the inherent qualities and rights of nature stem from a very real need to protect the natural environment, there is a clear sense in which environmental ethics as a discipline is of a particular historical moment and lacking much of the broader criticality as to its own assumptions and limitations that subsequent engagements with environmentalism would question. That is to say, there are problems about environmental ethics *discursively* and *philosophically* in terms of taking nature as *self-evident* in many respects. As such, the problems encountered because of the sheer scale of the issue tackled—defining 'nature', representations thereof, and activist engagement with, the environment, for example—produce a discourse ill equipped with the conceptual tools, definition of the specific problem, and critical awareness to tackle what, arguably, needs tackling. That is, environmental destruction. It is this confluence of the philosophical determination of nature, mixed with a popular and humanities-focussed environmentalism, which I would suggest leads to greater focus and reliance on the natural sciences to produce 'objective observations and facts' about the environment from which environmentalism is developed. It is this precise *confusion* about the tools used to think and engage with the planet that necessitates the critical engagement with the concepts, ideas, and terms in a much more fundamental, rigorous manner. This criticality is the subject of the following section, which engages with contestations regarding the very concept of nature.

[79] Rodman, 'Four Forms of Ecological Consciousness Reconsidered'.
[80] Rodman, 'Four Forms of Ecological Consciousness Reconsidered', 91.

## Contesting Nature(s)

The thrust of the mainstream environmentalist movement emanating from 1960s USA was that nature was something to be protected. What exactly nature *was* was contested. From the point of view of environmental aesthetics, the idea of nature cultivated over the Romantic period, particularly by Henry David Thoreau, communicated the sense of nostalgic beauty that would inspire people to fight against industrial destruction. Yet, as Ferdinand remarks above, this objectified idea of nature perpetrates the structural biases and exclusions that were intellectually and societally present at the time of its inception. That is to say that the concept of nature is for many inextricably tied to racist, misogynistic, and patriarchal fractures, the biases and exclusions latent in which are perpetuated through the ongoing use of the concept of nature, particularly within environmentalist and climate change discourses. The current section examines literature that argues, from a variety of perspectives, that the concept of nature should be retired. Such arguments present ways in which a "profound mutation in our relation to the world" can be revalued and reappraised conceptually, experientially, and materially.

In *The Death of Nature*, Carolyn Merchant argues that the mechanistic conception of nature perpetuated by the natural sciences has enabled extractive economies that degrade nature, and also generate patriarchal social orders.[81] Merchant's feminist critique of the way in which the concept of nature is developed throughout the Scientific Revolution ties together scientific conceptions of the material world with the social and political orders that result from those conceptions, and which serve in some part to reinforce those scientific conceptions. Mechanism, Merchant argues, allows the material compartmentalisation of elements from a whole, which thus severs the integral relationality of nature.[82] While focussing on the way in which mechanism not only isolates material parts of nature, Merchant also argued that the way in which value is cleaved from those material parts, a function propagated by science itself that gave fuel to the managerialist approach to nature diagnosed by environmental thinkers such as Roderick Nash.[83]

Merchant's argument that the reductive conception of nature by science, according to which isolated material parts exist without value, shows the gap between scientific matter and the meaning of nature, which mainstream environmentalism attempted to visualise. Environmental aesthetics, particularly during the 1960s in the USA, attempted to represent the rights of nature through visual and literary imagery. However, as Ursula Heise shows, the representation of a pristine nature "out there" was tied to essentialist discourses of sex, gender, and race.[84] Through

[81] Carolyn Merchant, 'The Death of Nature: A Retrospective', *Organization & Environment* 11, no. 2 (June 1998).
[82] Merchant, 'The Death of Nature', 201.
[83] See: Nash, *The Rights of Nature.*
[84] Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford University Press, 2008).

the prism of anti-essentialist discourse, the correlation between nature and the human becomes explicitly clear. Donna Haraway argues that the derivative sex/gender distinction allies gender—a cultural construction—to the biological essentialism of nature as its determinant.[85] While feminist critique has at times worked through only the sex/gender relation latent in essentialist constructions of nature, thus leaving behind a reserve of nature as somehow innocent, the objective for Haraway is to ""disqualify" the analytic categories…that lead to univocity."[86] In this sense, nature is the ground of a univocal logic, according to which concepts of sex/gender, as well as race, are constructed. Moreover, the dichotomous logic of the Other courses through nature as it solidifies into an essentialist reserve of that which is not culture. As such, it can be posited that its logical premise is isolation and exclusion.

Feminist critiques of nature analyse the biases and logics of exclusion latent in the very concept. Certain discourse argue that the concept of nature can be reconstructed or reinvented to address and overcome the problematic biases and logics of exclusion therein. Others, however, believe that the concept of nature is irredeemable and therefore requires jettisoning in favour of a different concept or conceptual scheme to think "our relation to the world". In *Ecology without Nature*, Timothy Morton argues that the primary concept of nature utilised by environmentalism is based on an historic idealisation of nature that is incommensurate with our actual experience of it, as well as with reality more generally. Idealisation, he contends, turns nature into an object, and opens up a rift between nature on the one hand, and human society on the other. Morton's primary claims is that environmentalism operates according to this dichotomous logic, and in so doing inhibits any meaningful discourse that attempts to bridge the supposed gap between the two sides. For Morton, this rift is false, and only the discourse of ecology can overcome a false division between nature and society. However, for this to happen, ecology is required to banish nature from the equation. He writes that "the very idea of "nature" which so many hold dear will have to wither away in an "ecological" state of human society. Strange as it may sound, the idea of nature is getting in the way of properly ecological forms of culture, philosophy, politics, and art."[87] The "idea" of nature contested here is one produced by environmental literature and nature writing. Morton's central concern is the domination of an image of nature created by the Romantic poets, such as William Wordsworth and Percy Bysshe Shelley, through whose writing nature is portrayed as an object of authenticity, beauty, and a source of sublime experience. Morton's argument is therefore situated within the field of environmental aesthetics, which is described by Allen Carlson as a discipline concerned with aesthetic experience of the environment, and representations of this experience in literary and

[85] Donna Jeanne Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (London: Free Association Books, 1998), 134.
[86] Haraway, *Simians, Cyborgs, and Women*, 135.
[87] Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge: Harvard University Press, 2007), 1.

visual culture, along with their utilisation in broader fields such as politics.[88]

Representation plays a key role in Morton's argument, in which it is said to make clear that "nature" is an "arbitrary rhetorical construction, empty of independent, genuine existence behind or beyond the texts we create about it."[89] Accounts of the history of environmentalism variously state the importance of aesthetics to the development of this discourse, and protection of the natural environment.[90] Henry David Thoreau, along with other authors associated with the US wilderness movement, are exemplary constructors of a particular idea and image of nature that recalls the atmospheric and experiential instance of contact with nature. According to Morton, a device known as "ecomimesis" recalls the ambience of a particular place represented in art or literature, among other forms, as a rhetorical structure of "situatedness".[91] This produces a "pressure point, crystallising a vast and complex ideological network of beliefs, practices, and processes in and around the idea of the natural world."[92] Although this is arguably the operation and structure of representation itself, it is taken by Morton as the process by which a historical idea of nature is reified, and perpetuated across various fields, so as to end up a monolithic concept, appropriated de facto as the dominant idea of nature. Lawrence Buell has suggested that Morton's understanding of ecomimesis as the process by which nature is objectified in environmental literature is reductive, as it accounts for only one form of representation.[93] However, the main argument put forward by Morton is that, as a monolithic object, this Romantic idea of nature reinforces a dualism between subject and object, in which instance nature is "over there" at a distance, and therefore unobtainable.[94] Indeed, Morton makes the claims that the nature recalled, or produced, through ecomimesis is inherently wrapped up in the "I" of the subject, articulated through such phrases as "I am immersed in nature".[95] This an instance of the paradoxical procedure of ecomimesis, whereby it attempts to represent an ambience of an environment in which the subject is immersed, but can only do so from the dictating perspective of the subject articulated through "I". In other words, it is a manifestation of the paradox of nature as that which is apparently present but not there, whose logic follows that of the subject-object dualism.

The critique of nature-culture dualism also contains an implicit charge against the

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[88] Allen Carlson, 'Contemporary Environmental Aesthetics and the Requirements of Environmentalism', *Environmental Values* 19, no. 3 (August 2010), 290-1.
[89] Morton, *Ecology Without Nature,* 21-2.
[90] See: Eugene C. Hargrove, 'The Historical Foundations of American Environmental Attitudes', *Environmental Ethics* 1, no. 3 (Autumn 1979): 209–40.; Ned Hettinger, 'Allen Carlson's Environmental Aesthetics and the Protection of the Environment', *Environmental Ethics* 27, no. 1 (Spring 2005): 57–76.; David W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992).
[91] Morton, *Ecology Without Nature,* 32.
[92] Morton, *Ecology Without Nature,* 33-35.
[93] Lawrence Buell, *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination* (Malden: Blackwell Publishing, 2005), 32.
[94] Morton, *Ecology Without Nature,* 77.
[95] Morton, *Ecology Without Nature,* 182.

anthropocentrism latent in this concept of nature, although Morton declines to advance this argument further as it involves a discussion as to "what precisely counts as *human*, what counts as nature".[96] However, despite this claim, Morton's thesis accords to several key arguments levelled against the idea of nature within the fields of environmental aesthetics. According to Allen Carlson, these are: latent anthropocentrism stemming from the subject-object dualism; scenery-obsessions evoking only baroque vistas; superficiality and triviality of representations embodied by the picturesque landscape traditions; subjectivity of aesthetic appreciation of nature, and; the moral vacuity that results from a miscomprehension of the goal of environmentalism, which is to protect the natural wilderness.[97] Therefore, *Ecology without Nature* does not seem to add much to these existing debates within environmental aesthetics, other than couching them in an argument in favour of ecology by removing nature.

Noel Castree, reviewing *Ecology without Nature*, states that Morton's insistence on historicising the question of the aesthetics of nature means that he leaves no place outside of the historical-geographical human practice that conditions the paradigms through which we apprehend the non-human world.[98] Indeed, according to Caster, this presents a paradox within *Ecology without Nature*: it attempts to eradicate the human-premised concept of nature as a means of constructing a non-anthropocentric ecology, yet only does so through a firmly human-centric critique of aesthetics. However, at several points throughout *Ecology without Nature*, Morton gestures at the epistemological ground of his thesis. This is evident when Morton suggests that: "Ecology without nature" could mean "ecology without a concept of the natural".[99] This can be contextualised within the anti-essentialist move in environmentalism to ecology in the late 1980s and early 1990s, as detailed by Ursula Heise.[100] In explicitly tying the natural to nature, Morton is further articulating the epistemic dichotomy he believes to structure, and stymie, environmentalist thinking. In other words, if a designation of entities as either natural or unnatural is the means by which the world is known, then this mode of thought explicitly works to an irreconcilable division.

The central argument of *Ecology without Nature* is that nature, conceived as variously a concept, idea, and image, is a monolithic object that only stands apart from human culture, and refuses any interaction. In this sense, Morton is critical of the ability of environmental ethics to advance the ontological qualities of nature because it creates a distance that inhibits environmental action proper. Nature, as Morton states, is incommensurate with ecology because

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[96] Morton, *Ecology Without Nature,* 7.
[97] Carlson, 'Contemporary Environmental Aesthetics and the Requirements of Environmentalism', 295-7.
[98] Noel Castree, 'Ecology Without Nature: Rethinking Environmental Aesthetics: Review', *Progress in Human Geographies* 34, no. 4 (August 2010), 540.
[99] Morton, *Ecology Without Nature,* 24.
[100] Heise, *Sense of Place and Sense of Planet*, 30.

relations with other entities are not possible. This critique takes place on the aesthetic level, whereby nature is produced as an object by literature, the root of which is the depiction of nature by the Romantic poets. Experience of nature thereby constructs an idea that, paradoxically, cannot be fully experienced because of its absolute excess. Where environmentalism confines this object in order to protect it, Morton suggests that this is a impoverished ethical position. This highlights the ontological agenda, or presuppositions, of Morton's thesis. Indeed, there appears to be a tension between objects on the one hand, and relations on the other.[101] While these are not expounded in *Ecology without Nature*, they become clearer, but do not fundamentally differ, in his prequel text *The Ecological Thought*, in which the theory of ecology is developed more fully, yet still according to the central logic of *Ecology without Nature*.

As is made clear above, the various critiques of nature focus on the problems encountered when nature is objectified, both from the perspective of scientific reductionism and the legacy of Romanticism. Common to both critiques is the theorisation of nature as loaded with well-entrenched biases—along the lines of sex, gender, and race—which it is thereby said to perpetuate. Moreover, these critiques argue that objectifying nature creates a blockage to understanding the true, fundamental relations that exist between the various environments and species of the planet earth, as well progressing with actions to address the issues of climate change.[102] Abolition of the very idea of nature is advanced as a means of overcoming these well-entrenched binaries and blockages. Morton is an important touchstone in this regard, as a clear link is drawn between the legacy of Romantic thought—fundamentally to environmental aesthetics, particularly from an European perspective—and the philosophical implications of this line of thought in respect to ideas such as deep ecology. Engaging with arguments in favour of abolishing nature is important as, fundamentally, they suggest that the concept of nature is inadequate for the present times defined by climate change. Indeed, the forced synthesis of the actives of human civilisation with the natural processes of the planet advanced by the Anthropocene concept, for instance, are representative of this contemporary discursive landscape. In a general sense, these arguments are inline with those pursued by this thesis. However, abolishing the concept of nature altogether seems ill-conceived because there is a need found in contemporary climate change discourses to more precisely characterise the relationship between nature or the natural with the cultural and technological dimensions of human civilisation. In other words, there is a need to further problematise the concept of nature and the

[101] In this sense, Morton is at odds with the theory of Deep Ecology developed by Norwegian philosopher Arne Næss, which emphasises the material and spiritual interconnectedness of the world. See: Verena Andermatt Conley, *Ecopolitics: The Environment in Poststructuralist Thought*, (London: Routledge, 1997), 20-21.

[102] Bruno Latour advances a similar point. See: Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge: Harvard University Press, 2004), 18-41.

presuppositions and relationship latent therein. Engineering the concept of nature in-line with a more *synthetic* understanding of these relationship is thereby seemingly worthwhile.

In comparison to theoretical attempts to establish the boundary between nature and culture, other discourses foreground the *mixing* of nature and culture in order to argue for their ontological hybridity. Brian Massumi argues that both nature and culture feedback into one another, giving way to the becoming-cultural of nature and the becoming-natural of culture, where no distinction can be made to separate one from the other.[103] Each term works reciprocally through the other, setting up what Massumi calls a *nature-culture continuum*, in which the processes of formation and their logics are articulated. This can be understood in terms of the way in which the logics underpinning the operation of nature on the one hand, and the operation of culture on the other, interact. For Massumi, the normative self-regulation of nature that defines the logic of natural law finds contrast with the *acquired* automatic self-regulation of culture, conceived in terms of the concept of habit.[104] The continuum is the plane on which the normative and acquired are productive of multi-logical forms, such as categories or codings that work through feedback between logics.

What Massumi attempts to make clear in the formation of a nature-culture continuum is the way in which nature cannot be conceived "in itself", freed from a certain imposition of culture, and therefore not an originary domain from which essentialist notions are derived. Indeed, the activity of the continuum itself is the operation by which the ground is always unfamiliar; a force that presses uncertainty.[105] By focussing on the way in which different assemblages of logic work with and through one another, Massumi creates a framework in which the historically-tied epistemic and ontological conception of nature can be critiqued. Importantly, this procedure can take place without jettisoning either term, or adopting a prefix that foregrounds the requirement to move beyond a concept of nature situated at a particular historic juncture, as others have argued.[106]

The notion of a continuum of nature and culture poses the problem of the logic by which assemblages are formed. Philosophies of hybridity, particularly those that employ a neo-materialist methodology, posit this logic as ingrained within the latent self-organising capacities of matter itself.[107] This can be approached through Haraway's use of the term "naturecultures", which, in a similar manner to Massumi's notion of the nature-culture continuum, advances the idea of hybrid assemblages that are not premised on originary categories derived from nature.[108]

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[103] Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002), 10-12.
[104] Massumi, *Parables for the Virtual,* 12.
[105] Massumi, *Parables for the Virtual,* 236.
[106] Rosi Braidotti and Rick Dolphijn, 'Introduction: After Nature', in *Philosophy after Nature*, ed. Rosi Braidotti and Rick Dolphijn (London: Rowman & Littlefield International, 2017), 1–10.
[107] Rosi Braidotti, 'A Theoretical Framework for the Critical Posthumanities', *Theory, Culture & Society* 36, no. 6 (4 May 2018), 48.
[108] Haraway, *The Companion Species Manifesto*, 12.

The notion of hybrid "naturecultures" is premised on neither nature nor culture being the original one, as neither is the source of the other. Indeed, this view is echoed by Arias-Moldonado, who writes that "hybridisation" "refers to a view of the world as made up of heterogenous materialities churned together in a way that breaks down the distinction between subject and object, the natural and the artificial, the digital and the analogical … hybrids are processes that communicate society and nature, as well as products of their reciprocal influence."[109] This definition of hybrids specifically refers to the representation of entities that would face contestations of their artificiality or naturalness—such as climate change —or to nature and human society, because it operates on the acceptance that there is no ontological difference that would separate nature from other entities. Therefore, although this is not an explicit statement on ontology, it states implicitly that hybrids can be considered an ontological category. This is a materialist position that follows Haraway. Even from the perspective of hybridist philosophy, the idea of nature is still required, but it is fundamentally transformed into something novel through the incorporation of elements that are not nature. With the incorporation of culture, the resulting novel natureculture shifts the perspective on how the elements of each interact.

It is important to state that the critiques above contend with the idea of nature inherited from Enlightenment thought, rather than excavate the genesis or lineage of the idea of nature within a European context and how it relates to the concept of nature from other cultures. Indeed, the idea of a hybrid nature-culture appears as a recent, novel theorisation within the lineage of European thought, there are other cultures in which a version of this hybridity is a long-standing understanding of reality. Walter Mignolo contrasts the conception of nature central to European thought with that of the indigenous Aymaras and Quechua people of South America in order to show the erasure of knowledge that took place with the European colonisation of the Americas. Central to the Aymaras and Quechuas is the concept of "Pachamama", meaning the energy that engenders and maintains life. Mignolo writes that "Pachamama, whose epistemic function was similar to Greek Gaya, was more than a goddess of earth and fertility; it was also energy manifested in the fertility of earth and of life: a concept in which space, time, and the fertility of the earth (as in "Mother Earth") all came together."[110] Accordingly, human beings and more-than-human beings were Pachamama, meaning there is not distinction drawn between humans and culture; they are *in it*, not *separated from it*: "As such, culture was nature and nature was (and is) culture."[111] In contrast, according to European

[109] Manuel Arias-Maldonado, *Environment and Society: Socionatural Relations in the Anthropocene* (Cham: Springer International Publishing, 2015), 56, 60.
[110] Walter Mignolo, *The Darker Side of Western Modernity: Global Futures, Decolonial Options* (Durham: Duke University Press, 2011), 165.
[111] Mignolo, *The Darker Side of Western Modernity,* 11.

cosmology, nature was something to know. As nature was created by God, to know nature was to know the creator. The concept of Pachamama has no direct comparison to the European concept of nature—indeed, it seems to run in complete opposition to it on the basis that the latter is characterised by the separation and distance of nature from culture, while the former is characterised by the commonality of energies and life-forces central to nature and culture. Mignolo states that the discordancy between these two understandings of nature was identified by European colonists as something to rectify. He writes that "the initial moment of the colonial revolution was to implant the Western concept of nature to rule out the Aymara and Quechua concept of Pachamama. This is therefore an example of the way in which basically how colonialism was introduced into the domain of knowledge and subjectivity."[112] The transformation of the concept of nature throughout the colonial expansion of European and the concomitant erasure of other understandings of nature, leads to a greater distance established between culture and nature, and the reduction of nature to a resource to be plundered.[113]

Mignolo's discussion of Pachamama demonstrates the need to work through the lineage of ideas before committing to a conceptual revaluation of any one idea. Indeed, the decolonial critique of nature by Mignolo demonstrates the transformation of an idea and the way in which the logic of that transformation becomes embedded in the framework of knowledge production that perpetuates such an idea. The discussion of the concept of nature above thus makes clear the necessity of critiquing the frameworks of knowledge from which the concept of nature is produced. By considering the lineage of this idea and its relation to contemporary discourses that attempt to conceptualise a very similar state of affairs—the relation between the natural world, human civilisation and technology, for instance—then it can be posited that a similar critique is required of the frameworks of knowledge that produce related concepts. Removing the concept of nature from theorisation of a kind of planetary state of affairs is seen by some as overcoming the systemic issues—such as biases based on sex, gender, and race, for example—latent in theorisations of everything encapsulated by the concept of nature. This is the focus for the following section.

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[112] Mignolo, *The Darker Side of Western Modernity*.

[113] See also the notion of 'perspectivism' developed by Eduardo Viveiros de Castro. Drawing from the cosmology and mythology of the Amerindian people of South America, 'perspectivism' is the idea according to which "the world is inhabited by different sorts of subjects or persons, human and non-human, which apprehend reality from distinct points of view." Thus, these perspectives cannot be reduced to either Nature or Culture, Human or Animal, thereby problematising notions central to European cosmology. Eduardo Viveiros de Castro, 'Cosmological Deixis and Amerindian Perspectivism', *The Journal of the Royal Anthropological Institute* 4, no. 3 (1998), 469.

## Postnaturalism & Posthumanism

In the 1998 book *The End of Nature*, American environmentalist Bill McKibben takes stock of the sweeping changes to the earth's climate, noting that "our" sense of nature's relative permanence, and the feeling of stability and comfort derived therefrom, seemed to be diminishing. McKibben notes that, although nature is constantly changing, our perception of those changes has shifted from occurring on a long, slow geological register, to a much faster, hastened pace. The relative stability of our ideas about nature, it follows, have likewise eroded to the point that "without recognising it we have already stepped over the threshold of such a change: that we are at the end of nature."[114] McKibben continues:

> By the end of nature I do not mean the end of the world. The rain will still fall and the sun shine, though differently than before. When I say "nature," I mean a certain set of human ideas about the world and our place in it. But the death of those ideas begins with concrete changes in the reality around us—changes that scientists can measure and enumerate. More and more frequently, these changes will clash with our perceptions, until, finally, our sense of nature as eternal and separate is washed away, and we will see all clear what we have done.

The argument pursued throughout *The End of Nature* posits that the material conditions of nature have changed to such an extent, that the long-established ideas of "nature" and the "natural" have to a great extent become redundant. McKibben's text is fundamental in the formation of "postnaturalism", a discourse whose central premise—that human activity, and technology in various forms, has penetrated and disrupted the natural order of nature—sits in many ways comfortably alongside the arguments regarding the Anthropocene. McKibben's argument is based on the observation of material changes effected by climate change which consequently put into question the ideas historically employed to understand and interact with the natural world. Others, such as Richard W. Pell and Lauren B. Allen, have pointed to the artificialisation and genetic modification of animals and plant life as examples of activity that ushered in a postnatural age.[115] The development of technologies that fundamentally alter life, and events such as the nuclear bombing of Hiroshima and Nagasaki in 1945 that stamp a human footprint upon the natural world, are given as examples of the postnatural condition, much as they are used as markers of the proposed Anthropocene epoch. Yet, as McKibben and Steven Vogel posit, perhaps nature *disappeared a long time ago*, and postnaturalism is indeed just the human condition.[116] In this sense, Vogel's thinking about postnaturalism is not so much linked to

[114] Bill McKibben, *The End of Nature* (London: Bloomsbury, 2003), 7. In passim
[115] Richard W. Pell and Lauren B. Allen, 'Arts Lab: Bringing Postnatural History into View', *American Scientist* 103, no. 3 (2015): 224–27.
[116] Steven Vogel, *Thinking Like a Mall: Environmental Philosophy After the End of Nature* (Cambridge: MIT Press, 2015), 26.

changes in material conditions of nature as such, but puts into question the very ideas utilised to articulate the relations between humanity at large and the planet. For Vogel, the idea of nature is socially constructed, laden with history, and it is this conceptualisation that impinges upon the collective ability to construct and put into action an environmental philosophy that addresses the pressing concerns associated with climate change.[117] This approach amounts to a fundamental change in the perception and conceptualisation of artefacts from an anthropocentric point of view to one that takes them on their own terms.[118]

Shifting away from a materially and empirically-informed critical approach to ideas, to one concerned with the historic construction and deployment of concepts, allies Vogel's brand of postnaturalism with the broad feminist and posthumanist critiques of the concept of nature and the concept of the human. Such critiques, which have been touched upon in previous sections, question the way in which the concepts of nature and the human influence the theoretical and material architecture of social reality.

Writing in the 1980s, Sarah Harding's feminist critique of Western science demonstrated the androcentrism integral to its epistemological, metaphysical, ethical, and political structures, through which the construction and conferring of meaning is expressed as "sexist but also racist, classist, and cultural coercive".[119] Against the long-held view of science's secularism from social and political cultures, Harding and others noted that the subject of science—the subject in whose name scientific progress was advanced—was always the White, Western Male; a minor sub-set of the human species, but whose historical visibility and importance was extremely overrepresented.[120] Harding's argument is therefore twofold: that the apparently de-subjectivised position from which scientific knowledge is produced is inherently one occupied by the figure of the White, Western Man, and that the biases latent therein, and ideas indexed by, such a figure are inherent in the functional logic of the discursive framework of the sciences. Related critiques would demonstrate the fundamental connection between the concept of nature and the concept of man. For example, in *Simians, Cyborgs, and Women*, Donna Haraway argues that an essentialist concept of nature has been utilised as the source for essentialist ideas of sex, gender, and race by the natural sciences, according to which Humanism and the very paradigm of the human has been modelled after the White, Heterosexual Male, thereby deeming all who do not fit that paradigmatic image as somehow negated in whatever minor or major way.[121] The idea that nature is somehow given, from which ideas about our being can be extracted, is refuted by Haraway. The discipline of biology, for instance, is particularly entrenched with biological determinism,

[117] Vogel, *Thinking Like a Mall*, 36.
[118] Vogel, *Thinking Like a Mall*, 136.
[119] Harding, *The Science Question in Feminism*, 9.
[120] Isabelle Stengers, *The Invention of Modern Science* (Minneapolis: University of Minnesota Press, 2000), 10-11.
[121] Haraway, *Simians, Cyborgs, and Women*, 2-3.

where "tales about origins, about genesis, and about nature" have always been written by the patriarchal voice.[122] Inherent in this formulation is the binary separation of nature from culture, which is particularly important to the development on the field of biology around the late eighteenth and early nineteenth century in the West. The discourse built upon this purported division "structured the world as an object of knowledge in terms of the appropriation by culture of the resources of nature", meaning that that which is truly "natural" could be discovered.[123] Haraway remarks that much of the work of feminist critiques of science by Sarah Harding and Elizabeth Fee, for instance, seeks to make clear the political and social historical bases of these discourses, such as the biological racism of the pre-Second World War period. This is a fundamental point: the critique of the broader cultural conditions in which these ideas developed is required in order to construct anew ideas and ways of being for the future.

Unlike Vogel above, Haraway retains the concept of nature because "nature is made, but not entirely by humans; it is a co-construction among humans and non-humans."[124] Nature becomes, for Haraway, a means by which to construct new ideas about the human, incorporating not just nature, but technology, through fiction and science fiction too. Indeed, where Enlightenment humanism developed through the individualisation of the human defined as a rational animal which has escaped the bonds of animality itself,[125] Haraway argues for a reconfiguration of the human premised on a non-binary relation with other species and technology. Breaking free from this operational logic, it follows, requires a thorough dismantling of the very frameworks of scientific thought and knowledge production. The figure of the "cyborg" activates this reworking, whereby "a cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction."[126] It is, however, not the construction of a stable figure or subject, rather the cyborg posits the *activity of being* as constituted by relations between disparate fields of thought, both real and fictional. This particular formulation has been taken as emblematic of the discourse of *posthumanism*.

Instead of retaining the concept of the human and reformatting it, the discourse of posthumanism seeks to move beyond the human altogether in order to assert the relationality latent in the creation of subjects. Robert Pepperell makes clear that posthumanism draws heavily on cybernetics to articulate the subject as a meeting point of complex technological, cultural, political, and social relationships.[127] Following N. Katherine Hayles, this can be further stated as a move away from the human determined by its biological and semiotic confinement by the body,

[122] Haraway, *Simians, Cyborgs, and Women*, 72.
[123] Haraway, *Simians, Cyborgs, and Women*, 134.
[124] Haraway quoted in: Judith Genova, 'Tiptree and Haraway: The Reinvention of Nature', *Cultural Critique*, no. 27 (1994): 5–27, 6.
[125] Peter Wolfendale, 'THE REFORMATTING OF HOMO SAPIENS', *Angelaki* 24, no. 1 (2 January 2019), 58-60.
[126] Haraway, *Simians, Cyborgs, and Women*, 149.
[127] Robert Pepperell, *The Posthuman Condition: Consciousness Beyond The Brain.* (Bristol: Intellect, 2003), 169.

where the posthuman involves the prosthetic amalgamation of body with technology and the dismantling of identity through the incorporation of differential flows of information.[128] As such, the posthuman appears as a figure that challenges the human constituted by Western humanism as an epistemologically and ontologically closed system.

According to Rosi Braidotti, the posthuman is stated as offering the most fruitful possibility of developing critical non-anthropocentric modes of thought and cartographies of the subject that do not exclude along the lines of race/gender/class. Braidotti writes that according to the cultural logic of universal Humanism, the self was diametrically opposed to the Other, as the universal rationality of the subject is played off against difference construed as a pejorative.[129] Indeed, the human of Humanism "spells out a systematised standard of recognisability—of Sameness—by which all others can be assessed, regulated and allotted to a designated social location."[130] Thus, the challenge for posthumanism is to construct alternative conceptualisations of the subject through difference, without falling back into the Modern structure of the Other. In relation to forms of posthumanism that draw from moral philosophy on the one hand, and analytic studies of science and technology on the other, Braidotti's critical posthumanism is more affirmative in orientation towards the posthuman subject.

The variants of posthumanism[131] that conceive of the subject as a kind of complex assemblage incorporating the technological in many ways resemble the notion of Transhumanism.[132] Others, such as the critical posthumanisms advanced by Braidotti, Hayles, and Wolfe, are almost antithetical to the core principles of transhumanism, and maintain a very critical stance against this discourse. Transhumanism argues that scientific rationality can attain a perfectibility of the human through technological enhancement, which thus conceives of the body as some sort of historical accident. The most prominent proponent of this version of transhumanism is inventor Ray Kurzweil, whose theorisation of the Technological Singularity, the point at which technological growth has irrevocably and irreversibly altered reality, figures as the ultimate transhumanist realisation.[133] According to Braidotti, this form of transhumanism "proposes an analytic form of posthumanism that accepts the decentering of both *homo universalis* and *anthropos*, but then combines this insight with normative neo-humanism."[134] In

[128] N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), 3-6.
[129] Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 15.
[130] Braidotti, *The Posthuman*, 26.
[131] See: Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self* (Bloomington: Indiana University Press, 2010), 150: 'Although the bulk of posthumanist theories emphasise a techno-futurism that melds human and machine, often focusing on information systems…'
[132] The difference being that for transhumanism, the necessity is to write upon and reconfigure the human, whereas certain strains of posthumanism insist something similar as a means of overcoming or moving past the human. See: Ivan Callus and Stefan Herbrechter, 'What's Wrong With Posthumanism?', *Rhizomes*, Fall 2003, http://www.rhizomes.net/issue7/callus.htm.
[133] See: Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York: Viking, 2005).
[134] Rosi Braidotti, *Posthuman Knowledge* (Cambridge: Polity Press, 2019), 59.

other words, transhumanism re-writes the human provided by humanism, grounded on Enlightenment Reason.

As such, it is the field of critical posthumanism that presents the means by which to take, or leave behind, the figure of the Human. Indeed, where the discourses of posthumanism and transhumanism consider the new interactions between the human, technology, nature and information, Jill Did argues that critical posthumanism "questions the view that there was ever an original divide between these things in the first place."[135] As such, critical posthumanism problematises the conceptual tenets of "our relation to the world", both by critically and constructively exploring who and what the figure of "our" is, as well as what the "relation to the world" entails. The focal point of this problematic can thus be said to concern the hybrid or compositional relation between the terms of the human and nature that had hitherto been conceived as oppositional. The reason for discussing these discourses is that they present both a critical investigation of the historical and logical armature of the core concepts constitutive of "our relation to the world" as well as a recognition of the need to creatively construct new way of thinking and living this relation. By proposing novel conceptualisation of *what* the human and nature are is thus posited as a means of developing new ideas of *how* "our relation to the world" can be lived.

## Figuring the Planetary

From the Anthropocene and its various related and contested epochs, to nature and postnaturalism, the human and posthumanism, there is a palpable desire to let the *ontological lead the epistemological*. In the instance of nature and postnaturalism, defining what nature *is* is a necessary step to making it redundant, and thereby ushering in the postnatural. Both discourses seem to require a definition of nature in order to progress with a philosophy, theory, or plan of action, to safeguard and protect the environment. The same can be said of the human and posthumanism, to a certain extent. Indeed, the shared problem of both postnatural and posthuman discourses thereby appears to be the insistence of defining a *singular figure* with which to characterise the "profound mutation in our relation to the world". Approaching the problem of what this "our" is from an ontological perspective neglects the *difference* inherent in the composition of a collective noun. Rather than establish a singular figure from which "our relation to the world" can be imagined and thought, such as the human or posthuman, there is a need to compose a figure premised on difference. That is to say a figure that constantly elides a

[135] Jill Didur, 'Re-Embodying Technoscientific Fantasies: Posthumanism, Genetically Modified Foods, and the Colonization of Life', *Cultural Critique*, no. 53 (2003), 102-3.

stable definition, whose constituent relations always seek to undermine and undo stability. Where the previous sections have analysed the ways in the "our" in "our relation to the world" has been theorised in terms of the anthropos, the human, and the posthuman, this section looks at the conceptual figures in terms of which the 'we'/'our' can be composed.

The "planetary" is one such concept, around which the notion of 'we' may be formed. Gayatri Chakravorty Spivak writes about the contrast formed between the "planet" and the "globe" where the latter is an object drawn over by the networks of capitalism, dissected into fractured zones of exploitation and exchange. In particular, the globe denotes an abstract schema of lines—borders, longitude and latitude, for instance—imposed upon the materiality of the earth a system of coordination dictated by the imperatives of capital. While the planet and planetary are situated against the globe, Spivak notes that a clear contrast is not possible because the planetary "is in the species of alterity" that does not come ready made.[136] Belonging to another system, which we inhabit "on loan", the planetary foregrounds a latent alterity that "contains us as much as it flings us away".[137] Spivak writes that:

> And thus to think of it is already to transgress, for, in spite of our forays into what we metaphorise, differently, as outer and inner space, what is above and beyond our own reach is not continuous with us as it is not, indeed, specifically discontinuous.[138]

For Spivak, fundamentally, the planetary is a figure through which the quality of being human, "intended towards the other", is manifest. Alterity is the modality of experience, whereby difference is instated as a latent logic. Here, there are two important points to note: firstly, Spivak's use of the term "figure" is derived from literature, where it functions as a rhetorical device; a metaphor that requires not "rational destruction", but constant "dis-figuration".[139] Where the globe effects a reduction on thought and being through their servitude to the imperatives of capital, "Planet-thought" works otherwise, through ambiguity and undecidability to produce alterity as a mode of experience. Figures—their figuration and disfiguration—are productive of this alterity. Spivak gives the example of "mother, nation, god, nature" as "transcendental figurations" which, it can be inferred, abduct from fixed determination by global capitalism.[140] Although Spivak's definition of the figure is somewhat nebulous—which, I would speculate, is an example of the function of the figure itself—it can be understood that it works through transgression in order to assert alterity. The second point to note is that the human is divested of the Eurocentric structure discussed above, and therefore appears as something akin

[136] Gayatri Chakravorty Spivak, *Death of a Discipline* (New York: Columbia University Press, 2003), 72.
[137] Spivak, *Death of a Discipline*, 73.
[138] Spivak, *Death of a Discipline*.
[139] Spivak, *Death of a Discipline*. 71.
[140] Spivak, *Death of a Discipline*, 73. In passim.

to the human *species*. Indeed, the notion of figuration and disfiguration can be understood as a proposition to reconstruct the human by foregrounding the flight of alterity. Spivak writes that "if we imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities, alterity remains underived from us." In other words, alterity remains primary. Through constant figuration and disfiguration, Spivak contends, thought can elide the reductionism of global capital, becoming an important tool in how the relationship between the human and the earth can be thought, as well as a tool for thinking what the human can be. The planetary, therefore, is an important constructive tool for overcoming the Eurocentric logics of thought discussed above.

The planetary instates a novel epistemic mode, operating through alterity in such a way that breaks through standardised, entrenched epistemologies such as universal science.[141] Indeed, it reconfigures the notion of knowing as such because, as Jennifer Gabrys establishes, this epistemic mode is a gateway to alterity as an embodied, experienced relation. For Gabrys, by drawing on both Spivak's notion of alterity and Sylvia Wynter's idea of *being human as praxis* as the means by which the category of the human is opened up, the human-planetary relation establishes a praxis through which inhabitation is produced through provocation.[142] Gabrys proposes the "forest" as a figure of provocation. The forest is introduced a site at which the planetary praxis is possible, owing to its multi-species composition, combined with the layering of media objects that visually represent its cartographies on several registers, such as satellite imagery of deforestation, or photographic records of climate protests. Establishing differential relations between these elements forces their transfiguration because logics of control and systematic imperatives are made apparent. As such, Gabrys notes, planetary media are "a constitution and re-constellation of collective responsibility through a planetary imperative".[143]

Utilising the figure of the planetary as a methodology of difference allows praxis to be conceived as both a critical, analytic activity but also a creative flight of the imagination that reconfigures embodied experience. Moreover, and perhaps more fundamentally, it is posited as a praxis through which a collectivity, or "we", is composed as an ongoing activity. The terms with which Gabrys posits this praxis, involving the material and semiotic, the biological and technologic, are reminiscent of Haraway's hybrid figure of the cyborg. Indeed, the imprint of feminist scientific, but also de/postcolonial, methodologies is clear in the ways in which a critique of Enlightenment logics of thought is a necessary precursor to creating new conceptual figures through which "our relation to the world" can be conceived.

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[141] Gayatri Chakravorty Spivak, *Imperative zur Neuerfindung des Planeten =: Imperatives to Re-imagine the Planet*, trans. Willi Goetschel (Wien: Passagen-Verl, 1999), 74.
[142] Jennifer Gabrys, 'Becoming Planetary', *E-flux*, 2 October 2018, https://www.e-flux.com/architecture/accumulation/217051/becoming-planetary/.
[143] Gabrys, 'Becoming Planetary'.

Braidotti sets out the demands for a composition of "a new people and a new earth" which coalesces around the question of "we".[144] This is a fundamental question driving the critical posthuamnities. Identifying what such a "we" comprises launches a critique of the internal contradictions and exclusion implicit in the concept of the human. Such an activity, Braidotti remarks, seeks to make clear the "missing people" *produced* by the human. But this "missing people" is precisely that: missing, or invisible. Therefore, integral to the construction of a "we" is the mutual construction of the category of "missing people" themselves. Fundamentally, the steps by which this construction takes place mirror the actions detailed by Spivak, and fleshed out by Gabrys, in composing a planetary praxis. Indeed, Braidotti marks the critical work around breaking Eurocentric logics of production—which produced the human and nature, for instance —as an initial step required in this construction, which allows "adequate schemes of knowledge about these conditions" to be developed, enabling the establishment of "a platform of action on multiple scales in the real world".[145] This "affirmative ethics" works through epistemological critique as a ground on which conceptual figurations enable a praxis of difference, the aim of which is producing a "we" that is "immanent to, which means intrinsically connected to, the very condition we are *also* critical of."[146]

Circumscribing the site of praxis, as Gabrys does with the planetary in the forest, is a step Bruno Latour takes with the idea of the "Terrestrial". The politics of climate change can be roughly divided into two categories: one in which the planet is "fixed", primarily through large-scale geoengineering projects, or the other according to which humanity escapes the planet altogether to colonise another planet.[147] For Latour, such escapist thinking is misplaced:

> Do we continue to nourish dreams of escaping, or do we start seeking a territory that we and our children can inhabit? Either we deny the existence of the problem, or else we look for a place to land. From now on, this is what divides us all, much more than our positions on the right or the left side of the political spectrum.[148]

The desire to physically escape the confines of an increasingly-inhospitable planet is one example of a sense of detachment that characterises this "New Climatic Regime". For Latour, a fundamental detachment between ideas, actions, and the sense of consequence to the planet characteristic of many political actors, such as Donald Trump, evidences a sense of "*out-of-this-*

[144] Braidotti, *Posthuman Knowledge*, 159. In passim.
[145] Braidotti, *Posthuman Knowledge*, 161.
[146] Braidotti, *Posthuman Knowledge*, 157.
[147] The mission statement of Space-X, the "human space flight" programme backed by billionaire Elon Musk, is "The Road to Making Humanity Multiplanetary". While not explicitly motivated by the threat of catastrophic climate change, there is no doubt that the precocity of the future weighs heavily on the desire to leave planet earth. See: 'Space-X: Human Spaceflight', accessed 14 April 2023, https://www.spacex.com/human-spaceflight/mars/.
[148] Bruno Latour, *Down to Earth: Politics in the New Climatic Regime* (Cambridge: Polity Press, 2018), 5.

*world*".[149] Whilst this is particularly evident in relation to a brand of right-wing climate change denialism, Latour suggests that it is a broader attitude affecting humans' inhabitation of the earth. Alienation, and a detachment from the notion that the consequences of actions and ideas are indeed *grounded in the planet itself*, is a result of the prevailing attitude of the Moderns. For Latour, the Moderns is typified by a separation of the Global and Local, whereby the promises of the former—prosperity—were founded on the destruction of the archaic traditions and parochialisms of the latter. By setting the Global against the Local, a sense of alienation and detachment from the planet grew. He writes that "the whole paradox of modernisation is that it has lost sight … of any contact with the down-to-earth, with materiality.,"[150] It is, in this sense, a view from nowhere. This is, for Latour, the prevailing attitude currently stifling the possibility of any kind of meaningful action against climate change.

Turning against the "out-of-this-world" thinking of the Moderns, Latour proposes the "Terrestrial" as a figure that can redirect the "profound mutation in our relation to the world" back into the planet. Circumscribing the Terrestrial to the critical zone spanning a few kilometres from the atmosphere to the bedrock, Latour posits boundaries to a zone in which the focus can be turned toward the incalculable interrelations that comprise life on earth. "For the Terrestrial," writes Latour, "is bound to the earth and to land, but it is also *a way of worlding*, in that it aligns with no borders, transcends all identities."[151] Eschewing the Global and Local, the Terrestrial designates a mode of attention and relation inclined toward a *sense of place* that specifically operates contra to the detachment and attraction *away* from the planet that typifies the Moderns. Taking inspiration from the Gaia theory of James Lovelock, Latour's theorisation of the Terrestrial is premised on an ontology of relations, according to which agency is a property of all things that, in their own way, operate to form worlds.[152] This is to say that they are not the isolated objects of subject/object dualism, but are conceptually re-animated as entities in relation imbued with agency of their own. The reason this ontological assertion is fundamental is that, for Latour, the theorisation of objects as ontologically isolated is part of a *cosmological* problem of the Moderns, in which the concepts of "nature", "human world", and "society" have come to function in a manner that amplifies and exacerbates such isolationist tendencies. In such a sense, they are vectors of detachment that have in some ways created by, in other ways been coerced into being representative of, the "out-of-this-world". The Terrestrial, therefore, is "literally drawing another world" by defining the parameters and the focal points required to bring thought, knowledge, activity, concern and, fundamental, politics back down to earth.[153] As such,

[149] Latour, *Down to Earth*, 35.
[150] Latour, *Facing Gaia*, 200.
[151] Latour, *Down to Earth*, 54. Emphasis in original.
[152] Latour, *Down to Earth,* 76-77.
[153] Latour, *Down to Earth,* 80.

Latour's proposal necessitates a revaluation of the ontological premise (distributed agency) in order to build a new common world. What this particular example demonstrates, and what the previous sections have attempted to show, is that there is a fundamental relation between ontology, figuration, and "our relation to the world". Proposing a new or altered conceptualisation of "our relation to the world" requires a thorough critique of the presuppositions and ontological premises of various figurations such as the human and nature, for example, through which the relation is conceived. The conditions, logic, and historical machinations are thus fundamental aspects requiring investigation.

## Abstraction, Experience, Speculation

At some point during the late sixteenth to early seventeenth century, a shift in the cosmology of the West occurred. Nature, according to Philippe Descola, "ceased to be a unifying arrangement of things, however disparate, and became a domain of objects that were subject to autonomous laws that formed a background against which the arbitrariness of human activities could exert its many-faceted fascination."[154] Out of this point grew a philosophical framework that undergird the natural sciences and which, ultimately, would become the metaphysics of the West and the Moderns. Continuing, Descola writes of the lingering effects of this cosmological shift, that the Moderns "were masking their own ethnocentricity behind a rational approach to knowledge, the errors of which at that time escaped notice." This shift feeds into the general metaphysical revolution associated with the Enlightenment that many have identified as a root cause of sorts for the conceptualisation of the planet that has led to catastrophic climate change.[155] The separation of qualities from substance, and subjects from objects, so fundamental to this metaphysical revolution, leads to a theorisation of nature as distinct and separate from culture. Descola's argument in *Beyond Nature and Culture* is that this apparently-universalised dualist logic is foundational to the European-centric worldview that became the implicit basis for the field of anthropology. Descola argues that these effects continue to linger in the twenty-first century.

Echoing this analysis, Bruno Latour questions the ontological presuppositions of the Moderns, particularly that which underpins and structures the Moderns' meeting of the "other" that occurred with the colonial expansion of Europe. That is, the ontology that led Europeans to classify and categorise the people they encountered and who, ultimately, they would regard as less-than-human and therefore exploitable as slave labour. Latour is not questioning the existence of this problem, rather setting out the terms of the problem in order to explicate how

[154] Philippe Descola, *Beyond Nature and Culture*, trans. Janet Lloyd (Chicago: The University of Chicago Press, 2013), xv. In passim.
[155] As has been noted throughout this chapter.

the fields of anthropology and philosophy have taken different approaches to contend and overcome the existence of this problem in their respective discourses.[156] For Latour, ontology is not simply a question of *what* things are, but of their *agency*. That is to say, the ontology of the Moderns, premised on the separation of qualities from substance, conceives of agency in very strict terms—the terms of subject and object. Anthropology has, according to Latour, managed to "bracket out" the question of ontology so that their field is not plagued by the premises of the Moderns, allowing its practitioners a certain kind of freedom to encounter and experience ontologies of a different kind which, in turn, shines a greater critical light on the universalised ontologies of the Moderns. It took Western philosophy, on the other hand, longer to come to terms with the pernicious effects of these Enlightenment ontologies. Citing the work of Descola, Haraway, and those associated with "object-orientated ontology", Latour remarks that the ontological and, indeed, metaphysical, underpinnings of the Moderns are being sufficiently challenged.

Latour's own focus on the question of ontology, emphasising the role of agency, is an attempt to overcome the fundamental classificatory urge to state *what* something is, instead noting the agency and relations that come to characterise something's *existence*. In this sense, analysis is required on the still-powerful influence of the *method of abstraction* that typifies the Moderns, which continues to affect the ways in which *existence in general* is conceived, categorised, and classified. That is to say, much like the maligned separation of qualities and substance, the ways in which abstraction functions are not isolated to their particular concepts or fields—in the case of Newtonian physics, for example—but, rather, are part of the broader metaphysical premise of knowledge production of the West. Latour's attempt to address such an all-encompassing problem in terms of agency, in *An Inquiry Into Modes of Existence* most prominently, revalues the way in which nonhuman entities are conceptualised, thereby positing a means by which the relation with the planet can be revitalised. Such revitalisation is possible, it follows, because of the collapsed distance between human and nonhuman entities that typifies the Moderns' relation with the planet.

Focussing on the principle of agency as a means of establishing a sense of symmetry between human and nonhuman entities, as per Latour's Actor-Network Theory (ANT), has been criticised for its reductive approach. One reason for this is that by reducing everything to the principle of agency, the notion of experience and *how* things are experienced is effectively neglected or severely diminished. Estrid Sørensen, Professor of Cultural Psychology and Anthropology of Knowledge, writes that the experience of things is as an assemblage, not

[156] Bruno Latour, 'Another Way to Compose the Common World', *HAU: Journal of Ethnographic Theory* 4, no. 1 (1 June 2014): 301–7.

isolated things exerting their agency, meaning that the term "agency" and the resultant conceptualisation it elicits lack the power to truly enhance the qualitative dimensions of experience and, therefore, our relation with the planet.[157] This aspect of Latour's work is peculiar as he continues to draw on the work of Alfred North Whitehead to flesh out the theoretical and conceptual framework for revaluing the ways in which existence, and therefore "our relation to the world", is thought and put into action.[158] Indeed, this is precisely the point of Whitehead's diagnosis of the bifurcation of nature, to which Latour returns time and time again to critique the mode of abstraction fundamental to the Moderns. It is the primary claim of this thesis that experience, in all its richness and ambiguity, is to be reinstated as the foundation of knowledge production in order to address and overcome the problematic alienation Latour states characterises "our relation to the world".

Such alienation is the by-product of a mode of abstraction that negates experience in favour of objective knowledge and the conceptual constellations that are constructed around such objectivity. Turning to experience is a turn to both empiricism and to speculation. It is also to state that life begins and ends with experience, but that experience can be fundamentally changed by the concepts used to categorise, classify, and condition experience. As such, the interrelation between experience, the natural and social sciences, as well as the humanities, that produce knowledge about existence in general is the context and site of an investigation into the the *praxis of being human*, to paraphrase Sylvia Wynter. Experience, here, can be defined in a Fanonian sense as *lived experience*, which is to say the affective, psychosomatic dimensions of sociocultural orders—their infrastructures and superstructures—that determine to varying extents the activity of being human.[159] It is through a reflection on experience and its conditions that a "vocabulary of existence" is formed.[160] Turning to the human is not to attempt to reinstate the biases and logics of division that, as discussed above, are said to be baked into the concept of the human. Rather, it is to refocus on the ways in which the *relations* to a diverse set of practices, histories, and narratives, constitute the activity of *being human* critically and constructively. Discussing the work of Sylvia Wynter in particular, Katherine McKittrick et al characterise this site of enquiry as "science of the word", stating that "she argues that we are, as a human species, bios-mythois: the word (*mythoi*) conditions the study of nature (*bios*); mythoi and bios are enmeshed and,

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[157] Estrid Sørensen, 'Human Presence: Towards a Posthumanist Approach to Experience', *Subjectivity* 6, no. 1 (1 April 2013), 117.
[158] See: Bruno Latour, 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern', *Critical Inquiry* 30, no. 2 (1 January 2004): 225–48.
[159] Fanon describes the dimensions of experience in an antiblack world in the chapter titled "The Lived Experience of the Black Man" in Frantz Fanon, *Black Skin, White Masks* (New York: Grove Press, 2008). See: Lewis R. Gordon, *What Fanon Said: A Philosophical Introduction to His Life and Thought* (New York: Fordham University Press, 2015).
[160] Sylvia Wynter, 'Black Metamorphosis: New Natives in a New World' (Unpublished manuscript, n.d.), 18 cited in Aaron Kamugisha, 'The Black Experience of New World Coloniality', *Small Axe*: A Caribbean Journal of Criticism 20, no. 1 (49) (1 March 2016), 133.

together, posit the human as a biological-storytelling species."[161] In this sense, what McKittrick dubs the "science of the word" is the investigation into the conceptualisation and understanding of experience from an interdisciplinary perspective that does not privilege or discount the methodologies and intellectual histories of science in general, nor the poetics and narratives of storytelling. Experience, thus, is both empirically-grounded and speculatively re-conceived, and investigated interdisciplinarily in a way that is not disconnected from the natural and social sciences that have, historically, built the methodologies and frameworks of knowledge with which existence in all its forms and armatures is understood. "Coupling "science" with "word" constructs", writes McKittrick, a "methodology that insists we think across disciplines rather than rely on disconnected tracts of knowledge production."[162] Furthermore, "Wynter asks that we recognise the ways in which narrative is scientific (to enunciate stories is a physiological practice) and science is narrated (evolution is a socially produced origin story) while illustrating the potentiality of thinking and theorising relationally." These are the demands not just for thinking who and what we are, but they are terms in which the broader relations between things —nonhumans and the planet—are conceived. That is to say, this approach is fundamental for investigating "our relation to the world" and challenging the alienation that current characterises this relation.

## Chapter Conclusion

The purpose of this chapter was to detail the varying approaches to conceptualising "our relation to the world", both in terms of characterising the overarching relation, and what constitutes the "our" and "world" that are in relation. The goal was to identify the fundamental problems faced by contemporary approaches to this relation. The overarching aim was, therefore, to pinpoint where such approaches fell down somewhat as a basis for developing a different approach throughout the rest of this thesis. Through a review of recent literature on the subject, it was argued that the proliferation of new concepts that articulate such a relation—such as the various *-ocences*—, as well as the individual conceptual actors that enact that relation —the postnatural and posthuman, for example—demonstrate the requirement for a novel approach not just to comprehend the current condition of "our world" but to construct a better, necessary "new world(s)". What is required, however, is a critique of the frameworks and methods of knowledge production that have produced this situation. It is argued that a turn to the notion of experience as the foundation and goal of knowledge production—in other words,

[161] Katherine McKittrick, Frances H. O'Shaughnessy, and Kendall Witaszek, 'Rhythm, or On Sylvia Wynter's Science of the Word', *American Quarterly* 70, no. 4 (2018), 867.
[162] McKittrick et al, 'Rhythm, or On Sylvia Wynter's Science of the Word', 868. In passim.

the base of knowledge production and what it should be in service of—is required to overcome the sense of detachment and alienation from the planet that we, collectively, inhabit.

Section One covered the root of this problematic and historical approaches to conceptualising and engendering action to overcome it. This was focussed on the second wave of environmentalism in the 1960s and 1970s in the USA in particular, from which much broader contestations about how nature was conceived had broader ramifications in terms of the notions of purity and essentialism with which the concept of the human was conceived, particularly in terms of biases latent within ideas of gender, sex, and race, for instance. Stemming from this were attempts to philosophically justify the inherent value of nature, which was explored in Section Two. Indeed, the concept of nature is held by many—Morton and Vogel in particular—as a philosophical blockage to conceiving of a relation with the planet that collapses the alienation that has historically accumulated. Section Three covered the problems associated with the relation between nature and the human from the point of view of the humanities discourses, focussing on their attempts to overcome such biases and inequalities. The discourses of posthumanism and postnaturalism in particular demonstrate the need for a critique of the historic conditions and origins of modes of thought that created such biases, and the construction of concepts to overcome such issues.

Section Four investigated the notions of 'we' and 'us' with which "our relation to the world" is thought. In particular, it looked at the critical dimensions with which the construction of a 'we' would have to contend, and the role such a conceptual figure would play in such a construction. As with the previous sections of this chapter, there is a sense of a kind of *conceptual exhaustion* with current modes of thought and ways with which the planet, being, and existence are conceived. In the final section of this chapter, Section Five, the terms with which to develop a methodology to break through such conceptual exhaustion were laid out. Of fundamental importance was the interrelation of scientific knowledge and storytelling, and how they have historically come together to create narratives about being. It was claimed that although certain attempts have been made to address this dynamic, by Latour for example, there is a flattening that does not communicate the stakes well enough. That is why, in that final section, it was argued that the notion of experience should be considered the basis for knowledge production, as well as the aim of knowledge production. That is, the aim of knowledge production should be to enrich experience which, ultimately, means to develops ways in which "our relation to the world" can be improved.

Ultimately, this chapter set out the terms for the overall thesis and, specifically, the areas that require addressing. The following chapter focusses on the methods of knowledge production whereby the natural sciences have narrativised nature, the human, and the relations that

constitute being. These are the historical issues that I argue have created the contemporary conditions in which, as discussed in the present chapter, a conceptual exhaustion has occurred. It will be argued in the following chapter that creation of "objectivity"—a notion fundamental to scientific knowledge—effectively removes experience as the premise of knowledge production. This problem, I argue, is a fundamental reason for the alienation in "our relation to the world" precisely the conceptual tenets of scientific knowledge are inadequate for addressing the way ways in which this relation is *lived*. The relation between experience and abstraction, and the ways in which they are *lived*, will be addressed in Chapter Three and Four of this thesis.

# Chapter Two: A New Human in a New Land

> European discourse, both scholarly and popular, often has a way of classifying and imagining distant worlds, that was often based on modes of fantasying. By presenting facts, often invented, as real, certain, and exact, it evaded what it claimed to capture and maintained a relationship to other worlds that was fundamentally imaginary, even as it sought to develop forms of knowledge aimed at representing them objectively. The essential qualities of the imaginary relationship remain to be elucidated, but the procedures that enabled the work of fantasy to take shape, as well as the violence that resulted from it, are now sufficiently well known.[163]
>
> **Achille Mbembe**, *Critique of Black Reason*

In 1434 the Portuguese mariner Gil Eanes rounded Cape Bojador, a much feared stretch of ocean off the northwestern coast of the Western Sahara, following a failed attempt the year prior. According to the reigning medieval Latin-Christian cartography, Cape Bojador marked the boundary point of *habitability*; the limit of God's Grace, emanating from Jerusalem, jutting against the cliffs of the African continent, demarcating the Torrid Zone. The so-called "Sea of Darkness" delineated the southernmost point that mariners would sail, after which certain death by sea monsters and other treachery lurked. Many vessels had found their demise in the violent waters but Eanes, operating on orders from a fellow Portuguese mariner Prince Henry the Navigator, and with a reputation as a navigator without parallel, persevered after one failed attempt. Turning to the open ocean instead of towards land, leaving the cape quickly in his wake, Eanes was confronted with something fundamentally unexpected in the desolate but hospitable climate of Senegal. What was expected? The cumulative experience of mariners who had previously failed in their attempts to round Cape Bojador seemed to *confirm* the Christian mapping of the world. Cliffs built of ominous red sand with no sign of life beyond seemed to indicate the very end of the world.[164] This was an uninhabitable zone, and why would Eanes expect his experience to be an *exception* to the rule? Eanes' progressive navigation past this treacherous point would quite literally open up the physical world for Europe. The dichotomy of habitability, and thereby the presupposed Truth of Christian cartography, were put into question.

Prince Henry the Navigator's deployment of Eanes was not driven by the pragmatic imperative of opening up a route around west Africa toward India, rather it was the lure of the *unknown* that drove him and his hired mariners. For Henry, however, the *unknown* was only a temporary state of affairs; a darkness that cloaked a world and peoples that could *rationally* be

[163] Achille Mbembe, *Critique of Black Reason*, trans. Laurent Dubois (Durham: Duke University Press, 2017), 12.
[164] Daniel J. Boorstin, *The Discoverers: A History of Man's Search to Know His World and Himself* (New York: Penguin Books, 1986). 157; 166.

hypothesised to be similar to those of Europe despite the assertion of a physical and spiritual hell offered by medieval Latin-Christian cartography.[165] Successive voyages along the African coast subsequently proved this rational assumption to be correct. But this desire to *know the unknown* was only the tip of the spear, for the devalued Portuguese currency and the lure of mythical riches gave a financial impetus to the voyages, which quickly conceptualised these newly-known lands as a resource to be plundered. In 1441, the Portuguese captured two nobles from Senegal, who were dutifully handed back once a ransom of gold was paid. The idea of enslavement and its potential profitability took hold. Germinal trades were held in 1444 between the Portuguese and Spanish, centred on settling the hitherto 'undiscovered' islands, such as Madeira and the Azores, which required substantial transformation to make them habitable.[166] The African continent, then, was not just becoming knowable but also becoming a burgeoning resource to be exploited for the gains of the Portuguese kingdom. Boorstin remarks that with Henry, the "barrier of groundless fear had been breached in what became the first continuous organised enterprise into the unknown."[167] This was the foundation for Christopher Columbus' voyage of 1492, when the thirst to know would be quenched on a tremendous scale and in a very particular manner.

Crystallising around the advent of the European colonial project is a series of profound changes to the production of Western knowledge that would further evolve throughout the seventeenth, eighteenth, and nineteenth centuries. This chapter argues that the 'colonial encounter' firmly instantiated a mode of abstraction that would undergird the methodological production of knowledge in Europe from the seventeenth century onwards, and which would enact a profound metamorphosis on "our relation to the world". This mode of abstraction is one according to which the abstract is given incredible power over and above the physical, thereby shifting what is deemed to be actual. The consequence of this mode of abstraction and manner of constructing reality is the eradication of experience as the basis of knowledge production which, this thesis argues, mutates "our relation with the world", creating a profound alienation. As such, the "colonial encounter" initiates a transformation in the *structural relations* between cosmologies, objects of knowledge and the centrality of experience to the methodological production of such knowledge with which Europe reconstructed its reality through its own colonial expansion. The focus of this argument is the power of cosmological ideas to determine physical things, whether this is people, the world or various other things, which in turn feedback to the cosmological. The core argument of this chapter is that through the determination of physical things by cosmological ideas, *the abstract is posited as more actual than*

[165] Boorstin, *The Discoverers*, 165.
[166] Robin Blackburn, *The Making of New World Slavery: From the Baroque to the Modern, 1492-1800* (London: Verso, 2010). 101-2.
[167] Boorstin, *The Discoverers,* 168.

*the empirical*. As this recursive relationship is cultivated, I argue that the bifurcation of the actual is enshrined in knowledge production *methodologically*. It is with this methodology that the concepts of nature and the human are *reduced* according imperatives of the natural sciences, which simultaneously *overrepresent* these concepts as objectively-determined facts. As such, this chapter is an analysis of the colonial determination of the methods of knowledge production, focussing on the relation between the dominant cosmologies of Western thought and the concepts of nature and the human through which "our relation to the world" is constructed. Through this analysis, the key methodological issues for historical European knowledge production are made explicit, which sets the foundations for the following chapter to provide a means of overcoming these problems of knowledge production.

The first section of this chapter concerns the 'colonial encounter', which states the way in which the *experience* of the Western subject is reconstructed as knowledge by, firstly, the tenets of Christian cosmology then, secondly, in terms of the newly-constructed cosmology of Western science. Yet, this reconstruction is not just the epistemic point of view of the Western knower, but the physical and discursive reconstruction of nature and the human in accordance with the axioms, methods, and logics of these changing cosmologies. Here, a paradox appears in the simultaneous manoeuvre of *affirming* the Western knower as the premise of Universal Truth whilst also *negating* the very same experience of the encounter with the world by constructing the notion of an objective point of view. Creating the objective point of view becomes a means of enshrining as universal knowledge Western ideals, knowledge and, fundamentally, experience. This section, therefore, establishes the terms of the problematic and its broad context.

Section Two presents a critique of the method of knowledge production established in the first section. This is analysed in terms of the forms of logic and Reason implicit in the methodical interaction with the abstract and physical things in terms of the negation of experience. To fully explicate this point, I turn to Alfred North Whitehead's notion of the "bifurcation of nature" that concerns explicitly the refusal of experience as the basis of the construction of nature by Western scientific knowledge. This centres around the function of abstraction, allowing us to describe the way in which the over-determination of both ideas and physical things proceeds. Although Whitehead is from the very heart of the canon of Western knowledge, the problematic function of scientific abstraction diagnosed is the same issue and has similar consequences to the diagnosis made by the decolonial critique led by Sylvia Wynter and Walter Mignolo, to name but two. Indeed, the historical context and scale of the problem have different points of emphasis for each thinker which, when assimilated, lead to a unique analysis that, I argue, is very productive.[168] The aim of this section is to establish the

[168] Dipesh Chakrabarty addresses this point in *Provincializing Europe*: 'European thought is at once both indispensable and inadequate in helping us to think through the experiences of political modernity in non-Western nations, and provincializing

consequences for knowledge production when experience is removed as the premise, as well as identify the key elements of the methodology that keep experience removed. This allows me to posit the way in which the concept of nature and the human are reduced, and develop a methodology that foregrounds experience in the process of knowledge production, which will be pursued in the chapter following the present one. This is a critical step in cultivating a propositional method with which to critique existing ideas and frameworks of knowledge, and to reengineer and construct concepts.

## Part One: The Colonial Encounter

On 12 October 1492, Christopher Columbus made landfall on the island of Guanahani within the Lucayan Archipelago of the West Indies in the Atlantic. Later renamed San Salvador after Christ the Saviour, it is now a part of the broader district known as the Bahamas. Columbus landing on the shores of Guanahani in 1492 marked an epochal shift in the Western conception of the World. As the advent of the colonial expansion of Europe, it launched a project with which the conception of the world cultivated by the West would also act as self-legislating blueprint for how the world should be *remade* in accordance with its ideals and imperatives. Enacted through mass enslavement and vast geomorphological alterations of natural environments, crystallising in the plantation system instated on the Caribbean Islands, European colonialism would likewise remake the forms, methods and objects of knowledge according to its own universalism.

The following sections chart the secularisation of the dominant medieval Latin-Christian framework of Western knowledge that occurred around and through the colonial expansion of Europe. Of particular focus are the ways in which these cosmological changes determined how the Western experience understood and transmuted into knowledge the things and people encountered from 1492 onwards, and how these encounters altered the cosmologies of Western thought. I demonstrate the way in which this process operated recursively through the concepts of nature and the human. The particular epistemic machinations that worked *through* these concepts, substantially altering them in the process, are eventually concretised in the scientific methodologies that would become so fundamental to the construction of Western civilisation *as a project* from the sixteenth century onwards. Drawing on the work of Walter Mignolo and Sylvia Wynter, the purpose of these sections is to demonstrate the fundamental role *experience* plays in the *reconstruction* of the concepts of nature and the human, particularly the way in which the

Europe becomes the task of exploring how this thought—which is now everybody's heritage and which affect us all—may be renewed from and for the margins'. See: Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2000), 16.

refusal *of experience as the premise of knowledge production reduces the concepts of nature and the human*. Analysing how this process becomes enshrined as scientific methodology is the subject for the latter half of this chapter.

1492 is a moment of immense historic import: the crystallisation of processes dubbed the formation of the "New World". Built on Eanes' voyage around Cape Bojador, and prototyped in Madeira, 1492 marks the inception point of a conception of the world created by Western ideals that actively suppressed and destroyed the world as it was: a world created in the image of Europe. Walter Mignolo refers to this moment as the "Big-Bang" of human history; when the nascent colonial expansion of Europe encountered a world that it would cultivate according to a framework of discursive knowledge premised on the classification of non-European, non-White people as less-than-human, which it would instate both discursively and physically. Such knowledge, derived from the existing medieval Latin-Christian cosmology, would act as a blueprint for the destruction of those lands and people encountered. Knowledge, here, is grounded on the figure of the Western *knower* whose gaze and understanding of things generates knowledge. The "Big Bang" of the "New World" is, therefore, fundamentally premised on the Western subject encountering what was *hitherto unknown* as that which would *ultimately be known through their gaze and pre-existing categories of understanding*. Mignolo characterises this encounter as the creation of the "*epistemic privilege of the First World*; that is, *privilege of inventing the classification and being part of it*."[169] The colonial encounter brings the weight of Western knowledge on those lands and people that would be incorporated into such a framework of knowledge in fundamentally loose, general or very abstract ways, such as the theological determination of Spirit/Flesh. Combined with the imperatives of state expansion and enrichment of wealth, Mignolo argues that the "knowing subject maps the world and its problems, classifies people and projects into what is good for them."[170] Suggested, here, is that the vast geomorphological projects and mass enslavement through which the colonial expansion of Europe took place created similarly fundamental transformations to the epistemic frameworks of the West according to the same imperatives. In other words, the production of knowledge was instrumentalised in the same manner as the physical lands and people of the "New World", all through the Western subject; a subject whose very situatedness would eventually be removed by the creation of the objective point of view.

Through the notion of "knowledge-making", Mignolo establishes a framework for analysing the relations through which knowledge is generated by, and through, the colonial matrix of power. This de-colonial approach aims to make explicit the bio- and geo-political dimensions of

[169] Walter D. Mignolo, 'Epistemic Disobedience, Independent Thought and Decolonial Freedom', *Theory, Culture & Society* 26, no. 7–8 (1 December 2009), 8. Emphasis in original.
[170] Mignolo, 'Epistemic Disobedience, Independent Thought and Decolonial Freedom', 2.

knowledge-making as a means to delink Western epistemologies from the position of apparent objectivity the Western subject would come to occupy from the seventeenth century onwards. The focus is to make clear the spatial and cartographic anchor points at which the enunciator of that knowledge is identified, and the conceptualisation of bodies by that enunciator in relation to the enunciator's own identity.[171] This approach protests the notion of objectivity within the historical context of colonialism, and seeks to affirm experience as the premise of epistemology, a notion against the bracketing of the epistemological as residing solely in the mind. In order to demonstrate what is at stake with this approach, Mignolo explicates the notion of *situation* in relation to Foucault's definition of bio-politics. For Foucault, bio-politics refers to state technologies of population control that gave rise to the modern nation state. Breaking with this definition, Mignolo offers the idea of body-politics as a tool of de-colonial practice that fundamentally re-situates the body in the epistemological transformations of Europe. Within the colonial context, body-politics concentrates on the figure of the human defined through a racial distinction between the white bodies that represented the ideal of human and Black bodies judged to be less-than-human. Indeed, thus "body-politics is the darker side and the missing half of bio-politics: body-politics describes de-colonial technologies enacted by bodies who realised that they were considered less human at the moment they realised that the very act of describing them as less human was a radical un-human consideration. Thus, the lack of humanity is placed in imperial actors, institutions and knowledges that had the arrogance of deciding that certain people they did not like were less human."[172] What this points to, then, is the figure of the human as an axis of determination for Western cosmology through the colonial expansion of Europe as *an encounter*.

Mignolo provide a characterisation of the dimensions of the colonial encounter from which knowledge is produced. These are the spatial and temporal dimensions of experience according to which preexisting categories of understanding are employed to retroactively classify and quantify *that* experience as the constitutive process of knowledge. Over the following sections, the notion of encounter will be used to analyse the secularisation of medieval Latin-Christian cosmology through the concepts of nature and the human, charting their recursive transformation. These transformations, it will be shown, act through the negation of experience which, in turn, reduces lands and people through their over-determination by abstractions. This process, I argue, is enshrined in, and validated by, the methods of scientific knowledge production, the analysis of which will be made in the second half of this chapter.

[171] Mignolo, 'Epistemic Disobedience, Independent Thought and Decolonial Freedom', 2-6.
[172] Mignolo, 'Epistemic Disobedience, Independent Thought and Decolonial Freedom', 16.

## Theological Knowledge-Making

On 2 August 1492, Columbus departed from Palos de la Frontera near the mouth of the Río Tinto, sailing southwards to the Canary Islands before turning due westwards. Based on his reading of Marco Polo's works, Columbus believed Cipangu (Japan) to be on the same latitude as the Canaries, and that the trade winds blowing to the east would carry them speedily to their destination.[173] The architecture of this decision, which led to the encounter of Guanahani on 12 October 1492, is an exemplary function of cosmological ideas operating at different scales and in different contexts, such as the global and local. Utilising the notion of the encounter, the following section analyses the recursive relationship between cosmological ideas and their determinations at different scales. The purpose of this section is to detail the core encounters that ultimately led to the secularisation of medieval Latin-Christian cosmology enacted through the concepts of nature and the human.

There are two significant miscalculations that led to the encounter with Guanahani: Cipangu occupying that same latitude as the Canary Islands, and the estimated distance of the voyage. The root cause of both issues is the cartographic conception of the world by Roman mathematician, astronomer, and geographer, Claudius Ptolemy (100-170 AD). In the hugely influential *The Geography*, Ptolemy, the so-called father of modern geography, developed a cartographic system based upon the division of the spherical and circular shape of the globe by 360 degrees. The resulting grid system—an improvement of the work of Hipparchus—allowed for the location of any place or thing to be articulated in terms of coordinates as the point of intersection between longitude and latitude. It was perhaps the most fundamental step in the development of geography as a discipline, defined by Ptolemy as concerned with showing "the known habitable earth as a unit in itself, how it is situated and what is its nature; and it deals with those features likely to be mentioned in a general description of the earth, such as the larger towns and the great cities, the mountain ranges and the principal rivers."[174] Ptolemy's conception of the earth in terms of pure mathematics was itself premised upon two rejections. Firstly, the rejection of the Homeric notion of the earth as a flat circle surrounded by the river Oceanus and, secondly, the rejection of Socrates' conception of the earth as a sphere in Plato's *Phaedo*, in which it is stated that "the true earth, if one views it from above, is said to look like those twelve-piece leather balls, variegated, a patchwork of colours."[175] Working with the information gathered by the expeditions of the Roman and Persian Empires, Ptolemy was able to produce a map of the earth based on the facts of the known world. Setting these facts within the grid

[173] Boorstin, *The Discoverers*, 232.
[174] Ptolemy, *The Geography*, trans. Edward Luther Stevenson (Dover: Constable, 1991), 25.
[175] Plato, *Phaedo*, trans. David Gallop (Oxford: Oxford University Press, 2009), 110b.

system of coordinates allowed for the relation between landmasses to be articulated in a common language. It did not, however, aid in establishing the veracity of observations about the overall makeup of these landmasses. Their drawing within the grid system was largely conjectural. Indeed, Ptolemy's calculation of the earth's circumference at a mere 18,000 miles—a revision of Eratosthenes' estimates—and gross overestimation of the size of the Asian continent effectively condensed the known world and shortened the distance between its landmasses. Columbus drew up the voyage of 1492 according to the Ptolemic cartography still in use at that time,[176] and thereby calculated the distance to Cipangu as significantly less than the reality. These miscalculations would force significant alterations to the Ptolemic map of the earth drawn according to what is known/unknown.

Ptolemy's original cartographic system appears to postulate the globe as theoretically knowable in an absolute sense, ascribing to those sectors currently known a numerical referent of a location, whilst at the same time utilising that numerical system to designate a location that *will be known*. In other words, the system of coordinates instates a master code of known/unknown, but characterises the unknown as a temporary state of affairs. There is, therefore, an imperative to know implicit in this code. Yet, this master code takes on a fundamentally different character when transmuted according to the central tenets of medieval Latin-Christian cosmology, with which *knowability* is predicated on the divine. The theological is instated as the fundamental determinate of knowing and of the order of knowledge.

The importance of Ptolemy's cartography is that it provided a logical basis for mapping and understanding the earth, which could be easily assimilated by the central code of medieval Latin-Christianity by which the cosmos at large was ordered. This is the logic of knowability. The notion of order central to medieval Latin-Christian theology is derived from the fundamental separation of the idea of God from the physical things of the terrestrial realm. Throughout the medieval and Renaissance periods, the omnipresence of God purged from material things was the so-called "divine predicate" of order and the material world. As Funkenstein notes, so precious was this form of order that any ideas which too literally suggested God's presence in the world were met with intense suspicion: "so much was this true that not only physical predicates, but also general-abstract predicates such as goodness, truth, power, and even existence were at times considered an illicit mode of speech when predicated of God and his creation univocally."[177] Through the purging of God from the terrestrial realm to ensure the sanctity of the divine, an order of heterogeneity is produced. Not, however, that this was new. Indeed, the classical Greek idea of order is premised on the ontological difference between the

[176] Boorstin, *The Discoverers,* 99.
[177] Amos Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1986), 25.

celestial realm of perfection (the realm of true knowledge) and the imperfect realm of the terrestrial (the realm of *doxa*, of mere opinion), as laid out in Plato's *Timaeus*. Heterogeneity is thus the logic of order not just in terms of being, but also in terms of knowledge because the empirical things of the terrestrial world are only understood through the heterogeneous relation to imperfection. That is, the subjective understanding of the world is structured through the lens of imperfection in relation to the Ideal, which is a perfection unobtainable in the terrestrial realm.

Christianity of the Middle Ages and Renaissance period transmutes this classical Greek idea of order in accordance with its own values to produce a master code by which the physical realm is understood. An over-arching order of the cosmos creates the means by which entities at different scales and in different contexts can be codified in line with certain ideals and axioms. For Christianity of the Middle Ages, the separation of the celestial realm of perfection from the imperfect terrestrial realm produces a code with which the cosmos is ordered. Heterogeneity is the central principle, laying the foundations for a further ordering according to the division of Spirit/Flesh inscribed by the Adamic Original Sin, mapped onto the Ideal/imperfect distinction described by Ptolemy's cartography. "Redeemed Spirit" and "Fallen Flesh" represent the polarity of spirituality as ordained by God. Sylvia Wynter demonstrates the way in which projecting this newly-constructed master code onto the physical cosmos itself created a means by which its constituent lands and people could be judged by degrees according to the notion of spiritual perfection granted by God's Grace.[178] This represents a further division: the Spirit/Flesh distinction of the cosmos itself is then re-applied to the earth and its inhabitants. Wynter's analysis shows clearly how cosmological ideas are activated as determinations of the physical realm. As noted at the beginning of this chapter, the ordering principle of Grace was instated in the geographic delineation of habitable/uninhabitable zones, radiating out from its providential physical and spiritual centre of Jerusalem. Here, the habitable/uninhabitable distinction is not just a geographic coding, but an ontological division according to the principle of nonhomogeneity of substance. Cosmological ordering determines all scales of being; from nature, earth to the human.

Ordering the cosmos according to the Spirit/Flesh binary produced a means of symbolic codification by which all things could be classified. The cartography of the Earth, for example, represents the lands of Fallen Flesh as "the space of Otherness", determined as such because they fall outside the scope of God's Grace emanating from Jerusalem. Grace casts over a confined area, delineating a boundary past which the lands are considered damned. But this codification doesn't just produce a taxonomy of things, rather the ontological presupposition

[178] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 272-4.

that allows such a codification is instantiated on the level of *relations*. That is, a logic that is systemised to determine and cultivate social relations that are constituent of a shared lived reality. Of course, part of this programming is behavioural: those forsaken by the ills intrinsic to the order of Flesh—mankind's enslavement to the Original Sin—require a path to salvation. Wynter argues that "this behaviour-motivating schema has itself also been anchored on the Spirit/Flesh, inside/outside God's Grace, ill/cure system of symbolic representations attached to the represented supra/sublunar non-homogeneity of substance of the physical cosmos, as well as to the habitable/uninhabitable geography of the earth."[179] Thus, this is a "machinery of programming"; the operation by which the general order of existence sets the parameters of knowing and living according to the supernatural Truth of God. In other words, it determines *what* things are and *why* they are that way.

The heterogeneous logic of Spirit/Flesh that undergirds the behaviour-motivating schema of Renaissance Christianity thereby functions as a master code of knowledge according to which the subject knows themself and the cosmos. Within the context of the colonial expansion of Europe, the Western subject is spatially and temporally situated as an operative of God's Grace: a missionary, converting those non-Christians while also converting the unknown into the known. As such, the master code of Spirit/Flesh is an operative determinate of the encounter and the knowledge that is produced as a result thereof.

As with Ptolemy's cartography, which overlaid the earth with a grid system on which were plotted known landmasses, there exists a codification of all things according to the criteria of the known. Within the context of medieval Latin-Christianity, the codification according to the known/unknown only emerges through a tension between orthodox and humanist readings of Christian doctrines. As Wynter claims, the orthodox reading continued to advance an understanding of the Earth as divided according to the logic of the damned (habitable/uninhabitable zones), while the humanist reading asserted that God had given the entire earth to humans.[180] Logically, therefore, no region could be deemed uninhabitable; rather, it was a question of differential degrees of habitability. The reason Wynter draws out this tension between orthodox and humanist readings of Christianity is because of the way in which the Spanish state transmuted this tension into a further operative codification of the Earth. Wynter writes that the 1492 commission decreed by the Spanish state understood any lands not occupied by Christians as legitimately expropriable on the grounds that they were *terra nullis*, lands of no one.[181] Habitable/uninhabitable thus morphs into habited/uninhabited, the determination of which is predicated on the occupation of land by Christian bodies. Non-homogeneity is at once

[179] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 279.
[180] Sylvia Wynter, 'Columbus and the Poetics of the Propter Nos', *Annals of Scholarship* 8, no. 2 (Spring 1991): 256-7.
[181] Wynter, 'Columbus and the Poetics of the Propter Nos'.

a perpetual codification of the earth, but also a temporary state of affairs. The goal of the Spanish state's colonial commission was homogenisation through the dual transformation of land and bodies according to the principle of Christian orthodoxy.

As such, the colonial expansion of Europe advanced through the determination of lands and bodies according to the codes of Christian orthodoxy. The body is cast as a conduit for judgment—a judgment that operates according to the binary of non-/Christian—through which the land is thereby classified as damned and, by extension, expropriable. Framed slightly differently, there appears to be a master code that *reduces and divides* nature, in the sense of the physical cosmos, and the human, in terms of bodies, according to Christian orthodoxy, which is then employed as a legitimising logic for the colonial expansion of Europe. It is a mutual and interlinked reduction.

This mutual reduction can be understood in terms of what Wynter calls "the space of Otherness". Occupied by those who are not Western/Christian—or the many other qualities comprising the figure of the human—the space of Otherness is a determination that condemns both the body and the earth to an existence within the gaze of the Western knower as fundamentally *less-than*. Such a binary logic produces and *enforces* Otherness; firstly in terms provided by the Christian orthodoxy master code of non-homogeneity then, secondly, in terms of Christian humanism led by Columbus, whereby the homogeneity of substance was still undergird by binary logic, but recast in different terms. As the colonial mission advanced, the political and social imperatives tied to the cultivation of empire by the Spanish in particular, began to twist back on themselves. The expansion of sovereign power was much greater than a religious mission. Indeed, it required the instantiation of economic, political, and social codes that would not just reprogram the bodies, lands, and cultures colonised, but would *justify* these actions. In other words, required was a justification of colonialism that would make the violent action appear just.

Wynter argues that as the ideology of Christian orthodoxy first created the space of Otherness in terms of non-homogeneity of substance, a remapping of the space of Otherness took place according to the principle of *rationality* following the colonial expeditions of the late fifteenth century, and throughout the sixteenth and seventeenth centuries. Divided then is the rational political subject of Europe from the irrational indigenous peoples of Africa and the Americas. In Wynter's terms, the figure of Man1 is invented as a rational subject within a universe composed of a homogenous substance, "made of the same forces, of the same matter" allowing for the attainment of an objective set of facts.[182] As the figure of Man1 is naturalised, so too is reason freed from its theocentric matrix, and is, as Denise Ferreira da Silva notes,

[182] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 280-1.

"subjected to the demands of European-colonial *societates* and to its economic needs and also put forward and calcified as the sovereign, final determinant—the final cause—of everything social."[183] As the hegemony of the theocentric cosmos diminishes, the space is opened for the development of the physical sciences, through which the physical cosmos is understood according to the principles of rationality and fixed natural laws, producing a sense of objectivity.

Knowledge-making by the Western knower finds a new basis in the homogeneity of substance of the physical cosmos, from which rationality arises as the principle logic according to which the epistemic framework is reordered. Nature and the human understood in these terms are classified as either rational or irrational. The theocentric logic of the cosmos is given a re-tooling by the nascent physical sciences, producing a secularisation that will continue to condemn all that falls outside of the self-assigned figure of man. What continue to happen, moving from the theologic to the secular, is the inseparability of nature and the human/man from one another, bound as they are epistemically by the gaze of the Western knower, whose understanding developed the economic, social, and political armature of colonialism.

## Secular Knowledge-Making

Where the theological paradigm supernaturally guarantees knowledge in accordance with the divine, the secular paradigm seeks to guarantee knowledge on its own terms. That is, locates the determination of Truth within nature itself. In doing so, the trace of the encounter—the fundamental premise of knowledge-making—is expunged via the newly-constructed apparatus of objectivity. The following section traces the key change in the relationship between the Ideal and the Real, where the former acted as a supernatural guarantor of knowledge of the latter within the theological paradigm. In particular, I argue that the secular reconstruction of the cosmos actively *displaces* the actual, thereby leading to the *overrepresentation and reduction* of its concepts of nature and the human by its methods of knowledge production.

If medieval Latin-Christianity presented an absolute field of knowledge supernaturally guaranteed by the divine, what were the machinations that produced another field with similar claims to absolute knowledge? This transformation hinged on the interaction of different fields of knowledge within dominant social institutions. Prior to the fourteenth century, a rigorous separation existed between the scientific disciplines and their systematic knowledges because transplanting methods and models from one field of knowledge to another was forbidden by both Aristotelean and Scholastic traditions. For instance, the system of geography was

[183] Denise Ferreira da Silva, 'Before Man: Sylvia Wynter's Rewriting of the Modern Episteme', in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham: Duke University Press, 2015), 94.

considered fundamentally different, and therefore kept separate, to the system of biology. Funkentstein argues that this separation suited the social reality of medieval universities as it allowed the strict delineation of the theological from the philosophical.[184] With the increased application of mathematical practices to not just physics, but ethics and even theology, the once-stout disciplinary walls began to crumble. What was once considered a grave category error in the view of Aristotelean doctrine was now encouraged: methods from one field were actively applied to others. Consequently, the "ideal of a system of our entire knowledge founded on one method was born."[185] The secular-theological epoch thus concerns the confrontation of separate systems of knowledge with one another in the shadow of an ideal singular system able to account for all.

Within the context of the fifteenth and sixteenth centuries, any such singular system could logically not leave out God, whose omnipotence was therefore brought into question by this new transmogrification. This line of questioning was the context of Columbus' expedition of 1492. Medieval theology maintained a strict distinction between the divine and physical things, vehemently arguing against the predication of God in physical, and even general abstract, things (such as goodness). Linguistically, a problem arose in that two systems of language were required; one to articulate the divine, and another to describe the physical cosmos. With nature posed as homogenous and non-hierarchical during the seventeenth century, the linguistic problem was compounded by the development of a secular knowledge that attempts to describe the physical cosmos in terms of natural laws not solely explicable in terms of God. Linguistic precision and transparency of meaning was sought. Duns Scotus, an important philosopher-theologian of the High Middle Ages, had already posed such a problematic during the thirteenth century when arguing for a singular sense of meaning when referring to divine attributes or physical existence. The desire for an unequivocal language—a language of the cosmos of sorts—was taken up again during the seventeenth century as a means to facilitate the production of a kind of knowledge concerned with describing things without deferment to the divine. For Funkenstein, William of Ockham is an influential protagonist in this work, who argued that "only discrete entities, singulars, exist and they do not need the mediation of universals either for their existence or for their immediate, "intuitive cognition"."[186] Theological and philosophical systems of knowledge fused together to produce an unequivocal language by which the cosmos could be described and articulated. In other words, forming a secular-theological order of nature that functioned as the basis for a new horizon of thought. Without the colonial encounter, and the subsequent *reconstruction* of colonised lands in terms of the Western reality, this

[184] Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century*, 6.
[185] Funkenstein, *Theology and the Scientific Imagination*.
[186] Funkenstein, *Theology and the Scientific Imagination*, 27.

transformation would scarcely have been possible.

What impact did secularisation have upon the behavioural-epistemic schema so integral to affirming theologically-derived social reality? How did it affect the production of knowledge? These questions can be answered by looking at the transformation of knowledge itself, particularly the relation between the Real and the Ideal, during the seventeenth century. Funkenstein remarks how the medieval relation between the Real and the Ideal was mainly *critical*, while the seventeenth century mediation was *constructive*; of experiments and of the world itself.[187] There is a clear parallel with the turn toward the constructive outlook and the colonial expansion of Europe, as a new approach to the world was forged. The example given to articulate the distinction between critical and constructive approaches is the use of instruments of manipulation employed by the sciences, such as burners and conductors. Funkenstein notes how this class of instruments—differing from instruments of observation—manipulates an object by isolating it in order to understand its underlying regulatory processes. Medieval alchemists were chief proponents of this method, utilising procedures that were "symbolic or based on assumption of nature." Inheriting the instruments of the alchemists, early modern chemists worked towards the ideal of developing a scientific language freed from the predicate of the divine—the ideal of an unequivocal "desymbolised" nature—by "isolating" objects from their context in order to study them.[188] Accordingly, nature was *reconstructed* as a method of understanding.

As the practices of secularised knowledge grew in prominence, diminishing the hegemony of theological knowledge as they went, so too the structure of society changed. Science and philosophy became tools for constructing a rational world, out of which a new body politic of society was formed. It was through the systems of knowledge discussed above that a profound shift in the view point of the knower took place, as the subject-predicate of knowledge-making was seemingly replaced with unequivocal objectivity. This point will be covered in greater depth in the section that follows.

It is important to note the way in which the colonial expansion of Europe can be regarded as one of the grandest projects of reconstruction ever seen. By actively transforming colonised lands according to the imperatives of colonialism—no longer religiously-motivated, as was the initial impulsion; now driven by value-extraction—the Western social reality was enforced on those inhabitants of the now-colonised lands. In other words, the West as a project. The forms of knowledge and modes of understanding cultivated following the secularisation of thought implicitly served to further this subjugation precisely because they were built on the foundations

[187] Funkenstein, *Theology and the Scientific Imagination*, 178.
[188] Funkenstein, *Theology and the Scientific Imagination*, 179.

of the colonial logic of Otherness. As such, the reconstruction of nature took place according to the logic of Otherness; a logic that becomes more deeply ingrained in the institutional and epistemic armatures of the West and the blueprints of its social reality, as time progressed.

Presently, the following question can be asked: how are the concepts of nature and the human determined by the secular systems of knowledge? Wynter argues that the invention of Man1, defined by rationality in the wake of the development of the physical sciences, further gave way to the invention of Man2, made possible by the biological sciences. Crucially, where Man1 was overtly produced in terms of servitude to colonial imperatives, Man2 builds upon these foundations to further deeply instate colonial logic in the framework of Western knowledge production. There is, then, a shift from the binary logic of rational/irrational determination of the human, to one in which the human is determined by the differential logic of the "Chain of Being". Darwinian evolutionary theory established a taxonomy of organic life along a chain of being moving from irrational animal to rational human being, according to the principle of Natural Selection. Instating a new "Argument-from-Design" allowed the development of a new "master code" according to which the world was divided up as either "selected" or "dysselected" by-nature in purely biological terms.[189] But the purportedly "factual" basis of this determination is made to according to what Du Bois refers to as the "Color Line"; a concept previously encountered as the "Space of Otherness". As such, the new master code of selected or dysselected by-nature follows the colonially-produced logic of the "Space of Otherness". Facts are presented as Truths derived from nature, but they are just another example of the overdetermination of reality according to colonial imperatives, albeit now more deeply ingrained epistemologically. Thus, the biological paradigm transposed this invented master code as the ordering principle of social reality, institutionally and discursively, in affirmation of the "overall global/national bourgeois order of things and its specific mode of economic production, alone able to provide the material conditions of existence for the production and reproduction of the ethnoclass or Western-bourgeois answer that we now give to the question of who and what we are."[190] That is, the biologically-affirmed descriptive statement of the human as selected or dysselected by-nature is an ordering principle that legislates who is *deserving* of Western-bourgeois life, which is writ into scientific, economic and social systems. Wynter writes that the paradox present in the Darwinian descriptive statement of the human, defined in terms of the natural organism, is that "it must ensure the functioning of strategic mechanisms that can repress all knowledge of the fact that its biocentric descriptive statement is a descriptive statement."[191] As da Silva notes, this 'reflects a particular collective *self-representation* and *not* an

[189] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 310.
[190] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 316-7.
[191] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 325-6.

eternal (extrahuman) truth determined by the immutable, objective, and necessary "laws" and "forms" of nature'.[192] Importantly, Wynter shows how the "idea of race" is produced through, and maintained by, the epistemological framework of the natural sciences, which is then instantiated as an ordering principle within social reality as the ongoing "Space of Otherness".

Several important shifts were taking place here: utilising the biological paradigm to construct a modified descriptive statement of man out of the human; moving from binary to differential logic; and, perhaps most importantly, the cultivation of "objectivity" in the biological sciences employed to posit the laws pertaining to the biological. This latter point stems from the transformed relation between the Ideal and the Real on the which the systems of knowledge of the physical sciences are based. It can be said that as the sciences reconstruct nature through the experimental approach—as Funkenstein states above—so too is the space of Otherness instated *differentially* in this reconstruction as a logic that permeates a wide range of discourses. Going further, it can also be said that the advancement of a singular system of knowledge by the sciences ingrains the relation of Otherness in its very methodology by covering it with the veil of objectivity. This is the scientific system whose object is "human nature". Put another way, scientific objectivity is a systematised perspective of the West that cannot be separated from instrumentalisation by colonial imperatives. The next section argues that removing experience as the predicate of knowledge production therefore facilitates the reduction of these concepts through the creation of objectivity. Methodological objectivity thereby relies on the bifurcation of actuality into the objective (Real but Abstract) and the subjective (less-Real but Actual). The section that follows details the consequence of objectivity within this context.

## Zero-Point Objectivity

As the Western frameworks of knowledge production underwent the transformation from the theological to the secular, so too did the relationship between the Ideal and the Real change. The previous sections of this chapter have demonstrated the ways in which European colonialism forced through such transformations as it remapped the world according to its own imperatives and ideals, determined by the logic of Otherness. It can be said that through its own ideals, the European colonial powers *reconstructed the Real of the world*. Integral to this reconstruction was the manipulation of abstraction; an operation that is most clearly evident in the creation of what Wynter calls the "Space of Otherness" which acts as a modality of judgement through which the world is divided and the figure of man created. It can be said that such a colonial logic is then embedded in the epistemic mechanisms of the sciences, where the manipulation of abstraction

[192] Ferreira da Silva, 'Before Man', 95. Emphasis in original.

is recursively entrenched in frameworks of knowledge production. Before analysing the function of this manipulation of abstraction, there is one fundamental manipulation that needs discussing: the at times absolute, at times partial, refusal of experience in the creation of "objectivity", which leads to both an impoverishment of experience and an impoverishment of empiricism.

Santiago Castro-Gómez argues that Rene Descartes' maxim *"cogito, ergo sum"* (I think therefore I am) from the 1637 *Discourse on the Method* announced the moment when Europeans installed themselves above God as arbitrators of knowledge. There are several consequences to Castro-Gómez's proclamation. With the transition from theological to secular knowledge-making, God/the Divine was removed as the predication of Truth, paving the way for an independent knowledge of things as they really are. Following such a movement, the authority of knowledge-making shifted from the theological institutions to secular institutions, such as the university, whose practices determined Truth not through interpretation of God's will, but as *de-supernaturalised* (in Wynter's terms) facts in and for themselves. Or, in other words, *whose practices form communication with the Truth without reference to the Divine.*

It follows that although *"cogito, ergo sum"* marked the commencement of the secularisation of knowledge, I claim that it cannot be extricated from the colonial context in which this proclamation announced the moment when Western epistemology asserts itself as the one true system of knowledge. Indeed, in an almost paradoxical manoeuvre, Western epistemology seemingly at once asserts itself—via colonial imperatives and their corresponding truths/values—while also "removing" itself from its cultural, social, political, and geographic context. In this sense, the fundamentality of experience itself is extricated from the specific situation in which knowledge is created. Castro-Gómez names this moment and the knowledge-making that is produced as the "zero point epistemology" which, Mignolo writes, "is the ultimate grounding of knowledge, which paradoxically is ungrounded, or grounded neither in geo-historical location nor bio-graphical configuration of bodies."[193] Thus, the Western experience—the premise of knowledge production—is extricated in order to reproduce itself as universal.

Crucial to the formulation of "zero point epistemology" is the notion that the construction of Western epistemology as Universal was not a historic phase in the development of Renaissance humanism and modernity that can be extricated from European colonialism. Castro-Gómez critiques the argument put forward by Michael Hardt and Antonio Negri in *Empire* on this very basis, arguing that colonialism is constitutive of modernity rather than a lineal derivative thereof. Whereas Hardt and Negri argue that the mechanisms of colonialism are in fact an impediment to the free-flowing expansion of capitalism because they operate

[193] Mignolo, *The Darker Side of Western Modernity,* 80.

according to rigid segmentations of the world, the constitutive logic of colonialism that structures the West is cast aside as a prototype in the genealogy of Empire. In other words, what Castro-Gómez claims Hardt and Negri ignore are the structural conditions of possibility created by colonialism, through which the domination of the world economic and political system by Europe is sustained. In other words, that "the *modern and the colonial are simultaneous phenomena in time and space*".[194] As such, "zero point epistemology" articulates the disavowal of other knowledges that formed the structural heterogeneity of the world in the production of a 'universal' knowledge, creating epistemic hierarchies and spaces of Otherness that are continually reproduced by Europe. By only viewing colonialism developmentally, Castro-Gómez continues:

> The coexistence of diverse ways of producing and transmitting knowledge is eliminated because now all forms of human knowledge are ordered on an epistemological scale from traditional to the modern, from barbarism to civilisation, from the community to the individual, from the orient to the occident … by way of this strategy, scientific thought positioned itself as the only valid form of producing knowledge, and Europe acquires an *epistemological hegemony* over all the other cultures of the world.[195]

Central to the acquisition of epistemic hegemony by Europe over the other cultures of the world was the creation of *objectivity* as an abstract point of view from which an observer detached from subjective inclinations could apprehend, study and know a thing in isolation from its broader environment and context.[196] In other words, as Aníbal Quijano writes, the notion of objectivity allows an observer to be extracted from the matrix of (colonial) power so the things observed and the resulting observations *appear* as "natural phenomenona" not determined by the history of power, nor as socially-constructed determinations.[197] In this way, the subject, as knower, is paradoxically ungrounded and grounded: ungrounded through the embodiment of an abstract *objective* position, yet grounded epistemically in the matrix of colonial power that situates them, bodily and geographically, in such a position. But the subject still persists, particularly in the re-ordering of culture that occurs through the colonial imposition of patterns of expression and behaviour-motivating symbolic schemes derived from the Western subject.[198] Objectivity thus figures as a foil for the subject, disguising the root from which these patterns of expression, and their ingrained logics, emanate as ordering principles.

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[194] Santiago Castro-Gómez, 'THE MISSING CHAPTER OF EMPIRE', *Cultural Studies* 21, no. 2–3 (1 March 2007): 432-3. Emphasis in original.
[195] Castro-Gómez, 'THE MISSING CHAPTER OF EMPIRE', 433.
[196] Donna Haraway describes this as the "god trick". See: Donna Haraway, 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', *Feminist Studies* 14, no. 3 (1988), 581.
[197] Anibal Quijano, 'Coloniality and Modernity/Rationality', in *Globalization and the Decolonial Option*, ed. Walter D. Mignolo and Arturo Escobar (London: Routledge, 2013), 22–32.
[198] Quijano, 'Coloniality and Modernity/Rationality', 23.

Returning to Descartes' maxim, Ramón Grosfoguel argues that man became the benefactor of those attributes previously assigned to God. Grosfoguel writes that:

> Universal Truth beyond time and space, privileged access to the laws of the Universe, and the capacity to produce scientific knowledge and theory is now placed in the mind of Western Man … By producing a dualism between mind and body and between mind and nature, Descartes was able to claim non-situated, universal, God-eyed view of knowledge … It is this 'god-eye view' that always hides its local and particular perspective under an abstract universalism.[199]

From the perspective of the "god-eyed" view, the subject is apparently extricated from the context and conditions from which knowledge is produced. Of course, there is still a subject required for knowledge-making, but in the formulation above, it is one able to adopt a position of isolation from its *subjective environment*. The construction of *objectivity* as an abstraction allows a knower to transcend their situation as a means to apprehend Truth. Yet, objectivity is merely a foil for the subjective determination of knowledge as Europeans found new ways to construct apparent dominance over the colonised.

Put in slightly different terms, the self-defined essential qualities of Western Man are the basis on which objectivity is constructed as an essential property of universal knowledge. Returning to Quijano, it is shown that the intersubjective relations between Western Man and the colonised had a fundamental effect on the way in which Western Man saw itself. In particular, Quijano shows, it is the disavowal of intersubjectivity itself—i.e. the acknowledgment that those other to Western Man were indeed not subjects at all—that not only allowed the propagation of colonial imperatives, but also allowed for the self-determination of Western Man as sole possessors of Reason by virtue of being the *only* Subjects, surrounded by Objects of a completely different nature.[200] Indeed, the identification of Reason with objectivity, Truth and, therefore, Universal Knowledge results from the "desymbolisation" of nature, from which the reconstruction of nature as a method of understanding is made. That is to say, nature is reconstructed purely from a dualist perspective of Object at a remove from the Subject of Reason, which has now been elevated—or perhaps de-situated—as the Objective principle of Universal Knowledge.

Yet, as Lorraine Daston and Peter Galison argue, the epistemic break in the relationship between Truth, Knower, and Knowledge created by objectivity, which sheared Subject from Object, was not so clean. Indeed, in the name-sake book *Objectivity*, they situate the formation of objectivity within a longer history of scientific epistemology, arguing that the type of objectivity discussed above only arose during

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[199] Ramon Grosfoguel, 'The Epistemic Decolonial Turn: Beyond Political-Economy Paradigms', in *Globalization and the Decolonial Option*, ed. Walter D. Mignolo and Arturo Escobar (London: Routledge, 2013), 68.
[200] Quijano, 'Coloniality and Modernity/Rationality', 26-7.

the late-nineteenth century, and is itself merely a sub-set of a broader scientific epistemology. Daston and Galison's analysis centres on image production as a cultivar of scientific epistemology, specifically the creation of atlases and representations of flora and fauna. Charting the morphology of scientific epistemology, they identify three distinct phases, each of which constitute a sub-set of the broader epistemology, and are fundamentally concerned with the identification of "working objects" from "natural objects".[201] These are: "Truth-to-nature", practiced by Enlightenment naturalists and scientific atlas makers who sought to represent the Truth of nature by means of judgement and skill to produce a reasoned, idealised image; "Mechanical objectivity", situated in the late-nineteenth century, which sought to remove the imprint of the self from images, thereby allowing nature to speak for itself; and, "Trained judgement", which built upon mechanical objectivity, but incorporated the judgment of particular professional training to interpret images and data obtained via the technologies of mechanical objectivity, such as cameras and other self-registering instruments.[202] Integral to each of these machinations, and continuous throughout, is that the *self never disappears as a factor in scientific epistemology*. Indeed, Daston and Galison write that as "long as knowledge posits a knower, and the knower is seen as a potential help or hindrance to the acquisition of knowledge, the self of the knower will be an epistemological issue."[203] In the case of producing images for atlases, for example, the virtuosity of the artists creating those images was highly praised for the subjective qualities, such as their ability to produce idealised images.

Such idealised images were attempts to depict the very archetypal, essential qualities of an object—to whittle out a "working object" from a "natural object". The act of producing an idealised image was thus the act of training one's eye to recognise certain aspects and qualities which then, as Daston and Galison note, instate a certain practice of collective knowing: "the purpose of these atlases was and is to standardise the observing subjects and observed objects of the discipline by eliminating idiosyncrasies - not only those of individual observers but also those of individual phenomena."[204] Ways of seeing are also ways of knowing, thereby intertwining senses of self with objects of study in an epistemology that refutes such a clear separation of Subject from Object and, therefore, the concept of objectivity discussed above.

As this form of scientific epistemology changes—from truth-to-nature, to mechanical objectivity, and later trained judgement—so too do the concepts of subject and object. Importantly, Daston and Galison write, as "objectivity is the suppression of some aspect of the self, the countering of subjectivity" there is an attempt to gradually efface subjectivity from scientific epistemology altogether, even if the epistemology of trained judgment is seemingly an attempt to reintroduce a dimension of it.[205] As such, it can be inferred from Daston and Galison's historicisation of the concept of objectivity that there is not such a clear removal of experience as the basis of knowledge production: the impression of subjectivity is insistent, lingering on. Of course, this point correlates with one made above; that there is

[201] Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2010), 19.
[202] Daston and Galison, *Objectivity*.
[203] Daston and Galison, *Objectivity,* 40.
[204] Daston and Galison, *Objectivity,* 63.
[205] Daston and Galison, *Objectivity*, 36.

only the *apparent* removal of the Western knower, and their experience, as the premise of knowledge production in the cultivation of the Universal, god-eyed knower. Yet, it is Daston and Gallison's contention that there was not a creation of the god-eyed knower as such and that, by extension, the argument developed by Mignolo, Quijano, and others, is a reductive take on the historical formation of objectivity as a sub-set of scientific epistemology.

However, with this point in mind, Daston and Gallison's analysis does not factor in what has thus far been dubbed the "colonial encounter", despite the fact that the colonial expansion of Europe facilitated a myriad of encounters with lands, people, flora and fauna, which were documented, recorded, and entered into the domain of scientific knowledge. The empiricism they describe is portrayed as non-confrontational, and neglectful of the impact of the colonial and the assumed epistemic virtue of the colonial encounter that arises with that, as well as the sense of self inextricably tied to that encounter. Taking both arguments in mind, it can be stated that there is a concomitant impoverishment of Western experience, and its related empiricism, with the refusal of any non-Western experience. The colonial encounter, therefore, breeds an impoverished empiricism premised on the reduction and exclusion of experience.

What produces this impoverished empiricism is, I argue, the refusal and/or reduction of experience, particularly through the effacement of the spatial and temporal dimensions that situate *that* experience in *that* unique moment. Within the colonial matrix of power, this is apparent in the contradictory move to *de-situate* Western Man as the premise of knowledge production, while simultaneously *affirming* the self-defined essential character of Western Man—Reason, in particular—as a fundamental factor in the method of apprehending Universal Truth. Crucially, this results in the *affirmation of an idea as actual despite the insistence of empirical*. Without the cohesiveness of experience, the actual is allowed to—or forced to—bifurcate into the Ideal and the Real. The Ideal, given so much power, is thereby able to overrepresent physical things, leading to profound reductions; particularly in the instance of nature, and the human as man. Furthermore, this leads to an impoverishment of empiricism as the empirical dimension of experience is greatly diminished. In the following section, I will analyse the way in which this bifurcation is enshrined methodologically in the mechanics of knowledge production.

## Part Two: Methodological Fallacy & The Bifurcation of Nature

In Part One, it was argued that the "colonial encounter" was the inception point of wholesale changes to the armature of Western knowledge production. In particular, it was argued that the "colonial encounter" initiates a transformation in the *structural relations* between cosmologies, objects of knowledge and the centrality of experience to the methodological production of such knowledge. Working through the concepts of the nature and the human, the colonial

determination of knowledge involves the application of concepts derived from cosmological schemes of understanding, where upon the abstract is posited as more actual than the physical. Central to this epistemological dynamic is the removal as the premise of knowledge production. Yet this removal is only *apparent*: the subjective position of the Western knower is simultaneously elevated to the position of the Universal knower whilst also disappearing behind the foil of objectivity. As such, there is a simultaneous impoverishment of Western experience and its related empiricism. The following section analyses the methodology of knowledge production anchored to the creation of objectivity that arises from, and allows for, the overrepresentation and reduction of the concepts of nature and the human. It has been shown in the previous sections the way in which the colonial encounter results in a method of knowledge production that serves the imperatives and ideals of the colonial expansion of Europe, producing a concept of nature and concept of the human as means to subjugate, dominant and extract value from all that is not European. It is argued that this method and logic is a fundamental reason for the alienation that currently characterises "our relation to the world". This methodology is analysed in terms of logic and Reason—two factors implicit in the methodical interaction with the abstract and the physical in terms of the negation of experience.

The problematic that forms around the determination of bodies—according to the concept of man, constitutive of modern scientific cosmology—is a somewhat unlikely meeting point of decolonial thought—Wynter's in particular—with the Western philosophy of science exemplified in this instance by Whitehead. But, there is the shared determination to explore the wide-ranging consequences of this problematic as in many ways the hegemonic reconstruction of reality itself by Western science is itself wide-ranging. As such, the current section brings into play elements of Whitehead's thought in order to expand the problem identified in the previous section.

The methodological overdetermination of physical things by the abstract can be understood in terms of the problematic dubbed the "bifurcation of nature". This is a concept explored by Alfred North Whitehead in *Concept of Nature* which, although over 100 years from publication, is a problem that continues to plague modern thought.[206] Bifurcation designates a method or process of differentiation; a logic of selectivity that grants inclusion to certain factors whilst excluding those apparently beyond its remit. Far from conscious and deliberate, it is a presupposition. Indeed, in *Science and the Modern World*, Whitehead writes that: "the revival of philosophy in the hands of Descartes and his successors was entirely coloured in its development by the acceptance of the scientific cosmology at its face value." Moreover, "the

[206] Although this was written in 1920, many contemporary writers, Michael Halewood and Didier Debaise in particular, argue that this bifurcation is an ongoing problem. See: Michael Halewood, 'Do Those Diagnosed with Alzheimer's Disease Lose Their Souls? Whitehead and Stengers on Persons, Propositions and the Soul', *The Sociological Review* 64, no. 4 (1 November 2016): 786–804.

success of their ultimate ideas confirmed scientists in their refusal to modify them as the result of an enquiry into their rationality."[207] The uncritical acceptance of received ideas and a refusal to challenge the very rationality of their premises thus allowed for errors such as the bifurcation of nature to flourish unchecked.

Modern science, Whitehead contests, splits reality into two regimes of existence; a reality there for knowledge, and one "which is the byplay of the mind", meaning that "in so far as they are real, are real in different senses".[208] Nature is bifurcated into that which is apprehended through subjective awareness, and that which is the cause of subjective awareness. Awareness is the domain of "the greenness of the trees, song of the birds, warmth of the sun, the hardness of the chairs, and the feel of velvet" whereas the "cause of awareness is the conjecture system of molecules and electrons which so affects the mind as to produce the awareness of apparent nature."[209] In other words, scientific cosmology, whose domain is the cause of awareness, considers nature as a system of matter without qualities, which it can observe objectively, without the interference of qualities.

Whitehead's diagnosis of the bifurcation of nature is based on an analysis of the historical influence of Locke's theory of primary and secondary qualities on scientific cosmology.[210] Locke's explication of these qualities extends from the questions: What is a natural body? What are its qualities and how do we experience them? This is the argument advanced in *An Essay Concerning Human Understanding* according to which the phenomenal qualities of the body are separate from its objective, invariant qualities: the former are qualities such as colour, which are conceived as "secondary", while the latter are, for example, extension and solidity, which are "primary".[211] Secondary qualities are apprehended via sensation through perception, whereas primary qualities are the level of knowledge. The statement that secondary qualities are apprehended through sensation demonstrates that they are not simply projections by the mind, but rather are derived from primary qualities as an aspect of them. They are "psychic additions" that furnish our experience of bodies with sound and colour.[212] Phenomenal experience is therefore derived from non-phenomenal primary qualities, as is the case of light perceived by the eye, which the mind turns into colour.[213] Importantly, the separation of primary and secondary qualities is initiated empirically, whereby the non-perceptual primary qualities are differentiated from the subjective secondary qualities which are both derived from and expressive of the former. This is the precise location of the bifurcation of nature. Whitehead writes that:

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[207] Whitehead, *Science and the Modern World*, 17-18.
[208] Alfred North Whitehead, *The Concept of Nature* (Cambridge: Cambridge University Press, 1920), 30.
[209] Whitehead, *The Concept of Nature*, 29.
[210] Whitehead, *The Concept of Nature*, 27.
[211] John Locke, *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1990), 135.
[212] Whitehead, *The Concept of Nature*, 42.
[213] Whitehead, *The Concept of Nature*, 27.

> What I am essentially protesting against is the bifurcation of nature into two systems of reality, which, in so far as they are real, are real in different senses. One reality would be the entities such as electrons which are the study of speculative physics. This would be the reality which is there for knowledge; although on this theory it is never known. For what is known is the other sort of reality, which is the byplay of the mind. Thus there would be two natures, one is the conjecture and the other is the dream.
>
> Another way of phrasing this theory which I am arguing against is to bifurcate nature into two divisions, namely into the nature apprehended in awareness and the nature which is the cause of awareness. The nature which is the fact apprehended in awareness holds within it the greenness of the trees, the song of the birds, the warmth of the sun, the hardness of the chairs, and the feel of the velvet. The nature which is the cause of awareness is the conjecture system of molecules and electrons which so affects the mind as to produce the awareness of apparent nature. The meeting point of these two natures is the mind, the causal nature being influent and the apparent nature being effluent.[214]

The bifurcation of nature discussed in *The Concept of Nature* diagnoses the operation of abstraction in scientific cosmology as it conceptualises nature as separate from experience. However, Whitehead does not offer a synthesis of the so-called two natures—one objective, one subjective—on the level of metaphysics. Indeed, the task set is to establish that the philosophy of science concerns the "general notions which apply to nature" as "what we are aware of in perception".[215] "It is the philosophy of the things perceived, and it should not be confused with the metaphysics of reality of which the scope embraces both perceiver and perceived." Metaphysics is therefore rejected (for the moment), meaning Whitehead proceeds to establishes a phenomenological account of nature on the basis of immediate experience. This is announced by the statement, "nature is that which we observe in perception through the senses" which orientates Whitehead's investigation into the natural sciences.[216] Didier Debaise has argued that rather than advance a genuine ontological position, Whitehead is instead determining nature as the site of a methodological enquiry into nature that would establish its qualities.[217] The demand here is that nothing be added to immediate experience that would overburden it and, more importantly, nothing be taken away—an extractive operation the bifurcation of nature performs.

Debaise's reading of the bifurcation of nature emphasises the importance of understanding that the modern conception of nature was not produced according to a grand dualist or monist

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[214] Whitehead, *The Concept of Nature*, 30-31.
[215] Whitehead, *The Concept of Nature*, 28. In passim.
[216] Whitehead, *The Concept of Nature*, 3.
[217] Didier Debaise, *Nature as Event: The Lure of the Possible* (Durham: Duke University Press, 2017), 27.

ontology, rather it originated in "local operations of the qualification of bodies".[218] As such, the bifurcation is the pro-generative logic of dualism. "The ontology of the moderns," Debaise argues, "comprises the manner in which they have attempted to express the permanently repeated gesture of dividing bodies and their qualities while continually masking this very operation. In short, this ontology presupposes the gestures, techniques, and operations of division."[219] Here, there is a further sense of the way in which the bifurcation of nature develops historically and is cultivated epistemologically as a logic from which a dualist ontology grows.

By situating the bifurcation argument historically, as Whitehead and Debaise both do, it can therefore be brought into communication with the lines of thought traced above and those concerning the machinations that produced the "zero point epistemology" discussed previously. There are two concomitant procedures taking place here: firstly, the historically and spatially situated (read: local) determination of indigenous bodies by Western subjects through the colonial matrix of power. Recalling Wynter, this determination can be understood as the production and enforcement of Otherness through which the human is essentially constructed as a bifurcated figure represented by Man1 and its constitutive Otherness. But this is not an ontological judgement as such; rather, it is a methodological bifurcation by which the body is divided up into qualities that are used to rank that body's humanity or humanness according to the theological matrix, giving Man1. In other words, the human is reprogrammed according to this fundamental bifurcation. The second procedure is also methodological, but situated at a greater level of abstraction, concerning the theory of primary and secondary qualities, and its constitutive relation between the physical and the abstract. Bifurcating nature into two separate but causally-related realms means that the relationship between the physical and the abstract is likewise fractured, where one is thus taken to be a privileged site of enquiry. Indeed, Whitehead's critique of the modern scientific cosmology is anchored on this point; that, in many ways, the nature which is the object of scientific enquiry and knowledge making is a figmentary nature constructed in the abstract through a negation of experience. Nature, in this sense, is reduced. This presents perhaps the most significant aspect of Whitehead's analysis of the bifurcation of nature: when nature is allowed to bifurcate, the site of scientific enquiry becomes the empirically-produced abstract realm. There is, in other words, a flight from the empirical into the abstract, where the actual is posited.

It is of course important to note that this is not a nature found as such, but one that is constructed according to the bifurcation. That is, a nature reconstructed with the scientific method. Debaise, channeling Isabelle Stengers,[220] makes this point by invoking the example of

[218] Debaise, *Nature as Event*, 13. Emphasis in original.
[219] Debaise, *Nature as Event*, Emphasis added.
[220] See: Stengers, *The Invention of Modern Science*, 72.

Galileo's invention of the inclined plane as an experimental apparatus that introduces a difference between ways of explaining motion. It does so not by reproducing an observation or by making a hypothetical experience visible, rather it is a proposition that allows the author to recede and the testimony of motion itself to become apparent. In other words, it is a uniquely Galilean nature reconstructed to allow an invention to become apparent. As Debaise writes, "through the construction of an artefact, the apparatus aims to make nature bifurcate into two branches—the primary qualities of nature that express themselves in motion, and the secondary qualities that are the explanation given of such motion—while simultaneously effacing the constructed character of this operation."[221] In other words, the core methodological operation of modern scientific knowledge production is the activity of producing a bifurcated nature in order to make clear its own constructed nature which, fundamentally, hides its authors.

The category of Otherness, with which nature and the human are reconstructed, is a methodological bifurcation precisely because it situates reality in the abstract by subjugating the physical—in this case, bodies—to a lesser reality. Otherness, therefore, is a bifurcation continually restated through the methodological production of knowledge about nature and the human that reduces, rather than expands, their meanings. It overdetermines and reduces bodies through the reconstruction of nature. This is possible, I argued, through either the removal of experience, or an acceptance of a severely impoverished form of experience, as the premise of knowledge production.

The two sections that follow elaborate the methodological bifurcation in terms of Reason and the specific operation of reduction at work in the concept of matter. It is important to question the function of Reason as it allows for a simplification of the problems of knowledge production raised above. The purpose of these sections is to further assess the breadth of functional components in a methodology premised on the bifurcation of nature in order to state the grounds for a method of knowledge production founded on experience.

## The Manipulation of Reason

> As a question of scientific methodology there can be no doubt that the scientists have been right. But we have to discriminate between the weight to be given to scientific opinion in the selection of its methods, and its trustworthiness in formulating judgements of the understanding. The slightest scrutiny of the history of natural science shows that current scientific opinion is nearly infallible in the former case, and is invariably wrong in the latter case. The man with a method good for purposes of his dominant interests, is a pathological case in respect to his wider

[221] Debaise, *Nature as Event*, 13-14.

> judgement on the coordination of this method with a more complete experience. Priests and scientists, statesmen and men of business, philosophers and mathematicians, are all alike in this respect. We all start by being empiricists. But our empiricism is confined within our immediate interests.[222]
>
> **Alfred North Whitehead**, *The Function of Reason*

Given the previous discussion of the "bifurcation of nature", it is of no surprise that Whitehead finds a similar issue in the conceptualisation of Reason by scientific thought. Here, identified once again is a gap—or bifurcation—between physical things and abstraction. Whitehead thus presents a critique of Reason that seeks to identify the presuppositions and methodological decisions that allow such a separation to occur in order to propose a notion of Reason that does not allow nature to bifurcate. In this section I recast the analysis of *methodological fallacy* advanced in the previous section in terms of Reason to show how a manipulation of Reason perpetuates the bifurcation of nature. The focus on Reason, here, is productive because it explicitly deals with the relation between the abstract and the empirical in the process of knowledge production. This discussion of Reason will, therefore, further show the fallacious function of abstraction that results when experience is removed as the premise of knowledge production.

Although the philosophical question of Reason is ancient, Whitehead hones in on the modern evolutionary theory of life by way of an introduction to the problematic at hand. "*The function of Reason is to promote the art of life*", and as such, identifies a fallacy with evolutionary theory on the grounds that survival of the fittest is "identical with the best exemplification of the Art of Life".[223] This opaque, seemingly romantic, phrase is elaborated throughout the critique of Reason. Here, Whitehead is arguing against the equivalency drawn between the fact of life and survival: "The art of persistence is to be dead," he writes. The problem lies in the inability of the concept of "struggle" to account for or explain neither the origin of the species nor the precise character of that struggle. It posits that a species dying out is sufficient proof of maladjustment to the environment, while also operating on the presupposition that a species reproduces to such an extent that maladaptation be the only decisive factor. Furthermore, Whitehead argues that struggle alone does not explain why evolution tends upwards. Indeed, so-called "higher forms of life" engage in the active modification of their environment rather than adapting to it: struggle is thus defined as control over a given situation. Such an active attack on the environment—human civilisation being the ultimate example of such—leads Whitehead to posit the following thesis:

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[222] Whitehead, *The Function of Reason*, 11
[223] Whitehead, *The Function of Reason*, 4. Emphasis in original. In passim.

> the explanation of this active attack on the environment is a three-fold urge: (i) to live, (ii) to live well, (iii) to live better. In fact the art of life is *first* to be alive, *secondly* to be alive in a satisfactory way, and *thirdly* to acquire an increase in satisfaction. It is at this point of our argument that we have to recur to the function of Reason, namely the promotion of the art of life. The primary function of Reason is the direction of the attack on the environment.[224]

This leads to Whitehead to suggest that "Reason is a factor in experience which directs and criticises the urge towards the attainment of an end realised in imagination but not in fact."[225] When considered in relation to physiology and Final Causation, the above theses sets out two contrasting theorisations of Reason: practical Reason and theoretical Reason. In the case of the determination of the body, practical Reason is one operation among others involved in the existence of the body, whereas theoretical Reason is thought in abstraction from any particular bodily operations, engaged in the exemplification of a theoretical system. As such, "Reason realises the possibility of some complex form of definiteness, and concurrently understands the world as, in one of its factors, exemplifying that form of definiteness."[226] According to this theorisation, Reason is a God-like faculty, surveying empirical things and judging them in accordance with its own ideal exemplification.

A bifurcation can be located at this point, specifically in the irreconcilable contrast between the two theorisations of Reason. On the one hand Reason is above the world whereas, on the other hand, Reason is one of many factors in the world. Considered alone, they represent the two poles of Reason in respect to the determination of bodies. This antimony is further elucidated by recalling the notion of Final Causation in respect to the operation of bodies. Here, Whitehead has refined the parameters of his analysis by focussing on the rejection of Final Causation by the natural sciences so as to make clear that this is a question of methodological choice. Final Causation has been rejected by the natural sciences on the basis that the principles that govern the activities of inorganic matter are the most essential characteristics of nature and, therefore, the focus of the natural sciences. Natural laws governing the chemical and physical activities of matter are the only concern. For example, Francis Bacon reworks the four causes laid out by Aristotle in *Metaphysics* V.2—Material, Formal, Efficient and Final—by discarding the notion of Final Cause on the basis that scientific discovery becomes muddied by any discussion of purpose as it is only applicable to human behaviour.[227] This owes to the relation "purpose" bears to teleology which, Bacon argued, was an impoverished notion with which to pursue scientific knowledge. Hence, Final Causation is rejected as superfluous and unverifiable. This

[224] Whitehead, *The Function of Reason*, 8. Emphasis in original.
[225] Whitehead, *The Function of Reason*.
[226] Whitehead, *The Function of Reason*. 9.
[227] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne (Cambridge: Cambridge University Press, 2000). Book II, Aphorism II.

attitude is, according to Whitehead, exactly the "same force and character as that which led the educated section of the classical world to reject the Christian outlook, and as that which led the educated scholastic world to reject the novel scientific outlook of the sixteenth and seventeenth centuries."[228] The fundamental mistake, as Whitehead sees it, is a methodological confinement to the physical principles as determinate of the body's activity.

The reason that this is methodological confinement rather than, say, a methodological selectivity is because there is a wealth of evidence from outside of the physiological method pointing to the fundamental role of Final Causation. That is, Final Causation conceived as something akin to intention or purpose operating in according to an aim. The evidence for this is, according to Whitehead, overwhelming. For example, consider the voyage of a ship: "We are asked to believe that the concourse of atoms, of iron, and of nitrogen, and of other sorts of chemical elements, into the form of the ship, of its armour, of its guns, of its engines, of its ammunition, of its stores of food, —that this concourse was purely the outcome of the same physical laws by which the ocean waves aimlessly beat on the coasts of Maine."[229] This is even before considering the plotting of a course to sail, or a consideration of what may eventually lie in wait for the ship and crew upon completing this voyage. While it may be argued that in respect of the natural scientific method, the question of Final Causation lies outside of its scope, Whitehead retorts that even when animal bodies are considered, the same factor of aim still returns.

The consequence of this methodological confinement is the exclusion of evidence that throws into question the applicability of the method itself. Pointedly, Whitehead writes that:

> The evolution of Reason from below has been entirely pragmatic, with a short range of forecast. The primitive deep-seated satisfaction derived from Reason, a satisfaction arising out of an immemorial heredity, is provided by the emphatic clarification of some method regulating current practice. The method works and Reason is satisfied. There is no interest beyond the scope of the method. Indeed this last statement is too restrained. *There is active interest restraining curiosity within the scope of the method.* Any defeat of that interest arouses an emotional resentment. *Empiricism vanishes.*[230]

What Whitehead is protesting against here is the limitation of a methodology beyond its own scope. Indeed, it is within the interests of a particularly closed-off methodology to refuse admittance of any empirical data that would prove such a methodology to be inadequate for addressing the problem at hand. Important here is to keep in mind that the conceptual schema

[228] Whitehead, *The Function of Reason*, 10-11.
[229] Whitehead, *The Function of Reason*, 13-4.
[230] Whitehead, *The Function of Reason*, 17. Emphasis in original.

of scientific thought, insofar as it has been analysed according to the notion of the bifurcation of nature, makes possible and perpetuates this fallacious function of Reason by premising selectivity over matter of fact. By this I mean that although a methodology can be analysed as an isolated system constructed to tackle a specific problem, the conceptual scheme on which that methodology functions determines the way in which a problem is conceived. Yet, conversely, it is the scope of a methodology that acts as a determinate of the concepts employed to analyse the problematic. Selectivity, it must be stated, is beneficial to the delineation and proper functioning a methodology. Here, a distinction can be drawn:

> between the authority of science in the determination of it methodology and the authority of science in the determination of the ultimate categories of explanation. We are then led to consider the natural reaction of men with a useful methodology against any evidence tending to limit the scope of that methodology. Science has always suffered from the vice of overstatement. In this way conclusions true within strict limitations have been generalised dogmatically into a fallacious universality.[231]

Ultimately, excluding evidence that faults the existing scientific method serves to regulate and maintain dominant interests. This point can be made in relation to two examples that also show two intersections of Whitehead's line of argument and Wynter's analysis of the epistemological transformations in philosophical and scientific thought that constructed the figure of "Man" as the overrepresentation of the human. Firstly, Wynter shows how the de-supernaturalisation of the cosmos by the West, according to which the Judeo-Christian modality of knowledge is re-invented in secular terms that conceptualise nature as functioning according to its own laws, allows the invention of Man1 as a rational subject within a universe composed of a homogenous substance, "made of the same forces, of the same matter" allowing for the attainment of an objective set of facts.[232] In terms of Whitehead's work, it can be said that the operation of reason as Final Causation is severed, to be replaced by the selective empiricism of scientific rationality marked by the invention of the physical sciences. Theoretical Reason is thereby the motor of action whereby the earth is mapped in terms of the human ordered according to what is deemed rational or irrational from the point of view of White, European, Maleness. The problem, here, is that the relative success of the methodology of the physical sciences results in a blindness to issues and evidence that work contrary to its presuppositions and which would trouble the function of its methods. The rule of such a methodology over the physical cosmos results in, as Whitehead notes, a "colossal example of anti-empirical dogmatism arising from a

[231] Whitehead, *The Function of Reason*, 27.
[232] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 264, 280-1.

successful methodology. Evidence which lies outside the method simply does not count."[233] What this means, then, is the methodology that functions according to rationality derived from the rejection of Final Causation will always be flawed when it makes judgements on, and produces knowledge about, those objects and situations that present credible evidence to the contrary; that demand a different approach or consideration. Indeed, Whitehead recognises the rejection of the "Christian outlook" as problematic for the formation of scientific method.

The confinement of scientific method in the face of empirical evidence contrary to its operational reason is the second point of intersection of between Whitehead's and Wynter's arguments. Wynter shows that the morphological change of Man1 to Man2 is driven by the biological sciences, led by the Darwinian theory of evolution, according to which the human is determined by the differential logic of natural selection. A shift into the practical Reason of evolutionary theory as the motor of ordering—as Whitehead shows—thus determines the human in terms of "selected" of "dysselected" by-nature.[234] Yet, as Wynter makes explicit, the construction of the human in terms of the evolutionary biology is not confined to the biological paradigm, rather the epistemic ordering of the human is generative of an invented master code of reality according to which the production and reproduction of the material conditions of existence are made.[235] This can be understood in terms of the imposition of interests outside of the scientific paradigm driving the confinement of the scientific methodology in spite of empirical evidence to the contrary. Indeed, as Whitehead notes, "*We all start by being empiricists. But our empiricism is confined within our immediate interests.*"[236] This example can be extended by noting that the figure of the human, produced and reproduced in accordance to a certain idea of ethnoclass, haunts the function of Reason of the scientific methodology. Here, attention can be drawn to the tension existing between the so-called biocentric facticity with which the parameters of the human is stated and the notion of a descriptive statement. Wynter remarks that what is actually a descriptive statement is cloaked by the lexicon of scientific facticity.[237] It is a *self-representation* that is continually affirmed *despite* the evidence to the contrary: the overdetermination of actuality by an idea, where theoretical Reason rules. The very idea of race, for example, cuts to the heart of this issue because, as Wynter shows, it is created and enforced by the epistemological framework of the natural sciences. This ordering principle works to continually enforce the "Space of Otherness" as the central tenet of Western social reality. What this shows, moreover, is the influence of Reason intentionally divorced from experience to the construction of man.

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[233] Whitehead, *The Function of Reason*, 15.
[234] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 310.
[235] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 316-7.
[236] Whitehead, *The Function of Reason*, 11. Emphasis added.
[237] Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 325-6.

In the next section, the concept of matter is introduced as an example of the function of the bifurcation of nature precisely because, I argue, it is utilised as a universal notion and, therefore, as a site of reduction. The function of Reason premised on, and operational of, a bifurcated nature is clearly evidenced in the concept of matter. This concept, I argue, is an example of reduction and overrepresentation, and, therefore, a concept which facilitates the alienation in "our relation to the world".

## Functional Reduction: A Critique of Matter

> There persists, however, throughout the whole period the fixed scientific cosmology which presupposes the ultimate fact of an irreducible brute matter, or material, spread throughout space in a flux of configurations. In itself such a material is senseless, valueless, purposeless. It just does what it does do, following a fixed routine imposed by external relations which do not spring from the nature of its being. It is this assumption that I call "scientific materialism".[238]
>
> **Alfred North Whitehead**, *Science and the Modern World*

> My theory of the formation of the scientific doctrine of matter is that first philosophy illegitimately transformed the bare entity, which is simply an abstraction necessary for the method of thought, into the metaphysical substratum of these factors in nature which in various senses are assigned to entities as their attributes; and that, as a second step, scientists (including philosophers who were scientists) in conscious or unconscious ignoration of philosophy presupposed this substratum, qua substratum for attributes, as nevertheless in time and space.[239]
>
> **Alfred North Whitehead**, *The Concept of Nature*

As the bifurcation of nature is exercised methodologically by modern science, it constructs abstractions that deeply root its fundamental logic in their conceptual schemes. Nowhere is this habit of thought more clear than in the concept of matter. In the terms laid out in the previous section, matter is posited as *the* fundamental primary quality: a metaphysical substratum from which all secondary qualities are stripped away. The following section examines the concept of matter as an operation of the bifurcation of nature that produces broader ontological issues which, I argue, are deterministic of the way in which ideas about nature are formed. In particular, the concept of matter allows for a fundamental reduction of nature—it is perhaps the archetypal facilitator of reduction—which then functions as a site and an apparatus for further

[238] Whitehead, *Science and the Modern World,* 17.
[239] Whitehead, *The Concept of Nature,* 20-21.

reductions of other abstract and empirical things.

Matter, Whitehead argues, is one of the central ideas of modern science and is constitutive of what is termed "scientific materialism". Indeed, the "three centuries, which form the epoch of modern science, have revolved round the ideas of *God*, *mind*, *matter*, and also of *space* and *time* in their characteristics of expressing *simple location* for matter."[240] As the introductory quotations make clear, the protest against the concept of matter is rooted in the way in which this concept posits an anonymous entity without qualities or properties of its own. It is the expression of the simplest, most fundamental substrate on which all reality is premised. As such, nature constructed from matter is necessarily bifurcated. Why? Because the concept of matter describes something only accessible for knowledge—not to experience.

This problematic can be approached in terms of what Whitehead identifies as the "fallacy of misplaced concreteness", according to which that which is abstract stands in for that which is concrete.[241] In the case of matter, this abstraction is given as *more concrete* than anything available in experience. The scientific conceptual scheme that privileges the concept of matter as a metaphysical substratum thus disavows that which is available to sense-perception in favour of something only available to knowledge. Nature reconstructed by modern science is thus understood:

> in terms of stuff, or matter, or material—the particular name chosen is indifferent—which has the property of simple location in space and time, or, if you adopt the more modern ideas, in space-time. What I mean by matter, or material, is anything which has this property of *simple location*. By simple location I mean one major characteristic which refers equally both to space and to time, and other minor characteristics which are diverse between space and time.[242]

According to the notion of simple location, matter is localisable at a definite point in space and time in isolation. That is, without requisite reference to any other region of space-time. Whitehead notes that the definiteness of matter considered as simple location holds regardless of space-time determined absolutely or relatively.[243] Even if matter is discussed as occupying a definite region of space-time via its relation to other regions, those relations are still between singular entities. By this I mean that relations between definite points only make reference to that point being *there* in space and *there* in time. Whitehead further elaborates the theory of simple location by stating that whereas matter, in terms of space, can be volumetrically subdivided into further points, matter is indifferent to time as it persists through it without reduction.[244] Time is

[240] Whitehead, *Science and the Modern World,* 193. Emphasis in original.
[241] Whitehead, *Science and the Modern World,* 51.
[242] Whitehead, *Science and the Modern World,* 49.
[243] Whitehead, *Science and the Modern World.*
[244] Whitehead, *Science and the Modern World,* 49-50.

an accident rather than an essence of matter, which is conceptually apprehended at an instant. Nature is therefore a "succession of instantaneous configurations of matter".[245]

Simple location produces an abstract nature conceived as a succession of matter at an instant, in which space and time are considered as accidents. Whitehead, in agreement with Bergson, protests this conception as it posits time as the concrete fact of nature. As far as spatialisation is concerned, Whitehead notes that Bergson makes this into a function of the intellect, but Whitehead argues against this by stating that it is expressed as a more concrete fact.[246] Both converge around the problem of the induction of configurations of matter from one instant to the next. That is, nature without a past or future, positing that "nature within any period does not refer to nature at any other period".[247] How can scientific epistemology posit the subjection of nature to laws such as gravity if it cannot account for persistence across time? Whitehead writes that:

> the order of nature cannot be justified by the mere observation of nature. For there is nothing in the present fact which inherently refers either to the past or to the future. It looks, therefore, as though memory, as well as induction, would fail to find any justification within nature itself.[248]

Although Whitehead states that the abstractive operations of simple location, and substance and quality, "are the most natural ideas for the human mind" they are nonetheless involved in not thinking about nature concretely.[249] In accordance with the fallacy of misplaced concreteness, these high level abstractions take us away from what is concrete by instating actuality on the level of abstraction. The same is true of the substance/quality theory advanced by Locke, whereby the spatiotemporal relations of substances constitute nature; their ordering thereby constituting the order of nature itself. Secondary qualities are apprehended by the mind, clothing matter in the aesthetic elements of nature. However, Whitehead protests:

> Thus nature gets credit which should in truth be reserved for ourselves: the rose for its scent: the nightingale for his song: and the sun for his radiance. The poets are entirely mistaken. They should address their lyrics to themselves, and should turn them into odes of self-congratulation on the excellency of the human mind. Nature is a dull affair, soundless, scentless, colourless; merely the hurrying of material, endlessly, meaninglessly.[250]

This reduction of nature to bare materialism is, according to Whitehead, a fallacy because it

[245] Whitehead, *Science and the Modern World,* 50.
[246] Whitehead, *Science and the Modern World,* 50-1.
[247] Whitehead, *Science and the Modern World,* 51.
[248] Whitehead, *Science and the Modern World.*
[249] Whitehead, *Science and the Modern World,* 52.
[250] Whitehead, *Science and the Modern World,* 54.

forces the acceptance of a high abstraction—matter—as the ultimate and constitutive fact of reality; a state of affairs completely at odds with experience itself. The success of scientific abstractions "has foisted onto philosophy the task of accepting them as the most concrete rendering of fact".[251]

Born in the seventeenth century, this fallacy of scientific thought was hardened in the century that followed, as the mechanical explanation of nature grew from an ardent rationalism tied to the operations of understanding these abstraction offered. In this sense, the scheme of scientific abstractions became further entrenched in increasingly broader fields of knowledge that built, to greater and lesser extents, upon the foundations created by speculative physics. Thus, abstractions premised on the idea of simple location created not only an ontological or metaphysical framework for scientific thought but also a method with which to re-construct nature.

Returning to Wynter's analysis of the secularisation of Western knowledge following Columbus' voyage of 1492, Wynter makes clear the way in which the structuring principles of Judeo-Christian cosmology were transmuted into principles that structure a now-secularised society. This was a move that also initiated a transmutation of conceptual frameworks between different fields of knowledge and understanding. For instance, the structuring principles of Judeo-Christian cosmology provided an ordering logic and criteria by which the terrestrial realm was judged according to God's grace, which was likewise applied to those people inhabiting the lands that fell outside of that grace. Wynter outlines a schematic that ties together the supraordinate function of a cosmology from which modes of subjective understanding are derived—supernaturally guaranteed in the theological model—with the symbolic representation that govern the ethico-behavioural dimensions of human culture. Drawn here is a direct line between the cosmogonic logic, order and structures, and the symbolic representations that produce behavioural imperatives from which a culture or society is formed via the ethical relations between its constituents. Hence, the conceptual tenets of the theological cosmogony are behavioural drivers, primarily through the idea of salvation. Wynter goes on to show how secularisation shifted the other-worldy supraordinate goal of salvation to the "new *this-worldly* goal of the growth, expansion, and political stability of each European state in competitive rivalry with its fellow European states."[252] With this manoeuvre, the notion of enslavement in terms of the Spirit/Flesh binary according to the Original Sin was transmuted. Wynter writes that:

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[251] Whitehead, *Science and the Modern World,* 55.

[252] Sylvia Wynter, '1492: A New World View', in *Race, Discourse, and the Origin of the Americas: A New World View*, ed. Vera Lawrence Hyatt, Rex M. Nettleford, and Smithsonian Institution (Washington: Smithsonian Institution Press, 1995), 14.

> Instead it was in terms of mankind's alleged enslavement to the irrational or sensory aspects of its human nature, that the earlier supraordinate goal of spiritual redemption and eternal salvation of the feudal order was replaced by that of rational redemption, through the state as intermediary. This new goal was to be achieved primarily through the individual's actions, as a rational citizen, in ensuring stability, growth, and competitive expansion of the state. It therefore called for a new behaviour-orienting ethic. This new ethic was that of reasons of state, as articulated by the discourse of civic humanism and of a mode of political absolutism that would take the place of the earlier theological absolutism on which the feudal order, as a still supernaturally guaranteed system ensemble, had been based.[253]

With the imperatives of the state determining a new ethic, so too the modes of knowledge and understanding changed. That is, the reorientation of understanding away from the supernaturally-guaranteed knowledge through which the cosmos could be understood (if only incompletely) to a fundamental concern with *this world*, albeit through the framework of the secular state. Of course, as was discussed earlier in this chapter, the state's landscape of authority was changing with the ascension of laypeople to position of power within the university, courts and offices. Such a "general upheaval" to the armature of Christian humanism transferred power to the state. The consequences of this transformation are described by Wynter thusly:

> Through the synergistic interaction of a new group of lay (that is, nonclergy, nonmainstream) intellectuals, incising "men of the sea" like Columbus, it [Europe] was also to bring in, for all humans, a new image of the earth and conception of the cosmos ... In consequence, each culture's representation of its physical environment, like that of the feudal-Christian order, had been made into a function of the ethico-behavioural schemas by which all humans regulated their collective ensembles of behaviours, until the revolution of humanism made it possible for these representations to be replaced with a scientific and transculturally verifiable image of the earth and conception of the cosmos.[254]

Important here is the representation of the physical environment produced by each culture which, Wynter points out, functions within the ethico-behavioural schema of collective relations. The Judeo-Christian mapping of the earth excised by Eanes' voyage around the horn of Africa led to a significant change in the representation of the physical environment and eventually to a change in the inter-cultural relations of the West. Preceding the revolution of humanism that brought about the "scientific and transculturally verifiable image of the earth and conception of the cosmos" was the imposition of rationality as an ethico-behavioural principle, grounded on

[253] Wynter, '1492: A New World View'.
[254] Wynter, '1492: A New World View'. 17.

the notions of stability and expansion—imperatives of the state.[255] The point I would like to make here is that the ethico-behavioural principle of rationality derived from the state is productive of representations of the physical environment by the West that prefigures, or sets the ground for, the scientifically-produced image of the earth and conception of the cosmos that would follow by the likes of Galileo and Locke, among others. Moreover, the verifiability to which Wynter makes note cannot be separated from this previous movement: no break, just a change in the morphology of representation of the physical environment, ethico-behavioural principles and the State.

Here, two strands of thought can be brought together: Wynter's discussion of man and Whitehead's notion of the fallacy of misplaced concreteness. Viewed in the context of secularisation discussed above, the action of reduction is a common thread that ties together the supraordinate imperatives of the State with the conceptualisation of bodies in accordance with the Space of Otherness, leading to the development of the conceptual scheme and methods of modern science, characterised by the fallacy of misplaced concreteness (incorporating the notion of Simple Location) and the bifurcation of nature. Indeed, to invert Wynter's comments: the West produced a means to scientifically verify representations of their own physical environment and instate them transculturally as the order of nature. Indeed, this follows from the image and order of nature that arose in the wake of 1492, when it was posited as homogenous. Wynter does in fact summarise this transmogrification:

> This new image of Nature as an autonomously functioning force or cause in its own right was to accompany the parallel process of the secularising or decoding of the criterion of being human at the public levels of existence that was to be the defining characteristic, both of the process to which we give the name modernity, and of the world system that was to be its condition of existence. The foundations of both modernity and our present world system were therefore laid down in the context of the rise of the post-feudal European state, whose first project of extra-European colonisation was to bring into existence the new sociopolitical structure of today's Caribbean. In turn, these structure were to be themselves founding, both to the world system in which we now find ourselves and to the single history within whose dynamic we all now live.[256]

On this basis, there appears a clear link between the production of a new secular image of nature, the conceptual scheme of modern science and the pervasive determination of bodies according to the Space of Otherness, functioning metaphysically, instated across all lands and cultures that the West touches. Central to this matrix is the method of reduction which creates a

[255] Wynter, '1492: A New World View'.
[256] Sylvia Wynter, 'THE POPE MUST HAVE BEEN DRUNK. THE KING OF CASTILE A MADMAN: CULTURE AS ACTUALITY, AND THE CARIBBEAN', in *Reordering of Culture*, ed. Alvina Ruprecht and Cecilia Taiana (Montreal: McGill-Queen's University Press, 1995), 26.

bifurcation of nature from which an abstraction is created that serves as the site of reduction for other concepts. I hold the concept of matter to be archetypal in this instance. The Space of Otherness—theologically and secularly determined—methodologically produces abstractions on which non-Western bodies are reduced as the Other to the human (as Man1 and Man2).

The previous sections have shown the elemental function of a methodology of knowledge production that reconstructs nature according to an operational bifurcation. This methodology, I have argued, develops out of the colonial encounter, serving to overrepresent and reduce the concepts of nature and the human. A manipulation of Reason and the functional reduction of the material by the conceptual, as is evidenced by the concept of matter, are clear examples of a method that is transposed to other areas and problematics of knowledge production. This is what is at stake in discussions concerning the concepts of nature and the human/man as the terms with which "our relation to the world" are thought.

## Chapter Conclusion

The aim of this chapter was to demonstrate the ways in which the "colonial encounter" instantiated a mode of abstraction that bifurcated nature, which then became the tacit method of knowledge production for the West. The concomitant impoverishment and removal of experience in order to produce an "objective" point of view was central to this turn. What has been dubbed a methodological fallacy, according to which the abstraction is posited as more actual than the material, hinges on the "colonial encounter". Here, the Western knower attempts to discursively and materially reconstruct reality through the concepts of nature and the human in accordance with, firstly, Christian cosmology then, secondly, in terms of the newly-constructed cosmology of Western science. Creating the idea of an objective point of view as a foil for the Western knower ultimately allows experience to purportedly be removed as the premise of knowledge production, which ultimately impoverishes both experience and empiricism. As such, the aim of this chapter was to address the conditions of knowledge-making that have contributed to an alienated "our relation with the world".

Broken down into two parts, this chapter firstly analysed the transformations of the dominate cosmologies of Western knowledge production in relation to the determination of nature and the human, centred on the advent of European colonialism. Focusing on the relation between the abstract and physical things in knowledge produced by the colonial encounter, this initial section set out the terms of knowledge-making, and how various colonial apparatuses sought to divest actuality of what was encountered from their ideas of it. In other words, how theological and secular ideas of what nature/earth and human/man *are* or *should be* over-

determined the actuality of what was encountered. This analysis worked through the ideas presented by Walter Mignolo and Sylvia Wynter, taking a decolonial approach. The objective of Part One was to set out the terms, logic and site of the fallacy of abstraction, and how it was instrumentalised in the production of Western knowledge.

Part Two of this chapter built on the work of the initial section by providing the tools with which a critique of abstraction could take place. Central to this section was the work of Alfred North Whitehead, whose analysis of the separation of abstraction from the material allowed for a further understanding of the machinations of the manipulation of abstraction in the production of knowledge. Concentrating on the "bifurcation of nature", which extrapolates the consequence of forgoing a selection of sense perception of nature as the starting point for conceiving existence, I showed the points at which selectivity potentially occurs. What the analysis of the bifurcation of nature shows, I argued, is that the selectivity of method and the delineation of the focal problematic are not simply the unintended consequences of either implicit or explicit philosophical ideas but are rather determinations resulting from other factors. The ontological and methodological consequences of scientific abstraction were discussed in relation to the function of Reason, before honing in on the concept of matter that results from the preceding analysis.

Overall, this chapter sought to draw a clear critical relation between the concepts of nature and the human/man, the colonial encounter and the fallacy of abstraction that results from impoverishing and at times removing experience from the method of knowledge production. Ultimately, in order to formulate a method of knowledge production that does not allow nature to bifurcate, there is a need to address how experience can be methodologically brought back into the production of knowledge. This will be the focus of the following chapter and is crucial in fully developing a method with which to critique existing ideas and frameworks of knowledge, and to reengineer and construct concepts.

# Chapter Three: Experience and Abstraction

> But the experience of a black man or woman is literally not taken as a human experience, able to be universalised, because in the racial and colonial point of view, black people are not structurally regarded as human beings.[257]

**Lewis R. Gordon**, *What Fanon Said*

> The difficulty has its seat in the empirical side of philosophy. Our datum is the actual world, including ourselves; and this actual world spreads itself for observation in the guise of the topic of our immediate experience. The elucidation of immediate experience is the sole justification for any thought; and the starting-point for thought is the analytic observation of components of this experience. But we are not conscious of any clear-cut complete analysis of immediate experience, in terms of the various details which comprise its definiteness. We habitually observe by the method of difference.[258]

**Alfred North Whitehead**, *Process and Reality*

The *praxis of being human* is not simply a matter of actively living, rather it is the praxis of actively remaking the world which, I argue, requires an examination of the relationship between *experience and abstraction*. But, as the previous chapter made clear, experience is not given as the premise of knowledge production. Nor, as Lewis R. Gordon remarks above, is experience afforded to all. After being cleaved away by the mechanisms by which the reality of the West was remade, experience now needs to be wrestled back from a state of capture by the concept of "objectivity" that was forced in as its replacement. To do so is to attempt to overcome the bifurcation of nature and its problematic effects.

The reason for focussing on the concept of experience is, however, not simply because of the bifurcation of nature. Rather, as Sylvia Wynter has argued throughout her work, there is a vital need to examine the nature of experience in relation to modes of abstraction that disqualify, exclude, or impoverish experience. In 'Towards the Sociogenic Principle', for instance, Wynter details the ways in which the sense of self is metamorphosed by the symbolic structures of culture, and the ways in which they act as mechanisms of control.[259] This argument is based on Fanon's notion of "sociogeny", which is to say the "social genesis" of being as such, which

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[257] Gordon, *What Fanon Said*, xii.
[258] Alfred North Whitehead, *Process and Reality*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free Press, 1985), 6.
[259] Sylvia Wynter, 'Towards the Sociogenic Principle: Fanon, Identity, the Puzzle of Conscious Experience, and What It Is Like to Be "Black"', in *National Identities and Sociopolitical Changes in Latin America*, ed. Mercedes F. Durán-Cogan and Antonio Gomez-Moriana (New York: Routledge, 2001), 30–66.

Fanon argued was a fundamental theory for analysing the experience of Black people, compared to the dominant Freudian theories of phylogeny (origin at the level of species) and ontogeny, which examines the development of an individual organism throughout its lifetime. In *Black Skin, White Masks*, Fanon employs the notion of sociogeny to describe the fracturing of a sense of self—hisself—into a "double consciousness",[260] whereby there is his own, internal consciousness, as well as a white, French sense of self imposed on him. He writes that:

> The black man has no ontological resistance in the eyes of the white man. From one day to the next, the Blacks have had to deal with two systems of reference. Their metaphysics, or less pretentiously their customs and the agencies to which they refer, were abolished because they were in contradiction with a new civilisation that imposed its own.[261]

Born on the Caribbean island of Martinique in 1925, at the time a French colony, Fanon experienced the full imposition of not just what the French determined their sense of self to be, but also what they defined it *in opposition to*. This was, as the previous chapter argued, a figure of man built on the disqualification of those who did not look or behave White, Heteronormatively, and Western. What Fanon thus describes is not just the "lived experience" of a Black colonised person, but the mechanisms and processes through which the social genesis of this sense of self is constructed and how it evolves. That is to say that the notion of sociogeny analyses the formation of this double consciousness as socially constructed. For Wynter, the "sociogenic principle" names the functioning of "laws which govern the realm of lived subjective experience, human and non-human, which govern, therefore, the interrelated phenomena of identify, mind and/or consciousness".[262] In relation to Fanon's notion of sociogeny, the sociogenic principle analyses the process by which "the individual must filter the external through the mediation of what he/she is socialised to experience with reference to his/her culture-specific identity as "good" or "bad"" which thereby forms the sense of self."[263] The importance of the sociogenic principle is thereby the analytic focus upon the interrelation of experience and abstraction as a recursive process. That is to say, the simultaneous processes of the *lived experience of abstraction*s and the *abstraction of lived experience*. The fundamental problem, as was identified in the previous chapter, is the way in which the bifurcation of experience from abstraction creates a fundamental alienation that affects, in such a profound manner, lived experience and, as a consequence, "our relation to the world".

This chapter addresses the conditions of reestablishing experience as the premise of

[260] A notion derived from Du Bois.
[261] Fanon. *Black Skins, White Masks*. 90.
[262] Wynter, 'Towards the Sociogenic Principle', 32
[263] Wynter, 'Towards the Sociogenic Principle', 49.

knowledge production which, it is argued, is therefore a propositional method of overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature. This chapter makes this argument through the lens of what is termed "reconstruction". Chapter Four, which follows, addresses the conditions of reestablishing experience as the premise of knowledge production from the perspective of abstraction. These two chapters run almost simultaneously, addressing two sides of the same problem.

Section One establishes a more precise definition of experience, thereby building upon the notion of experience identified in the previous chapter. Experience is here understood within the problematic of the bifurcation of nature and is, therefore, not understood in terms of post-Kantian or transcendentalist theories built on an investigation into questions concerning the structuration of experience in terms of intelligence and understanding, for example. Indeed, the key distinction made here between such problematics and the one at hand is that experience is taken *as given*. What this means, and what section one seeks to establish, is the relation between experience and the rest of nature. If the removal of experience allows nature to bifurcate, then what are the qualities and concerns of experience in relation to nature that allows it not to bifurcate? The purpose of this section is, therefore, to establish the 'what' of experience that is reconstructed in the production of knowledge.

In Section Two the way in which experience is reintroduced into the process of knowledge production is characterised as the "reconstruction" of experience. Thus, this section produces a definition of "reconstruction" in relation to other projects with shared aims. Of particular concern is the later work of Rudolf Carnap, and especially a reading by his former student Howard Stein, along with the contemporary constructivist projects of Didier Debaise and Isabelle Stengers, both of whom draw significant inspiration from Whitehead. The central questions of this section are: how does reconstruction operate? What are the terms with which it reconstructs? This latter question is answered in more detail in Section Three, in which the first critical step of reconstruction is posed in terms of experience reconstructed according to existing ideas. The discussion in this section is dedicated to a further elaboration of the function of Reason, particularly the relation of purely inductive or deductively modes of Reason to what Whitehead calls "speculative Reason". The argument once again turns to a discussion of the function of Reason in order make clear how Reason can function constructively, without allowing nature to bifurcate. Speculative Reason works against the tide of enclosure imposed by either the solely empirical Reason or the solely theoretical Reason by actively apprehending the infinitude of potentiality. That is, speculative Reason is fundamentally constructive, working through the test of adequacy of ideas to do the job required. Here, the purpose of invoking a further discussion of Reason is to lay the groundwork for a propositional form of knowledge

production named "disclosure".

Section Four introduces a constructive method of knowledge production dubbed "disclosure". Following Whitehead and Stengers, this method of knowledge production is focussed on the enlargement of knowledge and the enrichment of experience, contrary to any reductionist tendencies that have previously been diagnosed as the bifurcation of nature and the theory of misplaced concreteness. The reason for this discussion of disclosure is to lay out the parameters and establish the stakes and groundwork of what is required by knowledge production. Abductive logic is then discussed as an integral facet of disclosure. Two related but functionally different theorisations of abduction are introduced: the pragmatic function of abduction developed by Charles Sanders Peirce, and an intensification of its speculative function advanced by Gregory Bateson. Both theories of abduction are united by the speculative drive to change the context or introduce seemingly disparate evidence to further our understanding of a given problematic. Abduction, in both Peirce's and Bateson's usage, is proposed as a phase of testing concepts, and an integral element in reconstruction as a method of knowledge production. Reconstruction incorporates abduction as a speculative step in which other data can be considered in the construction of concepts, often from unusual or even fictitious sources. It thereby offers a means of incorporating a different vantage point on the problematic at hand.

The final section of this chapter rounds out the critical and constructive facets of the method of reconstruction. These are the tests of adequacy and applicability, drawn from Debaise's reading of Whitehead, and a theorisation of conceptual engineering drawn from Reza Negarestani. The focus of this section is to refine the broader aims and stakes of the method of reconstruction, particularly in relation to how the meaning of a given concept changes depending on the scale and context in which it is deployed. Ultimately, what this means in relation to the method of reconstruction as it is here being advanced, is that the very idea of engineering as a reconstructive activity necessitates the consideration of problems at the local and global scales, as well as the historical and present context of that question or problem. The argument advanced in this chapter builds on the problems of experience analysed in the previous chapter, thereby proposing a means by which experience can be reintroduced as the fundamental premise, focus, and activity of knowledge production. As such, this chapter seeks to address the problem of the alienation in "our relation to the world" from the perspective of experience, and provide the conceptual and methodological tools to overcome this problem.

## What Is Given In Experience?

Against the racial and colonial point of view that denies the human experience of a black man or woman, as per Lewis R. Gordon above, it is imperative that experience be taken as *given*. That is, *as a metaphysical principle*. But, to state that experience is a metaphysical principle is also to state that experience is not confined to humans alone. Whilst this is not the focus of this or the following chapter, it is nevertheless important to note as the general, metaphysical characteristics of experience discussed are applicable to all. That is, according to Whitehead, a cosmology in which a "final reality is identified with acts of experience."[264] The focus of this chapter is to reestablish experience as the premise of knowledge production as a means of overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature. This section focusses on the nature of experience as it forms the premised of knowledge production.

What is given in experience? This question contains the presupposition that experience is indeed given and, therefore, identifies a divergence from a post-Kantian or transcendental notions of experience made possible by apriori concepts and judgments. For post-Kantian theory, experience is not given and is instead, as posited by Negarestani, "only a structured outcome of judgements which themselves are functions of reason as that which is impersonal and formally social."[265] This understanding of experience is raised to make clear the different problematic addressed here. Negarestani cultivates a concept of experience derived in part from the German Idealism of Hegel and Kant in order to posit a very broad notion of intelligence that itself facilitates the project of conceptual engineering premised on reconstruction. These are key ideas and procedures addressed throughout this chapter. In the meantime, the notion of experience posited by Negarestani is one conceived within a different problematic context as that which seeks to address the question of the *structuration of experience* qua intelligence. In other words, what makes experience possible. Yet, this is not the notion of experience utilised in this thesis. As argued in the previous chapter, the context for the present discussion of experience is its removal, or acceptance of an impoverished version thereof, as the basis of knowledge production that allows nature to bifurcate. Therefore, accepting that experience is given in nature is therefore an important first step to not letting nature bifurcate.

In accepting that experience is given, the following question is posed: *what* is given in experience? It is important to place this question in the context of nature itself; particularly in the relation to the nature re-/constructed by Western science, as discussed in the previous chapter. In this sense, nature is the site and situation in which the bifurcation takes place.

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[264] Whitehead, *Process and Reality*, 143.
[265] Reza Negarestani, *Intelligence and Spirit* (Falmouth: Urbanomic, 2018), 498.

Experience is the crux of the bifurcation because in foregrounding experience, nature is not allowed to bifurcate. According to Whitehead, experience is always situated as a unique perspective or view point in nature. This "*locus standi*" represents the particular "here" of experience, as an unique "event" as a "definite factor in nature".[266] Conceptualising experience as an event is a way of making clear the relatedness of the experience with the whole of nature. That is to say, the notion of "event" states an occurrence that incorporates a multiplicity of spatial relations, gathering together other events. Whitehead refers to this as duration "which is represented in thought by the concept of all nature that is present now."[267] With these two ideas, there is an attempt to explicate the relationship between a particular point of view and that which is viewed from that particular perspective. In other words, the place from which an act of awareness is situated and the focal point in nature of that awareness. Whitehead refers to as the "percipient event":

> This event is not the mind, that is to say, not the percipient. It is that in nature from which the mind perceives. The complete foothold of the mind in nature is represented by the pair of events, namely, the present duration which marks the "when" of awareness and the percipient event which marks the "where" of awareness and the "how" of awareness. This percipient event is roughly speaking the bodily life of the incarnate mind.[268]

It is important to recall the problematic at hand: that the removal of experience allows abstraction to over-determine physical things. As such, nature is the site of enquiry for how that methodological bifurcation operates. The methodological premise, therefore, is nature qua experience: "It means that in sense-perception nature is disclosed as a complex of entities whose mutual relations are expressible in thought without reference to mind, that is, without reference either to sense-awareness or to thought."[269] What Whitehead is asking here is to accept a notion of nature without asking the question of how it is possible for a mind to perceive it. This manoeuvre defines the parameters of the problem currently under discussion, utilising the same reasoning that leads to the conclusion that any discussion of how, or even whether, experience is not given—as with Negarestani above—was not appropriate for the question of experience qua nature currently under evaluation. As such, to answer the question "what is given in experience?", it can be stated that nature is given in experience insofar as experience is a *definite factor in nature as an event*.

Turning to the example given by Whitehead of viewing Cleopatra's Needle on the Charing Cross Embankment in London will help to further explicate this point. In order to describe the

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[266] Whitehead, *The Concept of Nature*, 107.
[267] Whitehead, *The Concept of Nature*.
[268] Whitehead, *The Concept of Nature*.
[269] Whitehead, *The Concept of Nature*, 4-5.

nature an observed event, the place, time and character of that event needs to be specified. Whitehead asks us to consider the statement: "Cleopatra's Needle is on the Charing Cross Embankment". By questioning how this statement specifies an event allows for a consideration of the scales of abstraction employed to describe a situation and the way in which they constrict or open up the *eventile* quality of this statement. On the face of it, this statement lacks a transitory character that would mark out the temporal dimension of a situation that is commonly associated with the idea of an event. Yet, when situated within a broader timeline, it changes: a few hundred years ago the monument did not exist on the Charing Cross Embankment. When considering the relation of Cleopatra's Needle to Charing Cross Embankment, the static timelessness of it relative to daily life is ridiculous: there was a time, not too long ago, when the Needle and the Embankment were fundamentally different. In other words, by examining a statement, the context and the fundamentality of it as an event become clear. Whitehead states that:

> What it comes to is this: Amidst the structure of events which form the medium within which the daily life of Londoners is passed we know how to identify a certain stream of events which maintain permanence of character, namely the character of being the situations of Cleopatra's Needle.[270]

Within the "transitory life of nature", a particular "chunk" is identified by the statement: "there is Cleopatra's Needle". Identified here is the needle within the broader context of change (itself successive events). The relative permanence or impermanence of the needle, for instance, depends on how change is characterised and which concepts are used to articulate this situation.

Resulting from the admittance and consideration of experience is a complex of considerations that root experience within a broader context. The question of 'where,' 'when,' and 'how' elicited are tools that situate experience, drawing out a further, fundamental question of the exact relation between the particular *locus standi* and nature itself. Therefore, to admit experience is to assert the wholeness of nature and refuse any bifurcation. These are the exact issues that Mignolo identifies with the concept of "zero-point epistemology".[271]

Yet this is perhaps to jump ahead slightly. The 'where,' 'when,' and 'how' that situate experience can only be identified once *what that experience is* has been ascertained. What is under consideration? What is being looked at? Such questions establishe a focal point that anchors, and to some extent indexes, the further questions of 'where' and 'when'? The former concerns a context, which needs to be delineated, thereby allowing emphasis to be placed on particular

[270] Whitehead, *The Concept of Nature*, 166.
[271] Mignolo, *The Darker Side of Western Modernity*, 80.

elements, explicitly identifying *what matters about that experience*. In this sense, it is a preparatory step in establishing a problematic. 'When' situates experience historically thereby, crucially, opening up communication between the 'when' of that experience and the "now" of what will henceforth be called the *reconstruction of experience*. 'How' concerns the method of reconstruction, which brings attention to not just the way in which an experience is historicised, but the ideas with which an experience is reconstructed. It is therefore both critical and constructive in scope.

If 'how' is considered the fundamental process of reconstruction, then required is an elaboration on what exactly 'how' is. The first element of reconstruction involves the identification of the 'what' of experience, meaning the 'where' and 'when' are established. Here an emphasis is given to an aspect of experience. There is a concession to be made with how this experience is articulated using existing language. Whitehead's example of Cleopatra's Needle is helpful here. A choice can be made about the way in which Cleopatra's Needle is reconstructed. "There is Cleopatra's Needle" can be reconstructed in terms provided by physics, which would employ a conceptual scheme that emphasises molecules, atoms, and other concepts developed to articulate its nature. Or, as Whitehead remarks, an artist might note the textures, play of light, or state "there's a nice bit of colour" in response to the statement "There is Cleopatra's Needle".[272] The choice therefore lies in how and with which terms an experience is reconstructed, which thereby involves the introduction of a conceptual scheme.

These questions are explored when the production of knowledge is approached in terms of the *reconstruction of experience*. This allows experience to be situated but, more importantly, questions the terms, ideas, and concepts used to articulate that experience, focussing on the their adequacy to maintain an emphasis on what matters about that experience. The presuppositions implicit in certain ideas can therefore be drawn out to understand the ways in which they do or do not contribute to the bifurcation of nature. The following section builds on this analysis to propose a theory for the reconstruction of experience.

## A Theory of Reconstruction

Admitting experience as the foundation of knowledge production is to foreground the particular spatial and temporal dimensions of knowledge. To ask the questions of 'where?' 'when?' and 'how?' knowledge is produced is to insist that a particular situation and experience be made explicit. If experience is accepted as a premise, what then is the relationship between experience, knowledge, and understanding? In the previous chapter, it was argued that the conceptualisation of nature by modern science involves the creation of two distinct realities: the objective reality

[272] Whitehead, *The Concept of Nature*, 170.

known to science, and the subjective reality belonging to the mind. Insofar as they are both real, they are real in different manners. The objective reality known to modern science is the realm of objective Truth, while the subjective reality is the realm of the mind. It is important to make clear that nature is not bifurcating ontologically. Rather, nature is bifurcated when it is *reconstructed* according to the cosmology of modern science. The aim of this section and those that follow is to elaborate the meaning, mechanics and method of "reconstruction" in order to make clear its function in re-situating experience as the foundation of knowledge production, thereby not allowing nature to bifurcate and the alienation in "our relation to the world" to form.

The concept of reconstruction it used to identify a point of emphasis which will, in turn, enable a questioning of the 'where?' 'when?' and 'how?' knowledge is produced from an experience. What is "reconstruction"? By reconstruction, I mean the procedure or process by which an experience is considered in relation to various preexisting ideas in order to form an understanding of that experience. That understanding, therefore, becomes the reconstruction of that experience. It is important to couch any discussion of reconstruction in the problematic previously discussed as the bifurcation of nature, and emphasise that it diagnoses a methodological issue and not an ontological one. This methodological issue is, of course, produced by the reconstruction of nature by the scientific conceptual scheme which disregards the experience of the body in favour of its own reductionist concepts. The previous chapter detailed the ways in which the primary scientific attitude of the seventeenth century was *constructive*, according to which nature was effectively broken down into its constituent objects and processes, each of which was analysed via experimentation, giving a nature reconstructed from new ideas.[273] In this sense, experience was removed from the armature of reconstruction, having been replaced with the experiment.

The concept of reconstruction can be situated in the discursive context of logical positivism, particularly the lineage developed by Rudolf Carnap. Carnap's work is an important reference point as it was concerned with the relationship between experience, the logical interpretation thereof, and what is provided for experience by nature, along with the ways in which the negotiation of those relationships provide an understanding of reality. Fundamentally, for Carnap, logic was the language of science. Following André Carus, the lineage of Carnap's work can be split into two distinct periods: firstly, the early period during which the strict understanding of logical positivism was developed; then the latter period of his life, when the devout rationalism of the early period gives way to a position that occupies a middle ground between naturalism and constructivism.[274] The main thrust of early logical positivism came in

[273] Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century*, 178.
[274] André Carus, 'Engineers and Drifters', in *Carnap's Ideal of Explication and Naturalism* (Basingstoke: Palgrave Macmillan, 2012), 237.

Carnap's *The Logical Construction of the World*, in which experience is reduced to the terms by which it can be reconstructed according to logic. The myriad chaos of experience is thus deemed illogical.[275] Experience, for Carnap, necessitates a reduction to logic, hence the term "logical positivism". What this leads to is a refinement of the terms with which the world can be reconstructed according to rational, logical, scientific thought. Refinement aims at creating more precise ideas. Indeed, for Carnap, *explication* is the process of reconstructing or replacing particular terms or concepts within ordinary languages, rather than designing and developing new languages. *Explicada* are vague ideas, *explicata* are more refined ideas.[276] This is the method of conceptual engineering. Early Carnap sought to overcome ordinary language, replacing them with more refined scientific ideas—a project in line with the goals of logical positivism of the Vienna Circle. Or, rather, he sought the creation of a precise scientific language set aside and against the vague language of ordinary life. Later, however, Carnap broke away from these goals in order to explore meta-language and meta-logics of language that offered, so Carnap believed, the possibility of infinitely new modes of expression.

The problem for the later Carnap, and his student at the University of Chicago, Howard Stein, was where to situate the evolved form of logical positivism between the poles of constructivism and naturalism. If the extreme forms are understood respectively as knowledge imposed by us on nature, and nature imposing knowledge on us, Carnap and Stein locate the so-called *provenance of knowledge* in the *dialectical interplay* between the two impositions.[277] This interplay forms the method by which a concept is refined so that it more precisely articulates the empirical—this is the heart of Carnap's early logical positivism.

This position can be situated in relation to the constructivist projects drawn from the work of Whitehead. Isabelle Stengers' work is of particular importance. For Stengers, constructivism "emphasises the need to actively and explicitly relate any knowledge production to the question that it tries to answer" and eschews the notion of knowledge as a neutral statement about the world.[278] Where Carnap and other logical positivists, even Stein, sought in some way to identify the *conditions of knowledge and understanding* vis a vis the empirical and conceptual, this aim, for Stengers, obfuscates the issues that constructivism is primed to address: the test of the adequacy of concepts to emphasise and dramatise a problematic. There is no construction in general; only construction in answer to a challenging situation. Therefore, any concept used to address a situation requires tailoring. Here, there is a clear aim shared by Stengers and Carnap: "Each concept has to be designed and redesigned, as the point is not of adequacy to some kind of pre-

[275] Rudolf Carnap, *The Logical Structure of the World: And, Pseudoproblems in Philosophy* (Chicago: Open Court, 2003).
[276] Rudolf Carnap, *Logical Foundations of Probability* (Chicago: University of Chicago Press, 1971), 3.
[277] André Carus, 'The Pragmatics of Scientific Knowledge: Howard Stein's Reshaping of Logical Empiricism', *The Monist* 93, no. 4 (2010): 626
[278] Isabelle Stengers, 'A Constructivist Reading of Process and Reality', *Theory, Culture & Society* 25, no. 4 (1 July 2008), 92.

existent matter of fact but, rather, that of two questions which are always at work together: is the conceptual agency succeeding in doing what the philosopher wants it to do, and are those aims an adequate expression of the challenge she has decided to confront?"[279] Thus, Stengers' notion of constructivism contains a necessary element of conceptual engineering as a response to the demands put forth by a particular problematic.

The broad aims of Carnap's work—the engineering of concepts and language—are inline with the aim of reconstruction as a method pursued in this chapter, precisely because concepts are the terms with which experience is reconstructed in the process of understanding. Yet, it must be made clear that the method developed by this thesis does not follow Carnap's work—even work of the latter period. Instead, it has been introduced as a touchstone for the argument pursued in this chapter. There are a few reasons for this. As Carus points out, Carnap's study of language in use—called "pragmatics"—sought to formally produce a clearer definition of the empirical part of a theory.[280] The refinement of language, therefore, has an empirical dimension. Yet, Carnap's own project, as stated above, sought through greater abstraction the exploration of a meta-language, leading to the point at which "pragmatics" became concerned with the investigation of conceptual frameworks; the "philosophy of philosophy", as Carus states.[281] Carnap writes that his concern here is "both the theoretical investigations and of practical deliberations and decisions with respect to an acceptance or a change of frameworks, especially of the most general frameworks containing categorial concepts which are fundamental for the representation of all knowledge."[282] Of course, the scope and focus of Carnap's project—the sheer generality of it—is beyond what is presently attempted by this thesis. However, there is a localised version of "pragmatics" developed by Carnap's student, Howard Stein, that is more in keeping with the broader aims of what is here being outlined as "reconstruction".

Stein's notion of pragmatics focussed on the historical morphology of a particular concept, charting its development in adapting to a particular problem within a given field. Carus, elaborating on Stein's work, writes that:

> But although attention was focussed on particular episodes in the history of science, the primary goal was not to contribute to empirical knowledge about the past. The historical episodes were to be used as data for a specific purpose. The conceptual development of physics, for instance, was to be observed not from the viewpoint of the historian seeking to describe or explain the appearance of certain human social or behavioural patterns at certain times, but from the viewpoint of the *physicist* seeking to understand *her own* basic concepts by studying their

[279] Stengers, 'A Constructivist Reading of Process and Reality', 97.
[280] Carus, 'The Pragmatics of Scientific Knowledge', 620-21
[281] Carus, 'The Pragmatics of Scientific Knowledge', 623.
[282] Rudolf Carnap, 'The Philosopher Replies', in *The Philosophy of Rudolf Carnap*, ed. Paul Arthur Schilpp (Chicago: Open Court, 1963), 859–1013, quoted in Carus, 'The Pragmatics of Scientific Knowledge', 623.

> provenance and genealogy, or more generally their rationale. *Reconstruction* of the historical sequence of explications is required—reconstruction from the viewpoint of *our own* present-day science, since *that* is what we are trying to understand and see in a larger perspective. The precise location, within its social, institutional, and intellectual context, of each step in the explicative sequence leading to the present can assist this effort but is not its goal.[283]

The different notions of "reconstruction" advanced above can now be clarified. Firstly, Carnap's idea of explication involves the reconstruction of a concept in an attempt to refine the empirical dimension of that concept. Here, reconstruction is a kind of conceptual engineering, in which the ability of a concept to articulate a given situation is modified and refined. With Stein's variation of pragmatics, reconstruction is part of a method that aims to make clear the morphological changes of a particular concept so as to better understand its historical development, from the perspective of a contemporary situation. In a sense, Wynter's analysis of the figure of man performs a similar process, following a genealogy in which Nietzsche and Foucault in particular, are significant thinkers. Indeed, it is Foucault who exerts a strong influence on Wynter's critique, particularly the mutually-deterministic relationship of the colonial order of knowledge with the invention of the figure of man—a point made clear by Wynter opening *Unsettling the Coloniality of Being/Power/Truth/Freedom* with a direct quotation from Foucault's *The Order of Things*.[284] There is, however, a clear difference between Stengers' constructivism and the idea of reconstruction pursued in this thesis. This relates to the implicit or explicit morphological changes of a concept that occur throughout history as the situation and context in which it is deployed change. Yet, there is a shared determination for this method to be an organ of critique and an emphasis upon novelty as a factor in the enrichment and articulation of what matters.

How does the idea of reconstruction pursued here relate to these notions? The key to this approach is the question: *with which terms is experience reconstructed?* What this introduces is a commitment to analyse the ideas and concepts with which experience is reconstructed which, then, is a further commitment to analysing the latent presuppositions of those ideas: what worldview do they imply? According to which logic do they operate? How do they function? And, importantly, returning to a central concern of this thesis, do they bifurcate nature? With this idea of reconstruction in mind, it can therefore be said that the intention of the method is to examine the adequacy of the concepts used to reconstruct experience—which itself grounds the 'where,' 'when,' and 'how'—as a means to alter or re-engineer those concepts if they fail the test of adequacy or, worse, allow nature to bifurcate. Reconstruction, therefore, is a necessary

[283] Carus, 'The Pragmatics of Scientific Knowledge', 624.
[284] See: Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 257.

step before any conceptual engineering can take place.

The following sections further analyse the logic operating in the relation between experience and the terms with which that experience is reconstructed, in order to make clearer the exact machinations of this method. Building on the analysis of Reason advanced in the previous chapter, the function of speculative Reason detailed by Whitehead will be considered before discussing the consequences the operation of speculative Reason has for the method of reconstruction. Once the method of reconstruction has been established, the notion of conceptual engineering will be discussed later on in this chapter.

## Involvement of Existing Ideas & Speculative Reason

When the ideas with which experience is reconstructed are considered, the relationship between the empirical and constructive dimensions of knowledge production are also put into consideration. The method being proposed puts into communication these two facets, essentially testing the applicability of ideas to articulate, communicate, and convey experience, either in its entirety or a particular aspect thereof. With the terms of reconstruction laid out in the previous section, this section further clarifies the function or logic of this method in relation to an issue discussed in the previous chapter: the function of Reason. This discussion is important because the way in which Reason is conceptualised is a key dynamic in the bifurcation of nature—something that cannot be allowed to happen because of the sense of alienation in "our relation to the world" it produces. The following section, therefore, discusses the function of speculative Reason, firstly in relation to practical and theoretical Reason and, secondly, as the function of reconstruction itself.

Reason has been discussed in the section titled 'The Manipulation of Reason' in the previous chapter. There, it was argued that when practical and theoretical Reason were utilised in isolation, they functioned as motors of exclusion of evidence that would complicate an existing position or view. That discussion was couched in Wynter's analysis of the figure of man, which was produced through the manipulation of Reason by colonial imperatives in the production of knowledge. Exclusion, in this sense, figures heavily in the morphology of Reason. Following Whitehead, the exclusion of Final Causation from consideration in knowledge production paves the way for either practical or theoretical Reason to operate in isolation, thereby bifurcating nature. Against the isolating function of Reason conceived as either practical or theoretical, both of which exclude Final Causation from their operation, a further function is conceived as that which admits aim/purpose/Final Causation into the operation of Reason. Speculative Reason works against the tide of enclosure by either the solely empirical or the solely theoretical by

actively apprehending the infinitude of potentiality. That is to say that speculative Reason is fundamentally constructive, testing the adequacy of ideas to perform the job for which they were designed. It is here worth noting the difference between the constructive attitude of the seventeenth century mentioned in the previous chapter, and the constructive function of speculative Reason. The former, as noted by Funkenstein, operates through isolation, perpetrating an account of reality in which the elemental forces operate within space as a container—a notion similar to the Newtonian conceptual scheme which, according to Whitehead, bifurcates nature. Speculative Reason, on the other hand, operates counter to this dogmatism, as will be shown below. It is a constructive force that reaches beyond the confines of the present situation and understanding thereof. By considering the integral function of aim, there is a speculative step taken into infinitude which allows, from a methodological perspective, the active questioning of how an idea or concept aid in emphasising a particular aspect of experience as it is reconstructed.

What Whitehead makes clear through the analysis of practical and theoretical Reason is that both, when isolated, operate to confine a given methodology—i.e. not admit evidence that would disrupt this methodology—in a bid to ensure its repetition. Dogmatism refuses evidence that invalidates its claims. Against enclosure, Whitehead argues that "Reason is the organ of emphasis upon novelty", a counter-agency to fatigue, which acts to thwart the upward thrust towards novelty.[285] Taking the function of practical Reason or efficient cause, defined in terms of Ulysses as "reason seeking an immediate method of action", speculative Reason posits an aim to this action in the form of final causation.[286] In other words, the admission of final causation enables an understanding of the function of Reason as the attainment of novelty, meaning that the heart of Reason itself is speculative. Following Whitehead, then, it can be stated that the "primary function of Reason … is to constitute, emphasise, and criticise the final causes and strength of aims directed towards them."[287] Thus, there are fundamentally two processes of Reason: one concerning constitution, and another whereby Reason produces the means of its own judgement. These two functions will now be discussed.

The function of Reason, in the first instance, is the motor by which facts are realised in accordance with the integration of physical experience—efficient causation—with what Whitehead calls "mentality", understood as the abstract evaluation of an aim, otherwise referred to as a final cause. Mentality operates to select which conceptual factors inhere in fact, and thus contribute to the definiteness of facts themselves.[288] Selecting from an infinite number of

[285] Whitehead, *The Function of Reason*, 20, 23.
[286] Whitehead, *The Function of Reason*, 11.
[287] Whitehead, *The Function of Reason*, 26.
[288] Whitehead, *Process and Reality*, 33.

conceptual factors—themselves eternal, and only known through their inherence in facts—opens the formation of facts up to the infinite. As such, speculative Reason is thus defined by its inclination toward the infinite; or, as Whitehead remarks, "the urge beyond".[289] But, there are extents to which its operation is tethered. Whitehead writes that "in its lowest form, mental experience is canalised into slavish conformity. It is merely the appetition towards, or from, whatever in fact already is."[290] Mentality, in lower forms, as with rocks for example, is restricted to a *capacity* rather than an active operation. But, as Whitehead notes, it *is* mentality, albeit one that can produce nothing new, or "stretch out no arm to save nature from its ultimate decay."[291] This is saved for the higher forms of mentality, where the infinite itself functions as a lure for Reason, the apprehension of which is the fundamental activity in the production of novelty.

Where the lowest forms are content with repetition, the highest forms involve complex integrations and reintegration of physical and mental experience. As such, Reason turns into a criticism of its own production, and thus becomes more than itself: "it is the appetition of appetitions".[292] Further, Whitehead writes that, Reason "canalises its own operations by its own judgements".[293] What this means, as Luciana Parisi explains, is that speculative Reason becomes a second order process that "exposes the immanence of infinity" that acts as a counter-agent to repetitive experience.[294] Here, the true function of speculative Reason is evident as the force that *undermines* the stability of experience through the ingression of the infinite in fact. Reason, as such, is characterised by the incessant drive to undo its own operations. Whitehead describes this as the element of anarchy that defines the speculative tendency of Reason, which "civilises the brute force of anarchic appetition" by introducing novelty into the existing order of things.[295]

The function of speculative Reason can now be returned to the discussion of method, and specifically as the counter-agency to dogmatism of certain strains of scientific thought, particularly those that bifurcate nature. Speculative Reason is important to the method of reconstruction because it allows the relation between the terms and the aspect of experience reconstructed to be analysed and questioned. Fundamentally, it questions the adequacy of concepts applied to the reconstruction beyond the scope of any singular method. It thereby rejects the methodological confinement that has led to the kind of exclusion diagnosed in the previous chapter. Indeed, Whitehead demonstrates that the speculative function of Reason involves a thrust beyond the limited past and into the infinite. Reason moves against the tide of confinement. Thus, "it is its own dominant interest, and is not deflected by motives derived from

[289] Whitehead, *The Function of Reason*, 33.
[290] Whitehead, *The Function of Reason*.
[291] Whitehead, *The Function of Reason*, 34.
[292] Whitehead, *The Function of Reason*.
[293] Whitehead, *The Function of Reason*.
[294] Luciana Parisi, *Contagious Architecture: Computation, Aesthetics, and Space* (Cambridge: The MIT Press, 2013), 75.
[295] Whitehead, *The Function of Reason*.

other dominant interests which it may be promoting."[296] In terms of a method, then, speculative Reason works to test the foundational concepts of a specific method that determines the interpretation of existing facts. It tests the *relation* between facts and method, allowing the logic of speculation to "enlarge and recast the categoreal ideas within the limits of that topic".[297] Knowledge production therefore faces the demand of adequacy, where the constant testing of the scope of its method is made in conjunction with the admittance of facts. The stasis of theoretical Reason and its structuration by fixed universals is shown as inadequate. Beyond the function of Reason within a specific method, Whitehead points out a secondary, more generally-orientated function that:

> seeks to build a cosmology expressing the general nature of the world as disclosed in human interests. It has already been pointed out, that in order to keep such a cosmology in contact with reality accounts must be taken of the welter of established institutions constituting the structures of human society throughout the ages. It is only in this way that we can appeal to the widespread effective elements in the experience of mankind. What those institutions stood for in the experience of their contemporary, represents the massive facts of ultimate authority.[298]

There are two main takeaways from the discussion of speculative Reason: firstly, the critique of methods of knowledge production, in terms of their limitations and exclusions of facts that would otherwise test their methodological foundations, and, secondly, the demand it places upon any framework of knowledge production to be inclined towards the infinite vis a vis novelty. As speculative Reason concerns the conceptualisation of facts, from which a method is developed, it thus acts as a counteragent to reduction; either in terms for mechanistic physicality, or pure theoretical volition. In sum, it articulates an integral relation between the empirical and the abstraction, refusing to bow to any bifurcation. Speculative Reason, it stands, is the motor of reconstruction.

## Reconstruction as Disclosure

> The disadvantage of exclusive attention to a group of abstractions, however well-founded, is that, by the nature of the case, you have abstracted from the remainder of things. In so far as the excluded things are important in your experience, your modes of thought are not fitted to deal with them. You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your *modes* of abstraction. It is here that philosophy finds its niche

[296] Whitehead, *The Function of Reason*, 38.
[297] Whitehead, *The Function of Reason*, 85.
[298] Whitehead, *The Function of Reason*. Emphasis added.

> as essential to the healthy progress of society. It is the critic of abstractions. A civilisation which cannot burst through its current abstractions is doomed to sterility after a very limited period of progress. An active school of philosophy is quite as important for the locomotion of ideas, as is an active school of railway engineers for the locomotion of fuel.[299]
>
> **Alfred North Whitehead**, *Science and the Modern World*

The line of thought pursued throughout this chapter traces the problematic function of abstraction cleaved from physical things, whereby the abstract is posted as actuality itself. Such a reduction, as was shown in the previous section, leads to an emphasis either on the physicality of things or on abstraction; that is, things conceptualised according to practical Reason, known inductively, or as theoretical Reason, known deductively. Attempting to reconcile this bifurcation is, I argue, of fundamental importance as a means to overcome the alienation with "our relation to the world". Yet, the intention behind reconciling the bifurcation as it has been diagnosed thusly is not to establish a means by which access is gained to a more concrete reality that is currently obfuscated by abstractions—it is not an attempt to develop a methodology and conceptual schema that more efficiently discovers things themselves and our experience thereof. Rather, it is to posit a methodology that more adequately draws attention to the problematics at hand in order to construct a means of dealing with them. To explicate the means by which this demand may be met, I will now turn to a theorisation of knowledge production as "disclosure" derived from the work of Whitehead and Isabelle Stengers.

If knowledge is produced in response to a specific problematic, what role does abstraction play? What relation do concepts have to physical things? As the introductory quotation makes clear, abstractions are integral for thought, but they are not to be treated as conclusive entities. Rather, abstractions need to be questioned, adjusted, and altered in relation to a specific problematic as a means to adequately articulate and, thereby, emphasise the way in which that problematic matters. The endeavour of understanding can be broadly framed as the relation between the finitude of a certain fact and the infinitude expressed as possibility. In so far as the previous discussion of Reason was concerned, the want for finitude—the need to ascertain and establish universal notions—curtails the infinitude of possibility itself through a desire for the certainty of knowledge, thus methodologically removing the influence of possibility in the formation of knowledge and understanding. Indeed, building upon the function of speculative Reason as the apprehension of infinitude in the production of novelty, it follows that the disclosure of knowledge lies in the revealing of that which is unexplored. In this way, "any

[299] Whitehead, *Science and the Modern World,* 59.

knowledge of the finite always involves a reference to infinitude".[300]

Whitehead's theory of disclosure is a small but fundamental aspect of the broader philosophical project, existing in composite form alongside other aspects integral to philosophy, broadly speaking, and the theory of understanding more specifically. What disclosure provides is an imperative for knowledge production, the outline of a logic thereof, and a pathway for understanding the role of, and how to deal with, abstractions.

Following the logic posited by the theory of misplaced concreteness, the relation of abstractions to empirical things must be *integral*. Abstractions cannot therefore be an idealised concept of which the empirical entity is a less-than-perfect instantiation thereof (Platonic), nor can it merely be an abstract representation of an empirical thing—i.e. abstracted from something concrete. For Whitehead, both of these theorisations of abstraction are impoverished. Rather, abstractions must function to emphasise empirical things in a manner that *enlarges* rather than reduces our collective understanding of an entity. In the case of the concept of matter, as has been previously discussed, such a reduction dramatically reduces the further ways in which a given entity can be understood because, necessarily, any further knowledge is rather superfluous to the fundamental expression of an entity in terms of bare matter. This relation once again recalls Whitehead's juxtaposition of the poet and the scientist: the former is superficial, the latter is the essential truth. This is why, for Whitehead, abstractions are conceived as "lures" for thought, enticing one into a speculative undertaking that discloses new aspects of knowledge. Moreover, they are a "lure for feeling" because feeling—a notion that Whitehead extricates from its usual meaning and employs broadly—concerns the way in which experience matters.[301] Thus, one function of disclosure is to induce an alteration in the way in which things matter by introducing a new aspect to knowledge of an already existing thing. An example given of this mode of thought is the Battle of Waterloo. Whitehead writes that:

> This battle resulted in the defeat of Napoleon, and in a constitution of our actual world grounded upon that defeat. But the abstraction notions, expressing the possibilities of another course of history which would have followed upon his victory, are relevant to the facts which actually happened. We may not think it of practical importance that imaginative historians should dwell upon such hypothetical alternative. But we confess their relevance in thinking about them at all, even to the extent of dismissing them. But some imaginative writers do not dismiss such ideas. Thus, in our actual world of today, there is a penumbra of eternal objects, constituted by relevance to the Battle of Waterloo.[302]

[300] Whitehead, *Modes of Thought*, 44.
[301] Whitehead, *Process and Reality*, 185.
[302] Whitehead, *Process and Reality*.

Shown in this example is the relation between abstract ideas—what Whitehead calls "eternal objects"—and the actual world in which possibilities linger as a necessary aspect of its constitution. A possibility showing another course of history thus acts to induce an alteration to the understanding of the event (the Battle of Waterloo) thereby *enlarging* our understanding of not just this course of history, but the contemporary actual world. In a different vein, this function can be found in the science fiction novel by Philip K Dick titled *The Man in the High Castle* that present an alternative history in which a Japan-Nazi alliance won the Second World War, with the United States of America becoming a colony of the Third Reich. As Carl Freedman writes, Dick's alternative history is an attempt to think the unthinkable: the triumph of Nazi Germany against the allied forces, whose victory seemed to be inevitable and almost "metaphysically sanctioned".[303] Yet, this unthinkable reality is portrayed as remarkably familiar, leading the reader to posit how commonplace and even integral the mechanisms of alienation are to human existence at large. Through the contrast posed between Eastern and Western cultural, social, and moral attitudes, existential questions are asked about the human condition under the German-Japanese capitalist monopoly of the fictional USA, which thereby force a reflection on the character of the actual post-war USA within the context of the Vietnam War. Dick's novel, therefore, is a means with which to consider the actual world from a fictional standpoint that emphasises certain issues, problems and ideas.

While this example may seem to lack practical importance, it goes to highlight the fundamentality of language in philosophical endeavour. Indeed, philosophy is the business of crafting language, looking beyond common phraseology in order to enlarge knowledge and alter experience: "Our understanding outruns the ordinary usage of words".[304] What Whitehead means by this remark is that speculative philosophy engineers the act of disclosure through the revision and creation of language. Important to note that in this sense, language is functionally identical to abstractions: both are the tools of philosophy. Indeed, as Whitehead writes, there is "no reason to hold that confusion is less fundamental than is order. Our task is to evolve a general concept which allows room for both; and which also suggests the path for the enlargement of our penetration."[305] In other words, a concept enhances the understanding of a problematic by showing it in a new light. Crucially, however, the concept must not attempt to overgeneralise. What this means is that, by returning to the example of the concept of matter, it is inadequate to dispute the *adequacy* of this concept in a general sense because the sheer generality of the concept and the situation to which it refers does not arise from a particular challenging situation. As such, the success of the concept and the adequacy of its deployment is

[303] Carl Howard Freedman, *Critical Theory and Science Fiction* (Hanover: Wesleyan University Press, 2000), 166.
[304] Alfred North Whitehead, *Modes of Thought* (New York: The Free Press, 1938), 49.
[305] Whitehead, *Modes of Thought*, 50.

difficult to ascertain because it does not relate to a specific situation. The concept of matter is an instrument of science with which nature is reconstructed. When this reconstruction of nature is universalised, and experience demoted, the bifurcation of nature occurs.

There is a secondary aspect to the relation of generality to specificity: the applicability of a concept to articulate a given situation. In much the same way that any test of the adequacy of the concept of matter to articulate a given situation falters when the situation is too general, so too this problem arises when a concept developed to address a specific situation is used too generally. Indeed, when the limits of applicability are not established by a theoretical proposition, an error occurs—as Whitehead accuses Newton's *Scholium*.[306] It is the job, therefore, of reconstruction to include the testing of the limits of applicability in the delineation of a problematic. The following section discusses the logic of abduction as a means of establishing the limits of a problematic, thereby ascertaining the grounds on which the operation of construction can be pursued.

## Two Abductions

What disclosure necessitates is a speculative leap into the unknown via the creation of propositions that seek to expand knowledge and empirically alter experience. Central to disclosure is the function of speculative Reason. Operating contrary to both deductive and inductive forms of reasoning, speculative Reason reaches beyond a given situation, into possibility itself, in order to propose an alternative means of understanding a given situation. In other words, speculative Reason functions to conceptually test the applicability of understanding. But, how does it do so? And how does this differ from other forms of reasoning? The following section provides an elaboration of the method of speculative Reason by discussing the abductive logic of forming hypotheses. There are two focal points of this discussion: firstly, the pragmatic function of abduction as it was developed by Charles Sanders Peirce, and, secondly, an intensification of its speculative function developed by Gregory Bateson. This section expands the constructive dimensions of a speculative method by which the alienation of "our relation to the world" is addressed.

Abduction is a novel mode of synthetic inferential reasoning, different in character from both deductive and inductive reasoning. Indeed, inference belongs to a different realm compared to that of rational logic. As Kuang Tih Fann notes, what marks Peirce's abductive logic out from other forms of classic logic is that it is not primarily concerned with the ascertainment of Truth per se, but rather attempts to describe the logical form by which new hypotheses and ideas are

[306] Whitehead, *Process and Reality*, 93.

produced.[307] Abduction pertains to the creation of hypotheses, not the determination of their truth or falsity. For Peirce, deductive and inductive logics are dependent upon the Necessary and the Real respectively, where the former concerns the steps taken upon the acceptance of a hypothesis and the latter establishes a relation of agreement or disagreement between reality and a hypothesis. Abduction, by comparison, takes as its realm the possible, from which a hypothesis is constructed and tested in relation to the Real. Peirce writes that:

> Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value and deduction merely evolves the necessary consequences of a pure hypothesis.
>
> Deduction proves that something *must* be, Induction shows that something *actually is* operative, Abduction merely suggests that something *may be*.[308]

Abduction is not reliant on an established hypothesis, nor on already-observed facts. How, then, is an explanatory hypothesis formed? Peirce's early exploration of abductive reasoning led the form to be termed "Retroductive" because it involved "reasoning from consequent to antecedent".[309] That is, from effect to cause. For example, an explanation of the causal formation of frozen grass would be: the grass is frozen because the temperature is below 0°C. Thus, the cause (-0°C temperature) can be inferred from the effect (frozen grass). Of course, once this hypothesis has been established, it can be confirmed via induction.

In this example, the hypothesis is generated through inference, thereby providing an explanation of a given situation. Far from merely attempting to describe a phenomenon, the abductive form generates a hypothesis that fundamentally alters the applicability of a conceptual order in relation to a phenomenon precisely by the introduction of a new idea. How does it achieve this? The generation of a new idea is disruptive to the existing, accepted conceptual order because of the challenge it poses to an established idea's applicability to explain. Indeed, on this point Peirce is quite clear. For Peirce, the inferential step of abduction includes a "preference for any one hypothesis over another which would equally explain the facts, so long as this preference is not based upon any previous knowledge bearing upon the truth of the hypothesis."[310] It follows, therefore, that abductive inference is focussed on the production of novelty as that which is fundamentally new. It does this through disruption to the accepted

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[307] Kuang Tih Fann, *Peirce's Theory of Abduction* (The Hague: Nijhoff, 1970), 8.
[308] Charles S. Peirce, *The Essential Peirce: Selected Philosophical Writings*, ed. Peirce Edition Project (Bloomington: Indiana University Press, 1992), para 216.
[309] Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce VI: Scientific Metaphysics*, ed. Charles Hartshorne and Paul Weiss (Cambridge: Harvard University Press, 1935), para 469.
[310] Peirce, *Collected Papers VI*, para 525.

conceptual order; a dramatisation of the relation between the phenomenon observed and the existing conceptual order that provides the means of explanation. A hypothesis formulated through abduction thus provides the potential for something to be explained otherwise.

Building on the inferential form of abduction as it is formulated by Peirce, there is a need to question the relationship between an observed phenomenon, its situation, and the way in which the conceptual order of its *context* is altered when a new hypothesis is generated. If the viability of a conceptual order to explain a given phenomenon changes, this means that part of a given situation has been fundamentally altered, thereby producing knock-on effects to the understanding of the broader situation. This is why abduction can not be consider a singular process; instead it initiates a chain reaction of questioning to which the conceptual order is subjected. Indeed, Peirce writes, for "abduction commits us to nothing. It merely causes a hypothesis to be set down upon our docket of cases to be tried."[311] As such, Peirce's notion of abduction is fundamentally propositional, and suggestive of the ways in which something could be *otherwise*.

The second form of abduction differs somewhat from Peirce's formulation. In *Mind and Nature*, Gregory Bateson describes abduction as the process by which disparate phenomena are brought into relation by a shared rule. In this sense, novelty is created when commonalities between diverse things are found, thereby generating a propositional means of understanding. For Bateson, abduction involves a "lateral extension of abstract components of description".[312] Examples of abduction are metaphor, dreams, parable, and allegory. As such, abduction is the search for a *relation* between disparate or seemingly-unrelated objects, events, or situations as they are conceived by likewise disparate or seemingly-unrelated bodies of knowledge, thereby multiplying the description of those objects, events or situations. A shared rule relates to the formal characteristics common to more than one thing. Bateson develops this understanding of abduction through an analysis of the commonalities between knowledge of natural systems and social systems, according to which understandings of certain functions in the former are applied to understandings of the latter. For example, Bateson writes that:

> This repetition has certain very effective implications. It carries injunctions, for the people concerned. Their ideas about nature, however fantastic, are supported by their social system; conversely, the social system is supported by the ideas of nature. It thus becomes very difficult for the people, so doubly guided, to change their view either of nature or of the social system. For the benefits of stability, they pay the price of rigidity, living, as all human beings must, in an enormously complex network of mutually supporting presuppositions. The converse of this

[311] Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce V: Pragmatism and Pragmaticism*, ed. Arthur W. Burks (Cambridge: Harvard University Press, 1958), para 602.
[312] Gregory Bateson, *Mind and Nature: A Necessary Unity* (London: Fontana, 1985), 157.

> statement is that change will require various sorts of relaxation or contradiction within the system of presuppositions.[313]

This dynamic plays out in the mutual determination of the human and nature by European colonialism, as detailed in the previous chapter, and as Wynter's analysis of these machinations makes clear. It is the determination of objects, events, situations or, indeed, people, by certain presuppositions—either explicitly and implicitly—that provides, in Bateson's words, stability. Of course, the stability of a social structure is precisely achieved through the rejection of change driven by the reinforcement of ideas "derived" from nature, persistently lived through and reinforced by various institutions. It presents a "natural order" according to which society is continually reconstructed.

Abduction intervenes in this dynamic in two ways: inductively and deductively. The intervention operates inductively by seeking commonality in the formal characteristics of two or more objects/events/situations, thereby establishing a shared rule through the construction of a hypothesis. The intervention can also operate deductively by seeking a commonality in the *description* of two or more objects/events/situations. Thus, establishing an understanding of the objects/events/situations is the starting point from which the production of novelty at the level of conceptual order is aimed. In this latter sense, disruption of the existing conceptual order is sought. In terms of the structuration of society derived from nature, this deductive intervention is therefore a means by which presuppositions are questioned, thereby disrupting the stability of such and such an order of understanding.

The differences in approach between abduction as it is conceived by Peirce and abduction formulated by Bateson can be seen here. First, however, there is a clear similarity in both approaches: to quite literally *abduct* a concept from one conceptual framework and place it in another, in an attempt to dramatise and disrupt the existing conceptual order with which an object/event/situation is understood. The act of abduction, therefore, involves the construction of a novel hypothesis, rather than proving the Truth of a hypothesis, which it makes visible through disrupting a range of presuppositions. Through this act, the source of those presuppositions and the way in which they govern understanding become more apparent. Thus, abduction can be said to initiate a form of critique that makes possible the construction of knowledge. Both Perice and Bateson foreground the production of novelty as the key objective of knowledge. The central difference between the two theorisations of abduction is that for Peirce, it follows formal logic up to the point at which the Truth claim of a hypothesis requires verification. That is, abduction offers a route to the Truth via the consideration and construction

[313] Bateson, *Mind and Nature*, 158

of novelty. Bateson's theory of abduction, on the other hand, is more *sociological* in value because it aims at novelty without the explicit requirement to verify a Truth claim.

Although both Bateson and Peirce's theories of abduction are utilised in the formulation of hypotheses, there is an analytical function of abduction too. Indeed, for Wynter, Bateson's theory of abduction is a means by which to analyse the shifting tools of coloniality, particularly in terms of the "semiotic foundations of bourgeois thought" that enact the structuration of behaviour according to which the West, as a project, is constructed.[314] Systems of representation and symbolic orders are said to function abductively to recursively instate the modes of being through which the colonial Western social reality is perpetually built and rebuilt.[315] This is to say that the construction of symbolic figures, the behaviour and sociocultural modalities these instate, function abductively. Wynter points to the patriarchal system as an example of this function, according to which order is provided symbolically by the figure of "*Woman as-Not-The-Father*" as an analogy of "Man-as-Father", thereby constructing a culture-specific system that orientates behaviour.[316] The former is the Symbolic Other to the Norm of the latter. A further example is given as the *Studia*, which will be discussed in depth in the following chapter. Although abduction is posited by Wynter as the function of coloniality, it is also posited as a constructive, decolonial method by which a different reality can be built. As such, and as Aaron Kamugish notes, the analytical and constructive dimensions of abduction are utilised by Wynter throughout her entire body of work.[317]

The theory of abduction pursued here borrows from both Bateson and Peirce. Working from effect to cause, as is the case with Peirce's notion of abduction, allows for a testing of ways in which the existing conceptual order provides knowledge about that effect and that cause. Bateson's invocation of ideas that are disparate to the situation under consideration—their abduction—is focussed on producing new *relations* and new modes of understanding. The centrality of a hypothesis as a propositional tool is shared by both. Considered together, abduction offers a method by which novelty is emphasised in the critique and construction of knowledge. It must be made clear that the response to the problem diagnosed as the exclusion of evidence is *not* to include a mass of evidence beyond the scope of the problematic under consideration. Building new relations requires a step beyond that which is already known, requiring ventures into areas that perhaps bear no obvious relation to the object/event/situation at hand. Abduction means to venture; allowing for a consideration of not just the ways in which

[314] Sylvia Wynter, 'Beyond the Categories of the Master Conception: The Counterdoctrine of the Jamesian Poiesis', in *C. L. R. James's Caribbean*, ed. Paget Henry and Paul Buhle (Durham: Duke University Press, 1992), 65.
[315] Sylvia Wynter, 'Beyond Liberal and Marxist Leninist Feminisms: Towards an Autonomous Frame of Reference', *The CLR James Journal* 24, no. 1/2 (2018), 32.
[316] Wynter, 'Beyond Liberal and Marxist Leninist Feminisms', 33.
[317] Kamugisha, 'The Black Experience of New World Coloniality', 129–45.

an increase and emphasis on novelty can be achieved, but also the ways in which such an inclusion of novelty can be used to test the adequacy of concepts. It is a fundamental process of critique and construction central to the method of reconstruction, which will be explicated in the following section.

## Adequacy and Conceptual Engineering

Adequacy is an important principle in both the critique and construction of concepts. It is both a test for existing knowledge, and a demand for new knowledge. This section outlines what the test of adequacy entails. Drawn from Whitehead, adequacy is discussed as a central principle not just in the relation of a concept to the articulation of an aspect of experience, but the functioning of a conceptual scheme vis a vis experience. What this entails is travelling along a path of greater generalisation to question the way in which a concept relates to a broader conceptual scheme. Again, this can be related to the critique of the figure of man by Sylvia Wynter, and to the method of historical reconstruction utilised in Stein's notion of pragmatics. This section sets out the terms and situation in which conceptual engineering may be considered a necessity. In this sense, adequacy is a kind of entry exam for the project of conceptual engineering; critical and constructive aspects of the broader method named "reconstruction".

Whitehead's discussion of the term "adequacy" is couched in the same problematic explored by Carnap and Stein: the relation between the empirical and a broader conceptual scheme. However, unlike the latter two, Whitehead is not concerned with the conditions of knowledge, rather he is occupied with the *capabilities of a coherent, logical philosophical scheme to applicably and adequately interpret experience*. In this sense, understanding and knowledge are taken as givens: it is not a question of their possibility as such, but rather how they function in relation to immediate experience. In respect of the philosophical scheme, Whitehead writes that "here "applicable" means that some items of experience are thus interpretable, and "adequate" means that there are no items incapable of such interpretation."[318] This is a fundamental tenet of a cosmological scheme. It is important to note that while the current method of reconstruction does not seek to function at a cosmological scale, there are significant elements of Whitehead's cosmological scheme that are necessary to consider in relation to the method of reconstruction. The term "adequacy", insofar as it functions in Whitehead's system of speculative philosophy, concerns one of two aspects: its empirical side rather than its rational side. Whitehead writes that:

> The rational side is expressed by the terms "coherent" and "logical." The empirical side is

[318] Whitehead, *Process and Reality*, 3.

> expressed by the terms "applicable" and "adequate." But the two sides are bound together by clearing away an ambiguity which remains in the previous explanation of the term "adequate." The adequacy of the scheme over every item does not mean adequacy over such items as happen to have been considered. *It means that the texture of observed experience, as illustrating the philosophic scheme, is such that all related experience must exhibit the same texture.*[319]

While there is a temptation to understand each aspect—the rational and the empirical—in isolation from one another, there is a direct correlation between them. The ambiguity of the previous explanation of adequacy to which Whitehead refers concerns the necessity of a philosophical scheme to interpret all experience, without exclusion. For, if a scheme were to omit certain aspects of experience that did not accord to its principles, or present a challenge to its core tenets, then it cannot be considered fit for purpose. The lineage established between the bifurcation of nature and the speculative cosmology is clear, even though the former diagnoses a methodological issue in knowledge production and the latter is fundamentally metaphysical in nature. Indeed, for Stengers, the demand for adequacy "obliges philosophers not to invoke any cause allowing them to eliminate, forget, treat as an exception, or disqualify an element of experience" and that "the scheme must be able to embrace the very thing that would be invoked in the mode of a challenge, contradiction, or scandal".[320] Yet, there is more to the notion of adequacy beyond this idea of non-exclusion of certain elements of experience.

Both "adequacy" and "applicability" are suggestive of quite simple, straight-forward functions: the former concerning a satisfactory correspondence between a philosophic scheme and empirical experience, the latter concerning the satisfactory implementation of ideas to interpret experience. Returning to the above quotation from Whitehead, the definition of adequacy is given as "the texture of observed experience, as illustrating the philosophic scheme, is such that all related experience must exhibit the same texture."[321] In a beautiful example of Whitehead's own conceptual engineering, the notion of adequacy has been shifted from a "common place" understanding to one that places a demand on the *relational capacity* of the scheme vis a vis experience.[322] What does this mean? It means that the scheme must be adequate in the way in which it constructs relations between experiences, enhancing and enriching the sense of understanding about the multiplicity of experience itself. Adequacy is therefore an imperative for speculative construction rather than simply stating an agreeable correspondence between existing ideas and observed experience. As Didier Debaise has shown, the constructive imperative of adequacy means that the philosophic scheme has to function by generalisation in

[319] Whitehead, *Process and Reality*, 3-4. Emphasis added.
[320] Isabelle Stengers, *Thinking with Whitehead: A Free and Wild Creation of Concepts*, trans. Michael Chase (Cambridge: Harvard University Press, 2014), 246.
[321] Whitehead, *Process and Reality*, 4.
[322] Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* (Cambridge: The MIT Press, 2012), 144.

order to fulfil its obligation of not excluding any elements of experience. "It advances step by step," writes Debaise, "crossing areas of convergence, establishing new relations, attempting to realise a structure from which no element would be excluded a priori."[323] The demand to not exclude anything set out by this theorisation of adequacy, and the imperative laid upon the philosophic scheme itself, seems almost impossible to fulfil. Indeed, the speculative impulse of such a scheme coupled with the rigorous, rational constraints thereof, sheds a different light on the subtitle "A Free and Wild Creation of Concepts" adorning Stengers' text: the resulting concepts may be wild, but there is a rigor to their creation that is not typically associated with the idea of freedom. Yet, these demands spell out clear constraints to which speculation must accord. These are adequacy and applicability. Summarily, Debaise writes that "when we speak of adequation we focus on the scheme's *relational capacity*, whereas when we speak of application we emphasise its *capacity to account for* the particularities of experience."[324] These demands establish not just the core principles of the method of reconstruction, but set the base demands for conceptual engineering because they are both critical and constructive.

What does the test of adequacy entail? In simple terms, a claim or statement fails the test of adequacy if it excludes an aspect of experience. The test, therefore, is to assess a claim or statement in terms of the bifurcation of nature. Isabelle Stengers provides a test of adequacy in relation to the statement: "atoms truly exist!"[325] Two responses to this statement are presented: to deny it, and to affirm it. In the first instance, a denial means to state that atoms are in fact not part of our experience and should therefore be excluded, thereby censoring this statement. Yet, this is to censor the experience of those who "actively implicate atoms in their reasoning" when "the fact is atoms henceforth "communicate" well with their experience." Conversely, to affirm this statement would be to remark something like: "*You cannot deny that atoms truly exist, independently of human knowledge!*" Here, the "mode of differentiation" that made nature bifurcate is affirmed. It is precisely this statement that advances the philosophical theory of primary and secondary qualities. Both thereby fail the test of adequacy. If a scheme is adequate, the link between the statements "*You cannot deny*…" and "*independently of human knowledge*" currently occupied by the statement "*that atoms truly exist*" will be modified in order to make it not bifurcate nature, thereby making it applicable and adequate. Put slightly different, when a statement or concept applies to a limited group of facts, it is therefore applicable; when it applies to all facts, then the scheme is adequate.[326] In other words, through generalisation there is a move from

[323] Didier Debaise, *Speculative Empiricism: Revisiting Whitehead*, trans. Tomas Weber (Edinburgh: Edinburgh University Press, 2017), 12.
[324] Debaise, *Speculative Empiricism*, 13.
[325] Stengers, *Thinking with Whitehead,* 246-7. In passim.
[326] Bowman L. Clarke, 'LOGIC AND WHITEHEAD'S CRITERIA FOR SPECULATIVE PHILOSOPHY', *The Monist* 65, no. 4 (1982), 525.

understanding applicability, to assessing adequacy. Yet, as Whitehead asserts, we are at the mercy of language as the tool of philosophy: "Weakness of insight and deficiencies of language stand in the way inexorably. Words and phrases must be stretched towards a generality foreign to their ordinary usage."[327] Required, therefore, is a means by which language, words, and concepts are reworked and reengineered. Once the applicability of a concept to a restricted group of facts has been assessed, a generalisation takes place to assess the adequacy of a concept to apply to all facts. If it fails this test, there is a requirement to engineer this concept so that it can pass the test.

How does conceptual engineering proceed from the test of adequacy and applicability? First there is a need to answer the question: why engineering? Is the approach of engineering distinct from that deployed by constructivism? Although the creation, manipulation, and refinement of concepts is a fundamental human activity, "engineering" dictates a specific method which, as Reza Negarestani argues, involves a multi-scalar approach to a problem. An engineer, argues Negarestani, "always wants to know the exact context and scale of the question that is being posed" as the morphology of a problem changes depending on the scale and context in which it is situated.[328] For example, posing the concept of hardness at different scales and different contexts reveals not just profound changes in meaning, but a proliferation of at-times incommensurate concepts. Engineers places constraints on problems in order to ascertain applicability and adequacy. A defining characteristic, Negarestani suggests, is for the engineer to retain a "global concept as *well as* these local ramifications at multiple scales and contexts" contrary to those whose focus is solely trained on drilling down to some fundamental global or universal concept.[329] "Essentially," Negarestani writes, "this is the very vision of an engineer, which comes with some sort of balance between the messiness of reality, the constraints of reality, and the space, or the unbound ocean, of possibilities."

Therefore, the role of the engineer is fundamentally concerned with adequacy and applicability insofar as an engineer works with the *relational capacity* of a concept through a multi-level, multi-scalar approach to ascertain the meaning of a particular problematic. What this means in relation to the method of reconstruction as it is here being advanced, is that the very idea of engineering as a reconstructive activity necessitates the consideration of a question of problems at the local and global scales, as well as the historical and present context of those questions or problems. The reconstruction of experience as a method, therefore, is a critical and constructive engineering of a concept in relation to a multi-scalar and multi-contextual application of that concept relative to a particular problematic or question, the aim of which is

[327] Whitehead, *Process and Reality*, 4.
[328] Robin Mackay and Reza Negarestani, 'Reengineering Philosophy' (Falmouth: Urbanomic, 2018), 9.
[329] Mackay and Negarestani, 'Reengineering Philosophy', 10. In passim.

to amplify the way in which something matters.

## Chapter Conclusion

The aim of this chapter was to address the conditions of reestablishing experience as the premise of knowledge production which, it has been argued, is essential to overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature. In the previous chapter, it was shown that with the refusal of experience comes the pretension to universality of a particular object of knowledge, as if it were latent in nature or given by God. The naturalisation of knowledge thereby removes the imprint of the human mind from its creation. The specific situation from which knowledge is produced is an integral consideration as it contextualises not just the geographical and historical dimensions, but the relations between different frameworks of knowledge, methods of understanding, as well as a broader set of social relations, such as economic imperatives and belief systems. This chapter sought to develop a method of knowledge production that foregrounds not just the specific point of view—or *locus standi*—of knowledge production, but its context and the broader relations with nature. Through the "reconstruction of experience", the critical and constructive dimensions of knowledge production were established, focussing on the adequacy, applicability, and the engineering of concepts relative to a specific problematic.

Section One established the notion of experience applicable to the problematic addressed in the previous chapter diagnosed by the bifurcation of nature. It was important to provide a specific definition of experience employed in this chapter, particularly to make clear that I was not concerned with theorisations regarding the structuration of experience, such as those by post-Kantian or transcendentalist philosophies. Experience, it was posited, is given. This means that any further discussion were focussed on the relationship of a particular aspect of experience with nature in a broader sense. The question of how experience is reconstructed was addressed in Section Two. This was approached in relation to existing theorisation of reconstruction, particularly the lineage drawn from the logical positivism of Rudolf Carnap, and the constructivism of Isabelle Stengers. The focus of this section was to establish a critical relation between a broader conceptual scheme and the application of a particular concept within a given problematic, with an emphasis on the historical, morphological dimensions of that concept.

Throughout Section Three and Four, the idea of speculative Reason was deployed to discuss the relation of reconstructing experience in relation to existing ideas. This was set against the function of Reason as solely inductive or deductive which, as was diagnosed in the previous chapter, function as motors of exclusion when used erroneously or as vehicles of overstatement.

A theory of knowledge production as "disclosure" was then established to set the parameters, stakes and groundwork of what is required by knowledge production. Disclosure, it was argued, is a constructive process. Further consideration was given to the logic of abduction developed by Charles Sanders Peirce and Gregory Bateson respectively. Both theories of abduction are united by the speculative drive to change the context or introduce seemingly disparate evidence to further our understanding of a given problematic. Abduction, in both Peirce's and Bateson's usage, was proposed as a phase of testing concepts and an integral element in the construction of novelty. As Wynter notes, however, it is both an analytical method and a constructive tool.

The final section of this chapter brought together the critical and constructive dimensions of reconstruction by introducing the test of adequacy and applicably drawn from Debaise's reading of Whitehead, and the theorisation of conceptual engineering advanced by Reza Negarestani. What this section sought to demonstrate was the broader project of reconstruction; its negotiation of different contexts and scales, and how the meaning of a concept changes depending on its situation. The idea of an engineering was brought in to focus on the negotiation of global conceptual schemes and local concepts, and how a problematic is handled in relation to both. Reconstruction, it was argued, foregrounds a range of different contextual considerations that aim to bring into communication the uniqueness of an aspect of experience with the strategy utilised to understand and, ultimately, produce knowledge about that experience. Reconstruction is an integral aspect of the method designed to critique existing ideas and frameworks of knowledge, and to reengineer and construct concepts. The chapter that follows addresses the conditions of reestablishing experience as the premise of knowledge production from the perceptive of abstraction.

# Chapter Four: Abstraction and Experience

> For our proposed new objects of knowledge to be receivable, we accordingly need to go beyond the ontology of the figure of man and the empowering *normalising* discourses with which this "figure," as the projected model/criterion of being of the globally dominant Western-European bourgeoisie, is still enchantedly constituted—now dangerously, in the context of our post-atomic environment.[330]
>
> **Sylvia Wynter**, 'On Disenchanting Discourse'

It is impossible to separate the theoretical idea of abduction from the physicality of abduction. Abduction evokes transatlantic slavery and the theft of physical bodies, lives, and souls. The concept thus names a process undertaken physically and theoretically, as the construction of an idea, or metaphor, has the power to abduct too; imposing a sense of self that steals away lived experience. This double-edged function was, perhaps, the appeal for Wynter. It can be deployed analytically to understand the physical and symbolic metamorphosis enacted by the West on stolen people and lands, and as a constructive tool to build anew worlds not grounded in theft. Aaron Kamugisha suggests as such, writing that Wynter's use of abduction "prompts a consideration of colonial condemnation, its consequences of epistemic and physical violence—and the problem of existence posed by the condemned of the earth—manifestly, that these humans *presume* they have the *right to exist."* [331] In this sense, abduction means to extricate coloniality from the construction of a future by constructing new figures, new ideas, and new concepts with which to abduct the present.

There is, therefore, always the need to fashion conceptual tools to change the ways in which experience is understood, felt, and, most importantly, enriched. Wynter's "science of the word" demonstrates as such, issuing an important demand that the words we use to describe ourselves, and the concepts and figures to which those words relate, are fundamental tools in altering the worlds in which we, collectively, produce and inhabit. Abstractions are just as fundamental to thought as they are to experience because of the myriad ways in which they can *alter experience*. As Isabelle Stengers writes, "they lure our feelings and affects", which means that although they can be positive, constructive tools, they can also be weaponised. As such, Stengers continues, "our duty is to take care of our abstractions, never to bow down in front of what they are doing to us —especially when they demand that we heroically accept the sacrifices they entail, the

[330] Sylvia Wynter, 'On Disenchanting Discourse: "Minority" Literary Criticism and Beyond', *Cultural Critique*, no. 7 (1987), 208.
[331] Kamugisha, 'The Black Experience of New World Coloniality', 143.

insuperable dilemmas and contradictions in which they trap us."[332] There is a duty of care required in formulating new abstractions: there are always consequences to the actions they elicit.

This thesis has demonstrated the uneasy relationship between abstraction and experience. Specifically, the problems that arise when abstractions are untethered from the place, space, and time in which they were designed to function. The disqualification of experience, and the resulting insistence of objectivity, are key to these problems. This chapter addresses from the perspective of abstraction the conditions of reestablishing experience as the premise of knowledge production which, it is argued, is therefore a method of overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature.

Section One discusses Didier Debaise's theory of "predatory abstractions" and their function in diminishing, weakening, and invalidating experience. According to this function, they are *extractive*, which is to say that they empty out experience of its place, space, and time, leaving it unmoored from the qualitative dimensions that matter. Although abstraction itself is neutral, predatory abstraction can be designed to disrupt experience by instating, for example, a symbolic referent that generates a behaviour-mediating order, as per Wynter's analysis of colonial abductive schemes. The purpose of turning to Debaise's theory of predatory abstraction is to make clear the stakes of a renewed theory of abstraction—what it must overcome—and further demonstrate the consequences of the bifurcation of nature for abstraction and experience.

In Section Two, the nature of abstraction as *situated* is explored, particularly in relation to Whitehead's theory of propositions. According to Whitehead, propositions function to present *possible worlds* by suggesting, eliciting interest for, and proposing different ways, routes, and pathways into the unknown: that is, ways in which something may be taken in account, or rejected, that will produce an empirically-felt alterations to experience. Although these propositions may, when taken at face value, appear as somewhat naive tools for contemplation, they are, instead, methods by which thought works speculatively to explore the ways in which worlds can be constructed. Importantly, and what this section argues, is that propositions are fundamentally situated within a specific milieu. They are rooted and are, as such, contradictory to the type of unmoored "objective" abstractions that produce a bifurcation in nature.

The final section of this chapter examines the notion of figuration and the idea of figures. Recalling the Spivak's discussion of figures in Chapter One, this section address the historical context of figuration and its predatory and constructive functions. Turning once again to the work of Sylvia Wynter, and two inter-related texts in particular, this section demonstrations the role of figuration in the constructed of the symbolic schemes with which social realities are

[332] Isabelle Stengers, 'Experimenting with Refrains: Subjectivity and the Challenge of Escaping Modern Dualism', *Subjectivity* 22, no. 1 (1 May 2008), 50.

constructed, and their impacts and affects on lived experience. As such, what this section proposes is an engagement with the speculative role of figuration as a means by which abstractions affect lived experience: after all, abstractions, as Haraway discusses, are inhabited, and abstractions inhabit experience.

Overall, the purpose of this chapter is both to explore the conditions of reestablishing experience as the premise of knowledge production from the perspective of abstraction, and to pave the way for an exploration over the following chapter of the ways in which figuration can be employed as a tool for engineering concepts and altering experience. This, I argue, is important for overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature.

## Predatory Abstraction

Wynter's analysis of the symbolic order of the West and its abductive function makes clear how it aims for a tight control of behaviour-motivating ideas. Its parameters are kept under guard, and its referents are reasserted at times overtly, at times subtly. Schemes that maintain hierarchies of class, gender, sexuality, and race are kept as closed systems that intentionally *prohibit the exploration and capture of possibility and potential*. As Wynter remarks, symbolic referents and their related Others serve to "*substantialise* the order's *discourse of justification*".[333] What this means, and what this section explores, is the function of abstraction when it diminishes, invalidates, weakens, and delegitimises experience. Abstraction itself is neutral: as Whitehead asserts, we cannot think without abstractions, nor can we make sense of our unique experiences of the world without them. However, they can be weaponised in service of ulterior motives and malevolent aims. They act upon us, forcing and manipulating the ways in which experience is conceived. Wynter has been clear about this function, by which the social reality of the West is constructed as a method of capture.

Didier Debaise describes abstraction that function in this manner as "predatory abstractions" which are "abstractions that disqualify, and which end up emptying out what they were supposed to qualify".[334] Instead of enriching experience, "they have come to empty our experiences". The notion of "predatory abstractions" raises an issue that has been explicated throughout this thesis, which is the disqualification of situated, contextualised abstraction. This takes the form of the apparent universalisation produced by the notion of objectivity, which itself arises through the disqualification of experience as the root of abstraction. Indeed, Debaise writes that

[333] Wynter, 'Beyond the Categories of the Master Conception', 37. Emphasis in original.
[334] Debaise, Didier, and Thomas P. Keating. 'Speculative Empiricism, Nature and the Question of Predatory Abstractions: A Conversation with Didier Debaise'. *Theory, Culture & Society* 38, no. 7–8 (1 December 2021), 314. In passim.

due to a "lack of attention to the connections that related them to the experiences they [abstractions] qualified, they were sometimes applied, without adjustment, without attention to other places and to other experiences."[335] When divorced of this necessary situational context, Debaise argues, abstractions are granted a power that empties them of importance, usefulness, and the capacity to function as abstractions should: to qualify and enrich experience. In so much as they are predatory, they can also be called *extractive* because they extract the qualitative dimensions that matter from experience.

No concept is more demonstrative of predation than the concept of nature. For Debaise, the concept of nature is something that has the potential to deepen and enrich our experiences by adding new dimensions to those experiences. In this sense, nature is imagined as something like a vector of experience; something that takes us beyond those experiences, layering in new dimensions that are cumulatively built into how we conceived those experiences. Instead, it has become a concept that disqualifies, a subtractor that diminishes experience. Debaise writes that "this abstraction became a machine of disqualification of all the qualities of things that did not fall within the dimensions that we attributed to nature—namely, mathematical qualities, physical qualities, as if everything else came from superficial dimensions that did not belong to nature, namely aesthetic sense, moral sense, pleasure [*jouissance*], interests [*intérêts*], the sense of importance, and at the same time disqualification of all knowledge practices."[336] The nature described here is the objective nature of the natural sciences of the West; the nature in which the laws and fundamental properties of our reality are purportedly found. Disqualification is the means by which this concept of nature is seemingly universalised, as other knowledge practices, such as amateur, indigenous, or those whose aim is care, are delegitimised because they do not fall under the purview of the "majority" concept of nature. "Nature," writes Debaise, "has become an operator of subtraction rather than an operator of addition and amplification, which could have made us sensitive to the experience of other collectives and other civilisations, but also to the multiplicity of factors, of experiences that belong to our own cultures."[337]

The concept of nature, in this sense, is archetypal of a function of abstraction that can be called recursive. By recursive I mean that the disqualifying concept of nature discussed above instantiates a certain mode of thought that is applied to not just nature, but more generally as a way to conceptualise experience. It is recursive because this mode of thought is self-perpetuating and self-affirming. This recalls the issue of bifurcation functioning as a manner or gesture that precipitates issues such as dualisms. Debaise locates the formation of dualisms—such as the great divisions between fact and value, aesthetics and ontology, for instance—in the so-called

[335] Debaise, 'Speculative Empiricism, Nature and the Question of Predatory Abstractions'.
[336] Debaise, 'Speculative Empiricism, Nature and the Question of Predatory Abstractions', 315.
[337] Debaise, 'Speculative Empiricism, Nature and the Question of Predatory Abstractions'.

"experimental situation" setup to grasp a body. There, the extraction of secondary qualities allows primary qualities to posited, thereby establishing fundamental properties shared by different bodies. Such a gesture, which works by parsing difference, is hugely efficient in establishing correlations between a huge range of bodies.

The problem, as far as Debaise is concerned, arises when the gesture of bifurcation is reified: "that is to say, the moment where we forget that we have made a gesture of extracting qualities and we act as if we have described heterogenous qualities that in nature would be heterogeneous."[338] Reification is not the de facto consequence of the experimental situation, but rather is the operation by which the gesture of bifurcation becomes dualism. "That is to say that dualism is an image of thought that somehow sanctifies the difference that had been produced by bifurcation." It is this image of thought that runs wild following the constitution of the Moderns, as the structuration of thinking and understanding the world and our experiences thereof is perpetually reified in terms of bifurcation. Owing to its power as a mode of thought, the gesture of bifurcation that precipitates dualism can be said to be the archetypal function of predation by abstraction, precisely because it is not only an extractive operation that disqualifies experience, but is moreover a logic that structures this pervasive mode of thought.

Predatory abstractions, in a limited sense, are a consequence of the reification of the bifurcation as the dualist mode of thought. More broadly, however, they are abstractions decontextualised from the situation they were designed to qualify and enrich. Becoming unmoored from that specific situation, imbued with a power to explain more than they are capable of, they disqualify and empty out experience. Ultimately, the notion of predatory abstractions advanced by Debaise is an example of the pernicious function of the bifurcation of nature, the real danger of which is the recursivity of extraction that feeds back from the predatory function of abstraction into our modes of thought which, likewise, determine the ways in which experience is qualified. The following sections present a reworking of abstraction as a means of surmounting predation.

## Situated

If the predation of abstraction is a consequence of the bifurcation of nature and is therefore something to overcome, how can abstraction be discussed otherwise? I argue that the approach signalled by the notions of "situated abstraction," "situated knowledge" or "situatedness" in general is one such way. Situatedness can be understood in two ways: the situatedness of a problematic within the context of a wider epoch, such as the problem of the bifurcation of

[338] Debaise, 'Speculative Empiricism, Nature and the Question of Predatory Abstractions', 317. In passim.

nature within the modern epoch, or the situatedness of knowledge production on a more metaphysical level. As the relevance of the bifurcation of nature to modern science, upon which Whitehead develops his whole body of work, and the constitution of the moderns as Debaise discusses, have previously been covered at length, this section will explore the notion of situatedness from a metaphysical perspective. The reason for this is to make clear the inexorable situatedness of abstraction in the process of becoming.

Although there are various ways in which situatedness can be conceived in metaphysical terms according to Whitehead's speculative philosophy—because it is primarily concerned with describing the way in which a new actuality becomes—the theory of "propositions" is, arguably, most fundamental. Therefore, this section is concerned with outlining the nature and function of propositions. Whitehead describes a proposition as a "lure for feeling".[339] Bemoaning the cooption of propositions by logicians and moralists, such as Bradley, who assess them in accordance with the judgement of Truth, Whitehead instead conceives of propositions as fundamentally creative.[340] He writes that "in the real world it is more important that a proposition be interesting than that it be true."[341] Propositions are one of Whitehead's metaphysical categories, which are required to describe actual entities. Although at various points they have been translated as "theories", which is a term Whitehead utilises at points, they are much more accurately described as "tales" because of the way in they act as lures for feeling. This is to say that rather than function as hypotheses of some theory that can be inductively or deductively tested and known, propositions are fundamentally speculative and necessary for the creative advance of the universe through the production of novelty.

While eternal objects are fundamentally passive in their role as constituents of a new actual entity, and bear no marks of their inherence in that actual entity, propositions are nevertheless rooted to the individuality of an actual entity. This is not to suggest that they in any way actively determine the constitution of an actual entity, rather propositions have a specific relationship to a particular environment and situation, whereas all eternal objects can be prehended by any actual entity. Propositions are *suggestive*, *elicit* interest, and, as Melanie Sehgal writes, "propose a way for how something might be taken into account and what might be eliminated."[342] As something between an actual entity and eternal objects, a proposition "is a datum for feeling, awaiting a subject to feel it".[343] As such, it is not universal or eternal at all, but is situated, relating to a particular environment or situation. Indeed, Whitehead writes that a "proposition shares

[339] Whitehead, *Process and Reality*, 184
[340] Whitehead, *Process and Reality*, 184.
[341] Whitehead, *Process and Reality*, 259.
[342] Melanie Sehgal, 'A Situated Metaphysics: Things, History, and Pragmatic Speculation in A. N. Whitehead', in *The Allure of Things: Process and Object in Contemporary Philosophy*, ed. Roland Faber (New York: Bloomsbury, 2014), 171.
[343] Whitehead, *Process and Reality*, 259.

with an eternal object the character of indeterminateness, in that both are definite potentialities *for* actuality with undetermined realisation *in* actuality. But they differ in that an eternal object refers to actuality with absolute generality, whereas a proposition refers to indicated logical subjects."[344] Working to integrate physical and conceptual feelings, the proposition takes as its logical subjects the provided actual entities, which thereby restrict the scope of determination and relevance to a specific environment. Propositions, therefore, are not floating freely, waiting for any actual entity to grab and incorporate them into its becoming: "every proposition involves its logical subjects; and it cannot be the proposition which it is, unless those logical subjects are the actual entities which they are."[345] What this means is that a proposition is only prehensible by actual entities if their environment, or "actual world", includes the logic subjects of that proposition. If this is so, they can be said to be within the "locus" of that proposition, which actual entities can prehend positively if they so choose.

Acceptance and rejection are fundamental to propositions. Indeed, their role is to present *possibile worlds* as options from which actual entities will choose, thus deciding that the course of history continues in a specific vein. For Debaise, the function of speculative propositions is not as abstract exercises that demonstrate that history is not determined in advance, but as means of *intensifying feeling*. The example offered by Whitehead, and cited by Debaise, is of the Battle of Waterloo:

> This batted resulted in the defeat of Napoleon, and in a constitution of our actual world grounded upon that defeat. But the abstract notions, expressing the possibilities of another course of history which would have followed upon his victory, are relevant to the facts that actually happened. We may not think it of practical importance that imaginative historians should dwell upon such hypothetical alternatives. But we confess their relevance in thinking about them at all, even to the extent of dismissing them. But some imaginative writers do not dismiss such ideas. Thus, in our actual world of today, there is a penumbra of eternal objects, constituted by relevance to the Battle of Waterloo.[346]

Propositions, by "expressing the possibilities of another course of history", thereby intensify the importance of certain actions and decisions by tracing what exactly these other courses of history could be. For example, the so-called "imaginative historian" could propose the question: what would our actual world look like today if Napoleon had won? What course of history immediately follows a victory? Propositions that show the possibility of a different course of history thereby accentuate the importance of individual events as constituents of the actual

[344] Whitehead, *Process and Reality*, 258.
[345] Whitehead, *Process and Reality*, 259.
[346] Whitehead, *Process and Reality*, 185.

world. It is the dramatisation of a particular moment. However, as Debaise notes, it is important not to over emphasise the status of these possible worlds. "They would be only pure, general, abstractions if their existence were not always local, situated in concrete events: the hesitation in *this* action, the worry felt at *that* moment, the bifurcations that come to be in *this* lack of action."[347] Their situatedness lies in their relation between actual and possible worlds: it is highly contextualised. "In this sense," writes Debaise, "speculative propositions require a milieu that gives them their consistency."[348] The way in which a proposition achieves such consistency is by apprehending, luring, or capturing the actual world that partially preexists it, replete with all the concerns and effective feelings therein. "These feelings are the feelings of the battle that develop in the memories of the participants, in literary works, in books written by historians as they depict its unfolding." Continuing, Debaise writes that this "group of physical, aesthetic, and imaginative feelings form the milieu of new propositions that persevere with regard to the battle."[349] Debaise argues that the importance of propositions is directly tied to the relevances of the articulations they produce. In the example of the Battle of Waterloo above, it can be inferred that any proposition deemed to be important is one that makes clear the contingency of events that culminated in the actual world as is: the hesitancy, sense of danger, and human cost of the historical event.

Propositions only exist within a milieu, otherwise they would exist nowhere, without reference to anything, which is impossible. When abstracting from a particular situation or event, there is a danger in forgetting that the inexorable context in which that situation or event existed *persists* when the historian recounts that history. This is to say that a telling of history is *always situated* because the telling is a propositional action that captures certain contingencies and decisions in order to emphasise the importance of those events. The theory of propositions, therefore, seeks to emphasise the *situatedness* of knowledge production, particularly as knowledge is produced speculatively not according to the notions of truth or falsity. Indeed, as Whitehead writes, the "existence of imaginative literature should have warned logicians that their narrow doctrine is absurd."[350]

## Figured

As Whitehead writes above, "imaginative literature" is a form in which the richness of propositions can be found, demonstrating to logicians that their narrow idea of propositions as

[347] Debaise, *Nature as Event*, 85. Emphasis in original.
[348] Debaise, *Nature as Event*.
[349] Debaise, *Nature as Event*.
[350] Whitehead, *Process and Reality*, 184-5.

vehicles of judgement is limited. Whilst the function of a proposition has been discussed from a technical point of view in terms of its metaphysical function and necessary milieu, the reference above to imaginative literature signals their importance at a different level of abstraction. The following section approaches the notion of propositions from the perspective of "figuration". Returning to a form of conceptual construction discussed earlier in this thesis, I want to further elaborate the notion and operation of figuration by once again turning to the work of Sylvia Wynter. In particular, to two texts that explore not just the idea of figuration, but a historical lineage of its consequences and the potential of harnessing its power as a world-building force. The purpose of this section is to present an argument for turning to literature as a source of propositions that aid in addressing and working through the problems of experience in knowledge production discussed throughout this thesis.

Across 'The Ceremony Must Be Found: After Humanism' and 'The Ceremony Found', Sylvia Wynter argues for a notion of *being human* that overcomes the fundamental divide latent in Western secular Humanism that Du Bois dubbed the "*Colour Line*", otherwise known as the idea of race. The thrust of the original text was to propose a "ceremony" able to breach the divide of the "Colour Line"—recognised as an irresolvable *aporia*—and therefore overcome the fundamental issue with Humanism. The failure to find such a ceremony, Wynter argues, "has systemically functioned as the contradictory, Janus-faced *underside* of the post-medieval Western-European Renaissance's mutationally secularising culture's otherwise dazzling series of cognitively emancipatory achievements."[351] Writing over a quarter of a century later in 'The Ceremony Found', Wynter adjudges her own efforts in the 1987 text to be incomplete. There are three main points found in the two texts that I will cover here: the pertinent transformations that produced secularism Humanism, Wynter's proposition for *being human*, and the role of "figuration" fundamental to both.

The constitution and function of *being human* is a constant throughout Wynter's work, particularly the way in which the adverbial role of *being* and the noun *human* central to Humanism differ according to the category of race. In 'On the Coloniality of Being/Power/Truth/Freedom', covered in Chapter Two, Wynter charts the transmutation of the order of knowledge from the theological to the secular, and the concomitant transmutations to the notion of the human. That is, firstly the *ratiocentric* concept of man defined by the rationality of the physical sciences and the concept of *by-nature difference*, according to which the determining principle of man was rationality, then the *biocentric* concept of man defined by the biological sciences according to the concept of *by-evolution difference* (i.e. naturally selected/dys-selected), which saw

[351] Sylvia Wynter, 'The Ceremony Found: Towards the Autopoetic Turn/Overturn, Its Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition', in *Black Knowledges/Black Struggles: Essays in Critical Epistemology,* ed. Jason R. Ambroise and Sabine Broeck (Liverpool: Liverpool University Press, 2015), 188. Emphasis in original.

the first institutionalised form of race, picked up later as Du Bois's "Colour Line".[352] Wynter defines these as "Man1" and "Man2" respectively. An analysis of the transformation of the structures and order of knowledge in fifteenth century Europe, and the fundamental binary of race according to which the concept of the human is determined, is common to both the argument in 'On the Coloniality of Being/Power/Truth/Freedom' and 'The Ceremony Must Be Found'. However, whereas the former focusses on the growing hegemony of modern science as the means by which the concept of the human is determined, the latter concentrates on the cultural dimensions of secularisation and the force of *imagination* in creating a concept of man. It is important to note that while the discussion is centred on the creation of a concept of man/ the human, this concept is *behaviour-motivating* because of the values latent therein, which thus serve as the principles in terms of which Western civilisation was built. As such, a concept of man is in many ways the *final cause of being human*: an ideal that prescribes certain actions. The important shift described in 'The Ceremony Must Be Found' is to the order of knowledge ushered in by secularisation that enabled the concept of man to be effectively *self-created* instead of *deduced from the Divine or Nature*.[353] It is this self-creation that forms the fundamental operation of Humanism: its emancipatory thrust and potentiality that Wynter attempts to recoup in the form of a ceremony. But, ultimately, it is this force that crystallises into an aporia. Wynter writes that:

> This *aporia*, I propose, is one specific to, because of the price originally paid for, the West's post-medieval *transformative mutation* effected by the discourse of Humanism in both its original Renaissance Civic-humanist and later (neo)Liberal-humanist configurations. This *aporia* I define as that *of the secular*—that is as one whose humanly emancipatory process on the one hand, and humanly subjugating processes on the other, are each nevertheless the lawlike condition of the enacting of the other.[354]

The context for this statement about the aporia latent in Humanism is the rise of rationalism in fifteenth century Europe, particularly the change in function of knowledge, transformed from a tool employed to understand how to live in the world according to human purposes, to an end in itself.[355] As such, modern rationalism broke with the ordering discourses of *mythos* and *theologos* that generated the values and principles constitutional of civilisation of the Middle Ages. Wynter attributes this break to the *Studia Humanitatis*; the Humanist move toward *human* knowledge of the sociohuman world through secular literary and scholarly study. Located here is the operation of "figuration". With the *Studia* and the secularisation which cast off *mythos* and *theologos*, a new

[352] Wynter, 'The Ceremony Found', 187; Wynter, 'Unsettling the Coloniality of Being/Power/Truth/Freedom', 264.
[353] Sylvia Wynter, 'The Ceremony Must Be Found: After Humanism', *Boundary* 2 12/13 (1984), 26.
[354] Wynter, 'The Ceremony Found', 189. Emphasis in original.
[355] Wynter, 'The Ceremony Must Be Found', 21.

collective ordering system was put in place; one which recursively instated itself in subjects as Group-Subjects through behaviours. Classificatory principles of Sameness and Difference, which Wynter argues were fundamental to the theological ordering of knowledge, most prominently understood as Spirit/Flesh[356], became similarly fundamental structuring principles of the secular organisation of society as the definition of a Group-Subject.[357] That is, the modes of being/knowing with which I/We are ontologised in terms of the structuring principle of Sameness and Difference. Found here is a key element in the function of figuration. As a logic of identity, the structural opposition of Sameness and Difference is effectively *narrativised* by Christian theology as Spirit/Flesh, or Christian/non-Christian, not just as a means of knowing, but as a *mode of being*. According to Wynter, secularisation effectively transmutes the terms of this mode of being/knowing, creating a different narrative devised from alternative cultural sources such as Ancient Greek texts.[358] With this shift in narrative, what Wynter refers to as a "topos of order" is created, around which new figurations are constructed as counter-figurations to the divinely-deduced figurations of Christian theology. The rhetorical doubling of the human, where the figure of the human could be self-created, hereby finds its importance. As Wynter writes:

> The heresy of the *Studia* was, therefore, to lie in its break with the higher system of divinely sanctioned identity and with its absolutised world views or ratiomorphic apparatus; in its release of rhetorical man from the margins, orienting his behaviours by a new ordering secular *Logos*, the Natural *Logos* of Humanism which took the place of Christian Theologos.[359]

Here, Wynter is remarking on the "heresy" of secularisation relative to the theological orthodoxy of the fifteenth century, and the determination of cognition/behaviours by the governing system of figuration called religion. While the figures change definitively following the *Studia*, the governing system of figuration maintains the logic and mode of ordering central to its theological antecedent. The structural opposition of Sameness/Difference, understood as Spirit/Flesh in Christian theology, is a founding opposition: a logical relation found in the coding of binaries, such as Life/Death or Order/Chaos. Wynter argues that this coding is fundamental to the identity of a culture and its subjects, as it acts as a means of self-determination. Importantly, although the logic of this order is inherited from the theological paradigm, these founding oppositions are created as an act of self-definition: "Hence the oppositions, seen from inside cultures as culture/nature, done/undone, raw/cooked, or, as in our case, Spirit/Flesh or Civilised/primitive, are oppositions through which the order/chaos, entropy/ectropy, seen from

[356] As discussed in Chapter 2.
[357] Wynter, 'The Ceremony Must Be Found'. 22.
[358] Wynter, 'The Ceremony Must Be Found', 24-26.
[359] Wynter, 'The Ceremony Must Be Found', 25.

a point of view external to the domain of the cultures, are enabled to function as the order-informing systemic code or replicator unit."[360] Wynter continues:

> They are thus the very condition of the collective behaviours through which each human system realises itself as such a system. The basic law of their functioning must therefore be the interdiction of any ceremony which might yoke the antithetical signifiers and breach the dynamics of order/Chaos, through which the order brings itself into living being; a dynamics which functions like the code of the presence/absence of butyric acid for the tick, for example, to prescribe the seeking/avoiding behaviour through which one realises oneself as one or the other form of the self-troping rhetorical human.[361]

Found in Order/Chaos is an axiom of the cultural imagination which therefore functions as the logic of figuration. According to this axiom, the self-definition of a culture's identity is formed through the delineation of a boundary against that which it is not, figured as the chaos against its order. Departing from the divinely-deduced notion of the human, the secularisation represented by the *Studia* ushers in a new cultural imagination of the human according to wildly different criteria, ideas, and values. Describing this shift, Wynter writes that:

> This was to be the shift out of the religio-aesthetic ordering of the modes of the human imagination to the purely aesthetic ordering, with the rise to centrality of the new profane narrative representations that we have come to call "literature"—a secular figurative order that would no longer function as an adjunct and contestatory twin to the theological system of figuration but would gradually become hegemonic, taking its place.[362]

Literature, thereby, became the means by which new systems of figuration could be created, and through which identities of the group-subject could be formed. The logic of this figuration, however, would persist as a binary according to which the characteristics of what constitutes that identity and its Other could be drawn. As the transformation of the "imagery system" by the literary continued to grow, it brought about the destruction of the Christian-medieval group-subject. Yet, in the foundation of the new secular group-subject of Humanism, the aforementioned aporia persists.

Wynter's admission of her failure to find a ceremony that would overcome the founding aporia of Humanism lies in the heretical thrust of the *Studia* which, by her own admission, she could not quite capture. Part of this lack was due to a continuation of the conception of *being* found within the original formation of Humanism: not in terms of the structural opposition

[360] Wynter, 'The Ceremony Must Be Found', 27.
[361] Wynter, 'The Ceremony Must Be Found'.
[362] Wynter, 'The Ceremony Must Be Found', 30.

constitutive of the aporia, but rather the notion of *being as a noun*. Addressing this aspect in 'The Ceremony Found', Wynter points to Judith Butler's contestation of the metaphysics of substance that undergird essentialist conceptions of gender put forward in the 1990s. According to Butler's critique in *Gender Trouble*, the inherited metaphysics of substance posits gender roles/identities as expressions of an immutable (biological) substance as a transcultural universal.[363] Butler argues that such an ontology of gender is perpetuated in order to maintain a normative hierarchy of gender that treats disassociated attributes of that gender as secondary or accidental attributes. However, the dissonance of those so-called attributes puts into question the substantiality of gender conceived ontologically. Instead, Butler argues that conception of the two genders, *man* and *woman*, according to substance is a "fictive construction" conceived to maintain a coherent sequence of genders.[364] As a fictive construction, Butler argues that gender is performatively produced and acted out according to regulatory practices of coherence to specific norms. According to the metaphysics of substance, the effects of gender would be undergird by a substance of identity. Against this conception, Butler argues that there is "no gender identity behind the expressions of gender; that identity is performatively constituted by the very "expressions" that are said to be its results."[365] This is to say that gender is not constituted as a noun, but rather as an adverb.

For Wynter, Butler's argument rings true, specifically regarding the performance of other "*genre*-specific, fictively constructed, and performatively enacted roles/identities" such as class, sexual orientation and, of course, race which, according to the ruinous notion of substance, posit a corresponding essential being and set of practices of coherency to that being.[366] *Being human*, therefore, is always a doing; *being human as praxis*. According to Wynter, the praxis of being human is still defined in terms of the aporia of Humanism, specifically the biological absolutism of the West, which is itself fictively constructed and performatively produced. The constitution of such a figure necessitates its fictively constructed *Otherness* as its "founding underside that is then performatively enacted and systemically produced by them/us collectively as subjects/initiates of our now planetarily extended, Western and westernised world-system."[367] In this context, Wynter's proclamation that a ceremony must be found to break the hold of *being human* by the founding aporia of Humanism is clear. The heretical action of the *Studia*, through which the fictive construction of the human was made and which gave rise to secularism, is merely a transmutation of the theologic order of medieval-Christianity, in terms of the logic of Sameness/Difference, for example. The ways in which this fictive construction is symbolically

[363] Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 2006).
[364] Butler, *Gender Trouble*, 32-33.
[365] Butler, *Gender Trouble*, 33.
[366] Wynter, 'The Ceremony Found', 196.
[367] Wynter, 'The Ceremony Found'.

coded into Western society as a set of ideas and principles to which behaviours should cohere, in order to maintain such a construction, is the problematic to be confronted. Indeed, it is this structuration that is problematic because it dictates a *noun* and a *verb* as the *what* and *how* of being, with the actions of the *how* constituent of the *what* of being. Thus, the problem lies in the fictive construction and performative production of identity, not necessarily with the literary as a means of imagining the *manner of being that constitutes being*.

The fictive construction of figures—that is, figuration—is a powerful method of navigating the world and our experience thereof. Donna Haraway recalls Dante's vivid and visceral figuration of the end of man in *The Divine Comedy* as an example of the way in which the portrayal of both the fullness of life and the terror of existence functions didactically as a map for living. Yet, for Haraway, figuration, as it was employed during the period of medieval Christianity as discussed by Wynter, is not aimed at the construction of a figure of conformity. That is to say, not a figure that legislates *what* and *how* experience should be. Rather, figures "must involve at least some kind of displacement that can trouble identifications and certainties."[368] Haraway's theorisation recalls Spivak's discussion of the figure as the constant instantiation of alterity; as a concomitant *figuration* and *disfiguration*.[369] It is, in this sense, a form of praxis, the activity of which is the perpetual destruction of modes of being in order to generate and expand upon the novelty of experience.

It is important to emphasise once again that figuration is not the free and wild creation of novel experiences. As Haraway writes, it is a double-edged sword: "We inhabit and *are inhabited by* such figures that map universes of knowledge, practice and power."[370] It is a fight; one that is situated and lived. Wynter's analysis of the relation between a metaphysics of substance and the fictive construction and performatively produced *genres* of being—their regulatory function—make clear the dangers and stakes of figuration. In so far as figuration is the production of the ideal to which certain actions conform, as is the case with the creation of secular Humanism, there is a requirement to analyse the metaphysics undergirding such conceptualisations. This is particularly pertinent in the conceptualisation and understanding of experience. What is clear, however, is that figuration is a productive tool to propositionally alter the ways in which experience and abstraction are *lived*.

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[368] Donna Jeanne Haraway, *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse: Feminism and Technoscience* (New York: Routledge, 1997), 11.
[369] Spivak, *Death of a Discipline*, 71.
[370] Haraway, *Modest_Witness*. Emphasis added.

## Chapter Conclusion

The aim of this chapter was to addresses from the perspective of abstraction the conditions of reestablishing experience as the premise of knowledge production which, it has been argued, is therefore a method of overcoming the alienation in "our relation to the world" that arises from the bifurcation of nature. The previous chapter approached this question from the perspective of experience, with Chapter Four looking at this relationship from the perspective of abstraction. Together, they examined the *lived experience of abstractions* and the *abstractions of lived experience*, addressing two sides of the same problem, running together simultaneously. As such, they presented the tools for knowledge production that would not allow nature to bifurcate. This was important because, as had been argued throughout this thesis, the bifurcation is at the root of the alienation in "our relation to the world".

Specifically, the aim of this chapter was to present a characterisation of abstraction as situated in order to better describe the relation between abstraction, experience, and knowledge production. As such, it sought to address the problems that arise when abstractions becomes untethered from the place, space, and time in which they were designed to function, and the problems to which they correspond. These problems have previously been diagnosed as the disqualification of experience and the resulting insistence on objectivity as productive of a world-view that precipitates various problems with knowledge production.

The argument presented in Section One sought to characterise the disqualifying function of abstraction in terms of what Didier Debaise has dubbed "predatory abstractions". According to Debaise, predatory abstractions are abstractions that are granted too much power to act upon issues and situations that are fundamentally unrelated to the problems to which they were designed to respond. In this sense, they work to disqualify experience by recontextualising its concerns in terms that have little to do with its proper place, time, and space. That is to say that predatory abstractions are extractive of all the qualities that make experience powerful and meaningful. The reason for turning to Debaise's notion of predatory abstraction is to make clear the stakes of abstraction vis a vis experience, and to demonstrate the problem any renewed theory of abstraction must overcome.

In Section Two, this theory of abstraction was elaborated by introducing Whitehead's theory of propositions. The aim of this section was to provide a theorisation of abstraction that is fundamentally situated within a unique place, space, and time. Propositions, according to Whitehead, only exist within a milieu, functioning to present *possible worlds* as options from which actual entities choose their specific nature of becoming. By presenting those options, which an actual entity in the process of becoming can choose to incorporate or reject, the proposition acts

as a means of intensifying feeling. The examples presented in Section Two demonstrated the speculative function of propositions as means of emphasising and adding importance to certain decisions, thereby selectively enhancing situations. The act of creating propositions is thus intimately incorporated into the very situatedness of the experience examined. As such, the aim of this section was to make clear the situated character of abstractions.

The final section of this chapter concerned the notion of figuration. Where the discussion of the speculative function of propositions is quite abstract, presented in this section was an argument for turning to literature as a source of propositions that aid us in addressing and working through the problems of experience in knowledge production discussed throughout this thesis. This argument was advanced by turning to two interrelated texts by Sylvia Wynter that discuss the role of literature in the founding of secular Humanism in the West and its concomitant underside. Figuration here is related to the logic of Otherness with which the Western notion of the human is created. The heretical act with which this secular figure of the human was created contains within it the possibility of addressing and overcoming the logic of Otherness. Yet, according to Wynter, such a "ceremony" was not found. The section built upon the discussion of the transmutation of the order of knowledge pursued in previous chapters in order to explore the power of figuration, and what that figuration may look like. Through a discussion of Wynter's and Haraway's theory of figuration, and also recalling Spivak's usage of the same term from Chapter One, this section demonstrated the function of figuration and its use as a tool for enhancing lived experience.

By bringing together Whitehead's notion of propositions with Wynter's notion of figuration, this chapter sought to present an argument concerning the speculative and situated nature of abstraction. As such, this chapter set the groundwork for the turn to speculative fiction pursued over the following two chapters, the purpose of which is to generate speculative, propositional figurations that potentially alter the collective lived experience and therefore "our relation to the world".

# Chapter Five: Tellurian Figurations

> …a handful of earth, and a handful of sky and everything around and between.[371]
>
> **Octavia E. Butler** on science fiction

> We are all Godseed, but no more so or less than any other aspect of the universe, Godseed is all there is - all that Changes. Earthseed is all that spreads Earthlife to new earths. The universe is Godseed. Only we are Earthseed. And the Destiny of Earthseed is to take root among the stars.[372]
>
> **Lauren Oya Olamina in** *Parable of the Sower*

In the *Parable of the Sower* and *Parable of the Talents* by Octavia E. Butler, Lauren Oya Olamina, the main character, creates a new religion called "Earthseed". Based on the idea that much like "plants seed themselves, windborne, animalborne, waterborne, far from their parent plants" so too must humans leave the planet they have gradually destroyed. Accordingly, Earthseed sets out both a kind of cosmology detailing the general principles of the universe and a method to live by, the aim of which is to live amongst the stars. For Lauren, the rapidly burning planet and the stark inequality of the twenty-first century means that "we'll have to seed ourselves farther and farther from this dying place".[373]

A fundamental tension played with by many writers of science fiction is between the inescapability of the earth and the allure of the stars. Escaping the confines of this quotidian, ruined planet to start anew is often figured as some kind of *deus ex machina* that will solve all the ills of the past, leading to a prosperous, bright future. *We can start again*. Often in science fiction, *this* earth is figured as a cold, dead place of scant possibilities for a better future. For example, in Jules Verne's *A Journey to the Centre of the Earth*, the interior of the planet is a mystery to navigate, while in H. P. Lovecraft's *At The Mountains of Madness* the materiality of the planet is a staging ground for the horrific discovery of some ancient civilisation. There is, therefore, an eery quality about living on a planet we are forced to inhabit. According to Earthseed, the planet is figured as a localised problem state to be left behind. Indeed, Butler had originally started with what would

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[371] Octavia Butler cited in Lynell George, *A Handful of Earth, a Handful of Sky: The World of Octavia E. Butler* (Santa Monica: Angel City Press, 2020), 17.
[372] Octavia E. Butler, *Parable of the Sower* (London: Headline, 2019), 73. In passim.
[373] Butler, *Parable of the Sower* . 74.

have been the last book in the *Parable* trilogy that explores the Earthseed community starting life again on a recently-settled planet but the draw of the backstory was too strong, leading her to write the *Parable of the Sower* and *Parable of the Talents* first.[374] Yet, for all the escapism and the promise of a new life elsewhere—itself somewhat prescient of contemporary attempts by billionaires to colonise Mars, for example—the tale of Earthseed is a performative contradiction: after all, escape from the localised problem of the planet may be possible, but the *relations between inhabitants and habitat* that ultimately led to the planet's destruction remain unaddressed.[375] The contradiction is that while Lauren and Earthseed are seemingly so concentrated on escaping to somewhere else, they are increasingly grounded by the reconfiguration of "our relation to the world" that Earthseed seeks to create. By looking to the stars, Earthseed gives focus to the earth.

Butler's writing of Earthseed is an example of a figuration that refocusses attention toward the planet—by using the trope of escapism, which is well-established in the genre of science fiction—thereby forcing a reconsideration of the ways in which "our relation to the world" is conceptualised and acted upon. With the emphasis on change as a cosmological or metaphysical principle of sorts, there is a distinct similarity to the relational ontology of Haraway's nature-cultures and, in a similar vein, to James Lovelock's concept of Gaia. Following a period with NASA working on methods for detecting life on Mars, Lovelock established the "Gaia hypothesis" which suggested that earth is a complex system comprising interactions between living and non-living parts, meaning it could be thought of as a singular organism.[376] On the suggestion of writer William Golding, Lovelock settled on the name "Gaia" after the Greek goddess and personification of the earth. As such, the concept of Gaia was constructed as a new *figuration* of the earth based on a reconceptualisation of the relations between things which, ultimately, create the conditions for life on this planet. In many ways, it resolved the tension between a philosophically-determined inherent value of nature and an environmental aesthetic that doesn't rely on purportedly out-dated tropes of what nature is and does—a tension that characterised second wave environmentalism.

However, despite the emphasis on parts, the figure of Gaia personifies the Earth as a singular (whole) organism: a holistic totality. As Levi Bryant, Timothy Morton, and Lucas Pohl have argued separately, the danger of Gaia is both its singularisation as a figure and the way in which it ontologically flattens its constituent parts in servitude to the whole.[377] In other words, it

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[374] Gerry Canavan, *Octavia E. Butler* (Urbana: University of Illinois Press, 2016), 129.
[375] This is a recurring theme in Butler's work. The *Xenogensis* trilogy, for example, is fundamentally concerned with the tendency for hierarchical behaviour that is said to characterise human beings as a species.
[376] James Lovelock, 'The Quest for Gaia', *New Scientist* 65, no. 935 (6 February 1975): 304-7.
[377] Lucas Pohl, 'Ruins of Gaia: Towards a Feminine Ontology of the Anthropocene', *Theory, Culture & Society* 37, no. 6 (1 November 2020): 69.
See also: Levi R. Bryant, *The Democracy of Objects* (Ann Arbor: Open Humanities Press, 2011), 277; Timothy Morton, *Being Ecological* (London: Pelican, 2018), 47.

is the imposition of a concept on things which, in this sense, fails to heed the meaning and difference that things themselves generate. The following chapter explores the ways in which figuration can be speculatively generated by things themselves as a means of proposing a reconfiguration of "our relation to the world". Henceforth, however, this fundamental phrase that has guided this thesis thus far shall be reconfigured to "relations with worlds". The following chapter concentrates on the kinds of figuration by the planet and how these are constitutive of "relations with worlds".

Section One proposes a philosophical manoeuvre that would place the generation of narrative in things themselves. Utilising the work of Didier Debaise and William James, the turn toward the "stories of earthly things" proposes an ontology of narrative premised on the notion that the universe is generated by the stories of things rather than narrative as something produced by the mind and imposed on things. This inversion also poses a critique of abstraction, further elaborating the difference between a predatory mode of abstraction that sows division and one that amplifies and intensifies experience. As such, the argument pursued in this section not only advances that pursued in previous chapters concerning the importance of experience and the dangers of certain modes of abstraction, but also seeks to establish things themselves as the ground from which new concepts can be constructed.

Section Two advances this argument by looking at the concept of "geosocial formations" which is proposed as a means of thinking the geophysical and the social together. Formation is a concept used in the geosciences to denote a spatio-temporal process and its outcome. As such, the concept of a geosocial formations turns to the geophysical as both a source of structuration of social formations as well as a source of meaning. Nigel Clark and Katherine Yusoff propose this concept as a means with which to think the relation between the planet and its inhabitants, as well as a way to generate abstractions from the earth itself. However, as Section Three argues, the concept of matter central to their theorisation presents a contradiction between the attempt to combine the geological and social and the reduction enacted by the specific mode of abstraction that comes with the concept of matter. As such, building on the initial critique of matter pursued in Chapter Two, this section makes clear the antimony of the *expressivity and relationality* of matter with the mode of abstraction latent therein which functions to divide.

This discussion sets up the search for a reconfiguration of the concept of materiality and the geological pursued in Section Four. N. K. Jemisin's *Broken Earth* trilogy is a work of science fantasy and fiction in which the materiality and expressivity of the earth itself determines to a great extent the activity and social organisation of its inhabitants. Found in this work is a conceptualisation of matter the refuses to be a mere substratum. Rather, the cohesion of things and the "magic" that operates as a life-force creates a figuration of the geological according to

which expression and experience are co-dependent. The reason for turning to speculative fiction is because of the ways in which seemingly quotidian features are *dramatised* to emphasise their activity and importance. In the *Broken Earth* trilogy in particular, the activity and expressivity of the earth is dramatised in order to communicate just how *deeply affective* its materiality is to life itself. As such, this chapter looks to proposes a figuration of the geological that does not succumb to the power of the bifurcation, thereby providing a means by which the plurality of experience that constitutes "relation to worlds" can be thought.

## Earthly Things

> The really vital question for us all is, What is this world going to be? What is life eventually to make of itself? The centre of gravity of philosophy must therefore alter its place. The earth of things, long thrown into shadow by the glories of the upper ether, must resume its rights.[378]
>
> **William James**, *Pragmatism and Other Writings*

In a short article titled 'Stories of Earthly Things: For a Pragmatist Approach of Geostories', Didier Debaise hones in on a passage from the series of lectures Wiliam James delivered between late 1906 and early 1907 which would go on to form the text *Pragmatism*. Debaise's interest is with the case James makes for the reparisal of philosophy's dominant interest, shifting away from the "One" and the related sense of unity, toward the "Many" or, to phrase it differently, the proposal that "the universe would be constituted by the account of earthly things".[379] Such a fundamental shift in perspective is, as James and Debaise note, far from self evident. "Philosophy," writes James, "has often been defined as the quest or the vision of the world's unity."[380] Systemising the machinations of the world with a singular idea according to which things themselves can be classified and categorised is an alluring idea. Lovelock's figure of Gaia does exactly this: the concept of a singular organism means the constituent things and their relations, which comprise the conditions for life, can be understood in terms of their participation in the singular organism of Gaia. What James proposes is a complete inversion of this relationship, thereby asking the question of how the stories of things themselves compose the universe, not as a unified idea, but as a multiplicity of worlds. Taking up this proposal, Debaise states that the aim is thus "of thinking terrestrial things as narrative properly speaking,

[378] James, *Pragmatism and Other Writings*, 57.
[379] Didier Debaise, 'Stories of Earthly Things: For a Pragmatist Approach of Geostories', *Subjectivity* 15, no. 3 (1 September 2022), 109.
[380] James, *Pragmatism and Other Writings*, 59.

and to follow, from there, the composition of a universe."[381]

Central to this inversion is James' proposal of the ontology of narrative. He writes that the "world is full of partial stories that run parallel to one another, beginning and ending at odd times. They mutually interlace and interfere at points, but we cannot unify them completely in our minds."[382] While there is a sense of *aesthetic union* that systematises things to an extent, this is a *post facto* idea that should not override the individual history and story of things. At times conjunctive and disjunctive, the discontinuity of individual stories contribute to the plurality of the world's history. Countering the idea that the "whole world tells one story," James writes that it is "easy to see the world's history pluralistically, as a rope of which each fibre tells a separate tale; but to conceive of each cross-section of the rope as an absolutely single fact, and to sum the whole longitudinal series into one being living an undivided life, is harder."[383] The multiplicity of stories generated by things themselves is thus contrasted with the parsing of a limited number of things from the broader multiplicity into a coherent narrative by the human mind. As James suggested above by stating "we cannot unify them completely in our minds", the human comes after the fact; to collect and piece together the stories that already exist in things. James thereby attempts to invert the commonly-held idea that meaning and narrative are created by the human mind as it categorises and classifies things. However, as Debaise notes, the "history from which they come and of which they express the existence in their own being does not imply an act of recomposition by the mind. It is rather inscribed in their very reality, inseparable from their existence."[384] The human mind is therefore figured as not intrinsic to the stories, dramas, and intensities of things themselves.

By building an "ontology of narrative" James is not just posing the question of what stories things tell, but is fundamentally putting into question the abstractive procedures which have a tendency to seed divisions rather than ground connection. Indeed, in this sense James is presenting a reconceptualisation of the relation between things and abstraction in terms of the notion of narrative, which, I argue, can be employed to offer a means of overcoming the bifurcation of nature that has been traced throughout this thesis. The counterpoint to modes of abstraction that bifurcate nature is the conception of the earth as a fabric comprising not individualities as such, but co-dependencies whose relations to one another are precariously balanced *de facto*. Debaise emphasises this precariousness by suggesting that each being is "both a resource and an agent of transformation" whose interrelation and co-dependence is characterised by a fundamental sense of contingency.[385] The reason for this co-dependency and

[381] Debaise, 'Stories of Earthly Things', 110.
[382] James, *Pragmatism and Other Writings*, 65.
[383] James, *Pragmatism and Other Writings*.
[384] Debaise, 'Stories of Earthly Things', 112.
[385] Debaise, 'Stories of Earthly Things', 113.

resulting sense of contingency is that no being exists in isolation: beings are dependant on one another for a sustained existence, which is therefore contingent on those relations and, thereby, precarious. Modes of thought premised on the notions of "objectivity" and "isolation" bely the fundamentality of relations, thereby exacerbating a false sense of distance between things which harms the texture and richness of experience itself. Summarising this point, Debaise writes that James "sees them as abstractions that were invented in order to link important parts of experience, to amplify them, to give them a new meaning, but that ended up turning empty and disqualifying the things to which they were supposed to bring new attention."[386] As such, for James:

> It is but the old story, of a useful practice first becoming a method, then a habit, and finally a tyranny that defeats the end it was used for. Concepts, first employed to make things intelligible, are clung to even when they make them unintelligible.[387]

The purpose of concepts is to enrich and intensify experience, not to compound distance for the sake of knowledge itself—as has been argued throughout this thesis. Knowledge production, when it is not rooted in experience, manufactures a view from nowhere that works to extract the qualitative dimensions of experience and, arguably, life itself. Debaise's observation on the importance of James' work is thus highly pertinent:

> What seems to me so essential in James' analysis is that it allows us to understand that the distance of things is not natural and given, but that it is the result of an invention, a fabrication, which comes to deny, point by point, the relations, to erase all the existing connections between the beings themselves. We create distance to then ask ourselves how to connect what we have separated and we are then left with this game of permanent jumps from one place to another, from one existence to another.[388]

What this point signals is the requirement for a critique that addresses what could lie underneath the problems supposedly found in poor terminology, bad ideas, and malfunctioning concepts, as was advanced in Chapter Three of this thesis in relation to the idea of reconstruction. However, despite the reorientation that stems from a consideration of the stories of earthly things themselves, there is a lingering question of what this actually looks like. The following section attempts to flesh out these ideas by turning to the idea of the "geosocial".

## Geosocial Formations

[386] Debaise, 'Stories of Earthly Things', 115.
[387] James, *A Pluralistic Universe*, 219.
[388] Debaise, 'Stories of Earthly Things', 115.

Shifting philosophy's centre of gravity toward the stories of earthly things themselves, as James argues, is not a self-evident manoeuvre. However, couched in the terms of a deeply pervasive and predatory function of abstraction, the reorientation of thought toward the ways in which meaning is generated by things, rather than imposed upon them by the human mind, seems a logical step in search of further grounding *experience* as the basis for knowledge production. Of course, this is a notion of experience with a much greater purview than that confined to a means of describing the conditions of being human. Rather, as was seen in previous chapters, it is a metaphysical notion employed to break the hold of a predatory mode of abstraction that has historically been the cause of such alienation, particularly in terms of the "relations with worlds" this thesis has discussed at length. But, what does it means to turn to the earthly things and their stories? How do we comprehend their power? How do we work with their influence on the ways in which new futures can be constructed?

Nigel Clark and Katherine Yusoff, writing in a special issue of *Theory, Culture & Society* on what they term the "geosocial", argue that "questions of what it means to inhabit a deeply stratified, self-transformative and potentially catastrophic planet may be as constitutive of western modernity as they are signatures of contemporaneity."[389] This means, they continue, "in turn that the trace of our circuitous, evasive encounters with planetary dynamism may already run deep in the conceptual frameworks and categories that we social thinkers reach for when novel challenges summon us." Clark and Yusoff are here concerned with the ways in which the earth and its processes have been conceptualised historically by philosophy, critical and social theory, as well as science fiction, as fundamentally inert and passive, and therefore as having no bearing on social existence. Indeed, as they note, Hegel's proclamation that the geophysical has no philosophical, political, or social significance is taken as paradigmatic of a viewpoint that the earth is merely a staging ground for human endeavour. The Anthropocene and its "humanisation of geology" situate the socio-historical events of human civilisation in the geological register of the earth. For Clark and Yusoff, there is a corresponding question to be raised about "how planetary dynamics, geological disjunctures and earth-historical trajectories may themselves have left their mark on the social beings we have variously become."[390] The idea of "geosocial formations" is proposed as a way of thinking the geological and social together, playing off the shared usage of "formation" by the geosciences and social sciences to denote the manifestation of spatio-temporal processes, according to which a formation is both a process and an outcome. In other words, "geosocial formations" look to the earthly things for ways to think the social.

[389] Nigel Clark and Kathryn Yusoff, 'Geosocial Formations and the Anthropocene', *Theory, Culture & Society* 34, no. 2–3 (23 January 2017), 5. In passim.
[390] Clark and Yusoff, 'Geosocial Formations and the Anthropocene'.

Central to the idea of "geosocial formations" is an understanding of the multiplicity of different processes that constitute a formation. Clark and Yusoff note that the way in which criticism of the Anthropocene idea has been focussed on the flattening of the *anthropos* into a singular figure and actor. Responses have tended to argue in favour of the multiplicity and heterogeneity of the human, particularly in terms of post-humanism.[391] The earth appears to be likewise multiple, divided, and heterogenous. Indeed, Clark and Yusoff remark that "we have been slower to grasp the paradox that the very configuration of the earth into a single, integrated system in the newly dynamic earth sciences has been the condition of a more dis-integrated, fractious and multiple vision of the planet."[392] Charting the interaction of multiplicities across social and geological fields, in terms of the formations that result, for instance, is thereby posited as a means of theorising and understanding this contemporary condition of catastrophic climate change, but also a means to think the future conditions that form as a result of catastrophic climate change. It can therefore be posited that the conceptualisation of "geosocial formations" is productive of a figuration of "our relation to the world".

The idea of a "formation" is intrinsically linked to geology, and to a particular change in the way in which rock formations are classified. Clark and Yusoff write that it was around the beginning of the nineteenth century that geologists "underwent a shift from classifying rocks as "natural kinds" to categorising them on account of the processes of historical formation they shared".[393] Focussing on the mode and time of formation, the seismic shift in geological epistemology enacted by the work of Abraham Gottlob Werner inadvertently provided for philosophy a new method of conceptualisation that went beyond the mere metaphorical. Marx's theory of historical materialism is said by Clark and Yusoff to be greatly informed by Werner's detailing of the logic of structure-forming processes. However, the ground on which Clark and Yusoff build the idea of "geosocial formations" is the work of Deleuze and Guattari, whose theorisation of strata and their interaction is fundamental to the notion of the geosocial. For Deleuze and Guattari, strata are mainly grouped together into the geological or inorganic, the biological or organic, and the stratum of human culture and language, yet there are endless possible combinations of the materials that comprise those strata.[394] What this means is that formations are composed of various strata differentiated from their antecedent strata that have been inherited and reworked. Clark and Yusoff suggest that "there is an explicit and substantive sense that vital components of any social form are biologic and geologic: that every social

[391] As discussed in Chapter One.
[392] Clark and Yusoff., 'Geosocial Formations and the Anthropocene', 10.
[393] Clark and Yusoff, 'Geosocial Formations and the Anthropocene', 11.
[394] See: Gilles Deleuze and Félix Guattari, A Thousand Plateaus: Capitalism and Schizophrenia, trans. Brian Massumi (London: Bloomsbury Academic, 2013), particularly the chapter titled '10,000 BC: The Geology of Morals (Who Does the Earth Think It Is?)'

formation is to some degree constructed through its own specific "machinic processes" of tapping into the flows and stratifications of a couple, eventful earth."[395] The Anthropocene is, apparently, an example of exactly this.

Yusoff elaborates the particular logic and organisation of strata vis a vis the notion of formations. Continuing the reading of Deleuze and Guattari's idiosyncratic theorisation of strata, Yusoff posits that the historical formation of stratum operate to determine expressions of that particular organisation of strata. Drawing on Deleuze's reading of Foucault, Yusoff argues that stratification comprises two elements: "a historical perception or sensibility, and a discursive system", and that each stratum is a combination of "discursive and nondiscursive formations, and visible and articulable expressions".[396] It can be inferred that strata, in this sense, are something akin to Foucault's notion of an episteme as the underlying mode of ordering expressions on a subjective level. Thus, geological strata are likewise tied to forms and modes of expression. Yusoff gives the example of how the Anthropocene can therefore be seen "in both its mode of expression (epochal anxiety, catastrophic thought, proclamations of the End of Civilisation, governance, capitalisation, social reproduction, new earths) and in the statements that it expresses (humanity as a geological force, the death of man, human as inhuman nature)."[397] This means that strata need to be understood as both "material and affective infrastructure" in terms of which sociality and subjectivity are formed.

With the notion of the geosocial, which attempts to articulate and ground historical formations produced by inter-strata relations, Clark and Yusoff propose a means by which the seemingly disparate relations between the geological and the social can be conceptualised. This turn toward the very materiality and activity of the earth utilises the notion of formations to communicate its constituent relations of materiality, sociality, and subjectivity. It thereby narrates these relations in a way that emphasises the story of the things of the earth. However, despite the insistence on relations, there is a return to the concept of matter which, I argue, undermines the agency and power given over to the materiality of the earth. As Clark and Yusoff write, "there are no easy answers to the question of how matter might figure in the reimagining of social or collective possibility—for the stuff of geology cannot suddenly be recuperated on the same grounds that it was previously passed over."[398] Thus, the problem Clark and Yusoff pose is: "If ecological and geophysical evidence makes it plain that prevailing articulations of global social life with geologic processes cannot be sustained, what is not so clear is the shape of geosocial formations that will take its place—or how they will come into being."[399] As has been

[395] Clark and Yusoff, 'Geosocial Formations and the Anthropocene'.
[396] Kathryn Yusoff, 'Geosocial Strata', *Theory, Culture & Society* 34, no. 2–3 (18 January 2017), 108.
[397] Yusoff, 'Geosocial Strata', 109.
[398] Clark and Yusoff, 'Geosocial Formations and the Anthropocene', 15.
[399] Clark and Yusoff, 'Geosocial Formations and the Anthropocene', 20.

argued throughout this thesis, the concept of matter is the core protagonist in the bifurcation of nature. The next section further examines the role the concept of matter takes in the geosocial and, thereby, argues for a conceptual revaluation that would ground the geosocial on the stories of earthly things themselves.

## A Further Critique of Matter

> Newtonian physics is based upon the independent individuality of each bit of matter. Each stone is conceived as fully describable apart from any reference to any other portion of matter. It might be alone in the Universe, the sole occupant of uniform space. But it would still be that stone which it is. Also the stone could be adequately described without any reference to past or future. It is to be conceived fully and adequately as wholly constituted within the present moment.[400]
>
> **Alfred North Whitehead**, *Adventures of Ideas*

In Chapter Two, it was argued that the concept of matter enacts what Whitehead dubs the bifurcation of nature. As a cornerstone concept of modern science, it was shown that the concept of matter anchors a notion of reality premised on the idea of objectivity, thereby positing a separate reality which is the realm of experience. Central to this critique of the concept of matter was the idea of simple location, according to which matter is localisable at a definite point in space and time in isolation. That is, an anonymous entity without qualities or properties of its own. With the idea of the geosocial, however, matter is theorised as something more dynamic and relational. Even though there is a sense in which strata are composed of matter, the elements of those compositions are posited to be non-reducible to a particular kind of substrate. What I mean by this is that, according to the argument advanced by Clark and Yusoff, strata are not singularly geological, and therefore not composed of the common stuff to which the concept of matter corresponds. If strata are not just geological, but in fact comprise myriad biological, cultural, and linguistic dimensions of reality, is the concept of matter either the ultimate metaphysical substance, or a much broader concept premised on a certain kind of relationality? After all, what would the matter of language or culture be? Beginning with the problematic of the bifurcation of nature, this section investigates the concept of matter within the context of strata and the geosocial to question whether this very contextualisation assuages the problem of the bifurcation of nature, redeems it, or makes clear the necessity of a conceptual overhaul once and for all.

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[400] Alfred North Whitehead, *Adventures of Ideas*, (New York: The Free Press, 1985), 156.

The fundamental problem of matter is its localisability. Or, rather, to rephrase slightly: localisation is a gesture that is enacted through and with the concept of matter. The previous discussion of matter centred on the concept of nature constructed by scientific materialism, according to which reality is reducible to matter identifiable at a definite point in space and time. Indeed, the principle of simple location was posited as *the* defining characteristic of matter.[401] Nature is therefore conceived as a "succession of instantaneous configurations of matter".[402] One of the issues immediately identifiable with the concept of the geosocial and its underlying theorisation of strata is that the notion of formation is effectively a configuration of matter, albeit one according to which matter is conceived more broadly. This is to say that, according to the current understanding of the concept of matter, the elements comprising a formation are therefore localisable within a definite section of space-time. After all, the very formation of strata is the compacting of an assortment of matter into a layer that is clearly delineated from antecedent substrata. It is, by its very nature, the sedimentation of space and time. When the notion of matter is abstracted beyond the geological, it is arguably not further away from a notion freed from the trappings of localisation, but in fact closer. Debaise writes that "matter is *only* localisation", and that, the definition of matter in modern experience can only be "a *localisable* point".[403] This is because the modern is defined by the bifurcation of nature, which is asserted and expressed by the concept of matter.

What can be extrapolated from Debaise's explication of the problematic of matter and the bifurcation of nature is an indictment of using the geological to frame and articulate the contemporary experience of living on a planet afflicted by catastrophic climate change. For example, he writes that according to the theory of simple location there is "a multiplicity of here-and-nows that precisely delimit zones of matter and the boundaries that separate it from other areas of the universe. According to this perspective, one space-time is sufficient, in itself, and does not need to make any reference to other space-times."[404] In other words, the concept of matter is simultaneously stratified whilst also *stratifying*. If attention is turned to the introductory quotation in which Whitehead discusses a stone—an entity for which he shows a recurring affection—as describable without reference to any other matter, a contradiction can be identified with the standard description of strata and Whitehead's notion of matter. By this I mean the delineation of strata is always in reference to its antecedent substratum, meaning that strata is defined through its relation to other matter. However, this is to confuse scales, as the

[401] Donna Haraway argues that the concept of the gene is also mobilised in terms of simple location. It can thus be said that the concept of matter suffers from the same kind of 'fetishism of a figuration' as the concept of the gene. See: Haraway, *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse*, 147.
[402] Whitehead, *Science and the Modern World,* 50.
[403] Debaise, *Nature as Event*, 16. Emphasis in original.
[404] Debaise, *Nature as Event*, 17.

delineation is between types, rather than individual elements. Strata is quite literally the fossilisation of matter within a region of space-time. In this sense, turning to the geological to articulate experience further entrenches the bifurcation, through the application of the concept of matter and by conceptualising experience in terms of the geological. In fact, it posits experience as only explicable in terms of a definite section of space-time.

Yusoff acknowledges the reductive capacity of the concept of matter and the ways in which it has been mobilised by the framework of geology to discuss its own objects of knowledge, as well other objects residing outwith its general purview. In reference to European colonial systems of enslavement, Yusoff writes how geology was employed as a "technology of matter" according to which both "the enslaved and minerals are recognised as possessing certain properties of qualities, namely, energy, reproducibility, and transformation."[405] The concept of matter allowed for these shared qualities to be flattened out onto one fixed concept. Indeed, Yusoff writes that the "fixity of geologic description" allowed "a range of different materials to be mobilised within a single system despite difference in sentience, location, and affiliation".[406] Of course, the reduction facilitated by the concept of matter was not applied universally, but rather used to conceive of the earth and people who were not White in terms of base materiality and a set of extractive qualities. However, this is not to say that "geology is productive of race per se," writes Yusoff, rather it is "intrinsic to this structural inscription of subjects into matter-objects or property."[407] In opposition to this "White Geology"[408] is the domain of the "inhuman", which Yusoff sees as a positive, productive source of an "insurgent geology" that refuses the extractive lexicon of geology.[409] This involves a call to rethink the relation of "flesh and the earth" in terms of materiality, resisting the reductive conceptual framework of geology that persists in conceiving relations in terms of property. There is, however, no clear denouncement or examination of the violence the concept of matter enacts. Its extractive properties are identified, yet there is a sense in which matter is *neutral* and somewhat redeemable.[410]

To summarise the above, there can be found in the concept of the geosocial an almost paradoxical insistence on the relational capacity of the concept of matter which, I argue, continues to enact the bifurcation of nature. This can be characterised as an antimony between

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[405] Yusoff, *A Billion Black Anthropocenes or None*, 14, 70.
[406] Yusoff, *A Billion Black Anthropocenes or None*, 67, 83.
[407] Yusoff, *A Billion Black Anthropocenes or None*, 73, 69.
[408] A reference to Du Bois' notion of the colour line.
[409] Yusoff, *A Billion Black Anthropocenes or None*, 101.
[410] Yusoff provides further example of the racial coding of the geological lexicon in reference to the geologist Sir Charles Lyell. Yusoff writes that Lyell, during a geological surveying trip to North America in the mid-nineteenth century, employed his geologic lexicon to describe his encounters with Blackness. Specifically, notes Yusoff, "he defines the problems of races and their respective (as he understands them) positions in relation to time, in much the same way as his descriptions of geology define stratification of rock formations and species in time." See: Yusoff, *A Billion Black Anthropocenes or None*, 74.

relations theorised as external connections between discrete, individual, and localisable matter, and relations conceived as constitutive of the entity itself. Although the latter position is fundamental to Whitehead's metaphysics, there is a specific aspect through which the antimony above can be explored: the concept of power. The role of power is deep-seated in modern Western philosophy, as is apparent from the relation between primary and secondary qualities. As Locke argued, a primary quality affects the mind to produce secondary qualities. In other words, the relation between primary and secondary qualities is one of power: a one-sided power of primary over the secondary qualities. In many ways, this is the power of the bifurcation of nature. As the bifurcation of nature cannot be accepted, there is a requirement to reengineer this conceptualisation of power. Whitehead, with a longstanding affection for Plato, finds in Plato's *Sophist* a definition of existence as the power to affect, or be affected by, anything. Importantly, Plato explicitly states that "I hold that the definition of being is simply power".[411] Elaborating, Whitehead writes:

> Plato says that it is the *definition* of being that it exert power and be subject to the exertion of power. This means that the essence of being is to be implicated in causal action on other beings … Thus, in these passages Plato enunciates the doctrine that "action and reaction" belong the essence of being.[412]

What Whitehead is making clear here is that a two-way concept of power is constitutive of being. That is, the power to affect and be affected by other entities, which can otherwise be stated as the capacity of power that defines being. Debaise shows that Whitehead's theorisation of power is drawn from Locke who, along with Hume, made it central to the discussion of Ideas. Classifying the power to affect and be affected by as active and passive powers respectively, Debaise notes that it would be incorrect to associate passive power with passivity because the only difference is the relation between the terms: "one creates and the other receives a change".[413] For instance, Locke gives the example of fire having the power to melt gold. Consider the example of the sun having power to melt icebergs. While the sun has the power to act on a multiplicity of things, what matters is not the terms—sun and ice, for instance—but the relation itself. Icebergs do not passively accept the sun's energy. Instead, they reflect its rays back into the atmosphere.[414] Indeed, as every idea can be connected to every other, the terms "active" or "passive" are relative, as an idea can be at one time active, and another time passive.

Debaise identifies an aspect of Locke's discussion of powers that is particularly relevant to

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[411] Plato quoted in Whitehead, *Adventures of Ideas*, 119.
[412] Whitehead, *Adventures of Ideas*, 119-120.
[413] Debaise, *Speculative Empiricism,* 85.
[414] This capacity is called "albedo".

the critique of matter presented above. This is the statement that active "powers, however, unlike passive powers, are *indifferent* to their effects."[415] The reason this point is important is the way in which power is theorised in relation to substance, particularly the way in which our *idea* of substance is produced by the understanding. The idea of substance, Debaise claims, is an expression of powers. He writes that:

> What we actually form, however, is the illusion of "something" underlying ideas that would be their origin. What we have, then, are not substances but *ideas and the relations* between them, which is to say, more importantly, *relations of power*.[416]

Although Locke's theorisation of power situates it in the mind, Debaise notes that Hume, in the *Treatise*, takes this a step further. Hume writes that "there are several new productions in matter, such as the motions and variations of body, and concluding that there must somewhere be a power capable of producing them, we arrive at last by this reasoning at the idea of power and efficacy."[417] While this theorisation of power is one fully entrenched by, and enacting of, the bifurcation of nature, what becomes apparent is the similarity to the way in which the concept of matter is theorised by the geosocial. This point can be made clear by looking at the theory of "geopower" advanced by Yusoff, drawing on the work of Elizabeth Grosz.

Geopower, as it is theorised by Elizabeth Grosz, concerns the interaction of human and non-human forces. "The relations between the earth and its various forces, and living beings and their not always distinguishable forces," writes Grosz, "are forms of geopower, if power is to be conceived as the engagement of clashing, competing forces."[418] As an elaboration of the relationship between forms of life and forms of earth, geopower seeks to detail what Grosz claims to be the very conditions of existence itself. Found in this argument is a similar contention with the long-standing sense in which the earth is taken as a staging ground for social life which, thereby, reduces the impact of the earthly forces to the bare minimum. Geopower is, as Nigel Clark notes, a generative force that leaves its mark on bodies.[419] What becomes clear through an investigation of the form and function of the concept of geopower is the desire to articulate the expressivity of relations between matter, as well as the latent expressivity of matter itself, in a way that does not reduce it to the function or play of human consciousness. Indeed, the very concept attempts to ground the idea of the stuff of the earth and its constituent forces

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[415] Debaise, *Speculative Empiricism.* Emphasis in original.
[416] Debaise, *Speculative Empiricism,* 86. Emphasis in original.
[417] Hume quoted in Debaise, *Speculative Empiricism,* 86.
[418] Elizabeth Grosz in Kathryn Yusoff et al., 'Geopower: A Panel on Elizabeth Grosz's Chaos, Territory, Art: Deleuze and the Framing of the Earth', *Environment and Planning D: Society and Space* 30, no. 6 (1 December 2012), 975. Grosz's theorisation of power differs from Elizabeth Povinelli's whose notions of "geoontological" or "geoontopower" concern liberal governance. See: Elizabeth A. Povinelli, *Geontologies: A Requiem to Late Liberalism* (Durham: Duke University Press, 2016).
[419] Clark in Yusoff et al, 'Geopower', 976.

as generative of the forms and structures of human social life. And yet, there persists a reduction to matter itself as an isolated unit, albeit one with qualities.[420] The creativity of life, Grosz suggests, comes from the ability to "enfold matter into itself, to transform matter and life in unpredictable ways" from a chaos that is not an absolute disorder, but a profusion of order.[421] It is, therefore, the creative capacity of life to harness and order the expressivity latent in the matter of the earth itself.

As has been argued on two occasions—over the course of this section and in Chapter Two—the concept of matter continues to act as a vector for the bifurcation of nature, despite the conceptual recontextualisation that occurs around it, whether that it is with the concepts of strata, stratification, or the geosocial. For example, in Clark, Grosz, and Yusoff's theorisation of the *expressivity* of the earth itself, there is a concomitant assertion of the expressivity of the matter and forces of the earth, and a reduction of that expressivity to matter. Such a conceptualisation, it has been argued, perpetuates a concept of nature comprising qualities latent to matter itself. Yet, the problem lies in the sense that matter is posited as being possessive of *all qualities* yet only as a substratum. In other words, matter is posited as simultaneously everything and nothing. It can therefore be suggested that, according to the arguments presented above, the concept of matter constituent of both the theories of geopower and the geosocial perpetuate the theorisation of matter critiqued by the bifurcation of nature with one difference: the qualities are not said to be of the mind, but are bifurcated within the concept of matter itself. Moreover, the sense of agency and expression said to be given to the materiality of the earth—what can be dubbed "it's right to tell its own stories"—is undercut by the insistence on the concept of matter.

Following the line of thought traced throughout the current chapter, it is once again time to ask the question: what stories do earthly things tell? The following section pursues this question, seeking to provide if not an answer then a proposition of the ways in which those stories could be told and read, by looking at the speculative fiction of N. K. Jemisin's the *Broken Earth* trilogy. The reason for turning to Jemisin's work, and speculative fiction in general, is that it provides a *dramatisation* of the stories the earth tells. Or, to phrase this point slightly differently, the *Broken Earth* trilogy provides a speculation upon ways of *listening to and acting with* the dramatic stories the earth tells. It offers tools for speculatively being with the earth and disclosing its stories.

[420] Elizabeth Grosz, *Chaos, Territory, Art: Deleuze and the Framing of the Earth* (New York: Columbia University Press, 2008), 4, 19.
[421] Grosz, *Chaos, Territory, Art*, 5-6.

## The Magic of the (Broken) Earth

Turning to science and speculative fiction to articulate and express the condition of "being with the world"[422] might seem like a contradiction. After all, argued throughout thesis is that the particular modes of abstraction allied with the bifurcation of nature have produced a profound alienation not just with "our relation to the world", but with "relations with worlds" in general. Thus, the fictional as another layer to these various relationships would seem to only further obfuscate these relations, thereby exacerbating the sense of alienation. On the contrary, to establish the stories of earthly things as the starting point for thinking relations with worlds is to situate the mechanisms by which those stories are told within the materiality and meaning of the planet itself. It is to designate the earth as the site for the interweaving and construction of stories about being with the world. Such a step is speculative, requiring novel ways with which to *disclose the stories of earthly things*: there is a patent need for tools with which to speculate, that aid in such disclosure, and help us to reconceptualise relations to world.

Comprising three books, *The Fifth Season*, *The Obelisk Gate*, and *The Stone Sky*, N. K. Jemisin's *Broken Earth* trilogy is deeply geological in nature, concerned with the materiality, activity, affectivity, and expression of the earth and its relations formed with its inhabitants. The trilogy is richly textured, full of world-making events that reveal *what* something is through its relations with other things. It is a work of speculative fiction based on how the stories of earthly things affect the ways in which the inhabitants of this planet live and interact with the conditions of their existence. As such, it can be considered a work that brings together the philosophical perspective of James' "speculative empiricism", to borrow a phrase from Debaise, and the relations that constituted the geosocial as discussed by Clark and Yusoff, without falling into the reductionist trappings of the bifurcation of nature. While the series is rich with opportunities to theorise various philosophical and theoretical notions, the focus for this thesis is on the ways in which figurations of the earth are constructed.

The *Broken Earth* trilogy is set some 40,000 years in the future on an earth-like planet suffering through the aftermath of a catastrophic climatic event, the effects of which have fundamentally altered the activity of living for all things. The Earth is both the staging ground for the story and a character itself whose past, current, and future determine to a great extent the activity of the other central characters. It is not, however, a singular entity like that of Gaia. Rather, its relations between its inhabitant and its own yearning for the Moon suggest an incompleteness: an incompleteness that drives the main narrative of the trilogy. At first, the continuous and threatening seismic activity of the planet is portrayed as the simple condition of

[422] Donna Jeanne Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008).

life; the after-effects of a planet-wide climatic event, or the looming threat of something worse yet to come. However, as the narrative progresses, the sentience of the Earth becomes known, whose cataclysms—known as "Fifth Seasons", which are an "extended winter … triggered by seismic activity or other large-scale environmental alteration"[423]—are vengeance enacted against its inhabitants for a past event. The ultimate resolution of this condition forms the tension of the latter half of the trilogy.

Earth's hatred of its inhabitants centres on a specific being: Orogenes. While there is a vast human population, orogenes are specifically classed as non-human owing to their intrinsic powers to manipulate the matter and power of the planet, because of which they have historically been enslaved; their powers used to prevent seismic activity from destroying settlements. Consequently, they are feared and ostracised by the humans, who frequently murder orogenes because of their powers which are mythologised as evil and dangerous. A race of beings related to orogenes, called Guardians, is responsible for controling and training all orogenes. Guardians are agents of the Earth, who have a small sliver of metal implanted in their brain at birth, through which the power of the earth can be transmitted in order to do the Earth's bidding. Their hatred of orogenes is only thinly disguised. It is, however, creatures dubbed Stone Eaters for whom the Earth's hatred is greatest. Stone Eaters are creatures who used to be orogenes, but whose flesh has been turned to stone and whose being has been condemned to the materiality of the earth by the Earth itself. Hated by humans and the Earth alike, and unable to find refuge in either the power or materiality of the earth, the persistent torture of orogenes' existence is a central theme of the trilogy.

While it is Essun, an orogene who has gone to great lengths to disguise her powers, and Nassun, her daughter who has recently become aware of her own powers, who are the central protagonists, the focus of this chapter is the conceptualisation of expressivity of the planet. As such, there is one fundamental example that demonstrate this: the conceptualisation of energy and magic. It is the fight for magic that sits at the heart of the trilogy. Before The Stillness—the region in which the story is set—was fractured and perpetually subjected to Fifth Seasons, it played host to an ancient society called Syl Anagist, whose technological advancements and understanding of the materiality and energies of the planet created a tension with the Earth. In *The Stone Sky*, which details the origin story of the Fifth Seasons, it is written that the "people of Syl Anagist have mastered the forces of matter and its composition; they have shaped life itself to fit their whims; they have so explored the mysteries of the sky that they've grown bored with it and turned their attention back toward the ground beneath their feet."[424] Syl Anagist is

[423] N. K. Jemisin, *The Fifth Season* (London: Orbit, 2016), 460.
[424] N. K. Jemisin, *The Stone Sky* (London: Orbit, 2017), 3.

described as teeming with life—something that, for their society, is precious. Their mastery is not over the *materiality* of matter, but the forces that impel it: a fundamental energy that runs through everything. This is the life-force of Father Earth that permeates everything, which is characterised as "magic".[425] That is to say that this energy/magic is not constitutive of the materiality of things themselves nor is it a force that activates them as such, but it is figured as an inextricable property of things. To the most powerful orogenes, such as Essun, magic appears as silver, coursing through everything: "Insects, leaf litter, a spiderweb, even the rocks—all of it now flickers in wild, veined patterns, their cells and particulates etched out by the lattice that connects them."[426] Yet, orogeneity and magic are not the same thing: the former is described as mentally "going into the earth" which seems to repel the flowing silver of magic, as if the Earth's hatred of its inhabitants is embodied within this life-force.[427]

A more fundamental characterisation of magic is given in the origin story of the Earth's hatred, told by a Stone Eater called Hoa. At this point, however, Hoa is a different type of being: something like an orogene. Hoa, along with a group of others, are "tuners" bread for specific talents in harnessing the latent magic of the earth, and to weave together its disparate energies to achieve something called "geoarcanity." Geoarcanity seeks to establish "an energetic cycle of infinite efficiency" so that the people of the world will never "want or strife again".[428] The machine built to achieve, called the Plutonic Engine, is something akin to an instrument, with Hoa and the others of his kind the tuners whose purpose it is to create a symphony of energy. The tuners possess an ability to tap into and work with the energy and magic of organic matter —much like orogenes, but in a much more far-reaching and intensive manner. They are also able to communicate with one another through "earth speak", which is non-verbal language comprising geomorphic energies, with which the tuners are able to communicate in "pure truth". Their being is intimately tied to the energies and materiality of the earth but, in the first instance, in a purely utilitarian manner as they are "tools" in the creation of geoarcanity—a notion that is continually reinforced by the "conductors" responsible for the tuners. That is until the introduction of Kelani, who opens the mind of Hoa and his fellow tuners to their shared history.

Confined to their apartments and solely dedicated to the mission of geoarcanity, the tuners live an isolated life. They are tools, whose existence is controlled by the conductors. Hoa and the others recognise that they are different—their small size, thick hair, and white eyes mark them as

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[425] Moritz Ingwersen, 'Geological Insurrections: Politics of Planetary Weirding from China Miéville to N. K. Jemisin', in *Spaces and Fictions of the Weird and the Fantastic: Ecologies, Geographies, Oddities*, ed. Julius Greve and Florian Zappe (Cham: Palgrave Macmillan, 2019), 73–92.
[426] Jemisin, *The Stone Sky*, 117.
[427] Jemisin, *The Stone Sky*, 120.
[428] Jemisin, *The Stone Sky*, 97.

a different species to the humans who control their lives. Their selective breeding has genetically fine-tuned specifically for the task of tuning. Kelani, however, one day exposes the tuners to their history as a people called the Niess. The Niess were a race of people whose understanding, appreciation, and ability to harness magic far exceeded all others—the people of Syl Anagist in particular. Although the people of Syl Anagist understood the power of magic of life itself, they understood it in terms of energy to be captured and utilised. In other words, instrumentalised, which stood in stark contract to the Niess people, whose extraordinary relationship with magic led them to craft beautiful objects for the appreciation of their engineering prowess. For this, the Niess were persecuted by the people of Syl Anagist, who saw their differences as something to eradicate. The Niess were murdered and driven to extinction. Kelani, it transpires, shares the same ancestry as Hoa and the other tuners, but lived with a Syl Anagist family as a test to determine whether the extraordinary abilities of the Niess were the result of something habitual, or something genetic. By sharing the story of their ancestors, Hoa and the others are opened up to the broader context in which they exist, and come to understand that the much-proclaimed sanctity of life integral to the people of Syl Anagist is merely theft. And that the mission of geoarcanity with which they are tasked is but a further theft—a theft of the life of the earth itself.

Upon learning of their ancestry, and with their mission and, ultimately, lives, recontextualised, Hoa and the tuners decide to take action. Speaking through the energies and pressures of the earth, Hoa, and the other tuners agree that they cannot see through the stated mission as not only will it enslave the Earth's core to the imperatives of Syl Anagist, but will expend their use as tools. In other words, it will bring the enslavement of the Earth and the end of their lives, and potentially the end of the Niess entirely. And so, when the times comes to start up the Plutonic Engine and initiate geoarcanity, Hoa and his fellow tuners aim the current of energy destined to start the engine away from the Earth's core to Syl Anagist, seeking to destroy the city and people that enslaved them and their ancestors. The Earth, sensing this attack on its body and energies, fights back, taking control of the network of crystal obelisks from which power is drawn. It wants to destroy all beings that inhabit it; it wants to channel the mass of energy networked by the tuners and obliterate existence. Hoa, the lead tuner, doesn't feel he can do this so, instead, as an act of preservation, channels the energy to the moon—where the tuners and conductors are located—causing it to jettison from orbit. At this, the Earth is incensed. With control over the network, energies and, ultimately the tuners, the Earth retaliates but, instead of acting with final vengeance over the tuners, who it understands are being treated as tools, grants a certain kind of mercy. The Earth turns them into solidified magic, with the appearance of stone. With this final act, the 27 obelisks under the control of the Earth bore

down into its core, creating the first fifth season. Hoa and the others are now consigned to an eternity in the materiality of the earth.

Many critical analyses of Jemisin's *Broken Earth* have commented on the similarity of mining magic in Syl Anagist and the consequences to the Earth it brought about, with the extraction of fossil fuels and catastrophic climate change on our own planet.[429] While that is pertinent, and the allegory seems to hold up, the materiality of energy is figured quite ambiguously: as a substance that permeates things which can be extracted, but also something that is almost a qualitative dimension of things themselves. There is no point at which it is suggested that the source of magic can be exhausted, thereby figuring it as intrinsically plentiful. As such, thinking back to the critique of matter advanced in the previous section, it seems as if the characterisation of magic as separate from things themselves is a simple bifurcation; that the materiality of things, such as "insects, leaf litter, a spiderweb, even the rocks" are merely the armature for magic to flow. Yet, the stratification that characterises the bifurcation—the separation of experience into subjective experience and the bare materiality that underpins it—does not appear throughout the *Broken Earth* trilogy. There is a sense of complicated, almost pluralistic, complexity to things. This point is captured by Hoa when describing the aim of geoarcanity:

> All energy is the same, through its different states and names. Movement creates heat which is also light that waves like sound which tightens or loosens the atomic bonds of crystal as they hum with strong and weak forces. In mirroring resonance with all of this is magic, the radiant emission of life and death.
>
> This is our role: To weave together those disparate energies. To manipulate and mitigate and, through the prism of our awareness, produce a singular force that cannot be denied. To make a cacophony, symphony. The great machine called the Plutonic Engine is the instrument. We are it tuners.[430]

What would be considered matter is here figured as a *pluralistic cohesion*, like a rope whose fibres are inextricable to its being. The codependencies of *expression* and *experience* that typify Hoa's description of tuning and its relation to magic and the Earth provide a conceptual reconfiguration of the relation between experience and what others, such as Clark and Yusoff, dub matter; particularly the relation between the materiality of geology and the dynamics of the social. To put it in other terms, presented above is a conceptual reconfiguration of the geosocial without the folly of bifurcation.

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[429] See: Alastair Iles, 'Repairing the Broken Earth: N.K. Jemisin on Race and Environment in Transitions', ed. Anne R. Kapuscinski, Kim A. Locke, and Kate O'Neill, *Elementa: Science of the Anthropocene* 7 (11 July 2019): 26.
[430] Jemisin, *The Stone Sky*, 97.

Jemisin's speculative fiction dramatises the social relation and activity of the materiality of the earth. It is an exploration of the potential ways in which this activity can be conceived and the effects of this conceptualisation on the ways in which the myriad "relations with worlds" are conceived. The value of speculative fiction in this respect is the way in which such a figuration can be placed in context and given room to *play*. In this sense, there is a fundamental difference between what can be proposed theoretically or philosophically, and what can be proposed through the medium of speculative fiction. This section has attempted to demonstrate the ways in which Jemisin creates a world in which the activity and expressivity of the materiality of the earth can be explored; where its relations with characters and the social reality they inhabit it co-created with this activity.

## Chapter Conclusion

Architect of the Anthropocene concept, Paul Crutzen, characterised it as the "geology of mankind".[431] By situating "mankind" in the register of the earth, Crutzen, perhaps unintentionally, forced a reconsideration of the relation between the materiality of the earth and the social activity and organisation of humanity at large. The purpose of this chapter was to analyse the *figuration of the geological* and its deployment to think "our relation to the world" within the context of the bifurcation of nature, and propose a reconfiguration of the concept of matter that sits at the heart of the geological. As such, this chapter sought to propose a figure of the geological with which the plurality of experience that constitutes the plurality of "relations to worlds" can be thought.

Section One established the philosophical ground for this chapter by looking to the work of Didier Debaise and William James who propose an ontology of narrative that grounds philosophy in the "stories of earthly things". Opposed to the overlaying of narrative on things by the human mind, the ontology of narrative reorientates the generation of meaning to things themselves, suggesting, ultimately, that the universe is and was generated by the stories of things. This philosophical proposition also reintroduced a critique of abstraction that was pursued in previous chapters; that is, the function of abstraction as predatory which sows division and creates the bifurcation of nature.

Section Two investigated the notion of the "geosocial" as a specific concept that attempts to understand social activity and organisation through the lexicon of geology. Looking at the work of Nigel Clark and Katherine Yusoff in particular, the concept of the geosocial was developed to articulate the relation between the materiality of the planet and its inhabitants in terms of

[431] Crutzen, 'Geology of Mankind', 2002.

formations: in other words, both the process and outcome of activities. Fundamental to this is the concept of matter which, it was argued in Section Three, enacts the bifurcation of nature, thus inhibiting the usefulness of the concept of the geosocial. A critique of the concept of matter, extending that advanced in Chapter Two, argued that a new concept of matter was required to think "our relation with the world". It was argued that such a concept needs to foreground to the expressivity and relationality characteristic of the ontology of narrative outlined in section one.

As such, Section Four introduced N. K. Jemisin's science fantasy and fiction trilogy the *Broken Earth*. Across it's three constituent texts, *The Fifth Season*, *The Obelisk Gate*, and *The Stone Sky*, Jemisin details a fractured existence of both the planet and its inhabitants, where seismic cataclysms determine life to a great extent. It was argued that this trilogy presents a reconfiguration of the geological and the concept of matter; a reconfiguration that is based on the codependency of expression and experience which, it was argued, are integral to thinking the plurality of "relations with worlds" without falling into the trap of the bifurcation of nature. Jemisin's speculative fiction creates a world in which the activity of the materiality of the earth could yield such a reconfiguration. Fundamentally, this chapter built upon the analytical and critical work pursued throughout this thesis in order to propose a speculative figuration with which to think the relations with world that have become so alienated in this climatic regime.

# Chapter Six: Life Ungrounded

> In the real world it is more important that a proposition be interesting than that it be true.[432]
>
> **Alfred North Whitehead**, *Adventures of Ideas*

What results when the fictional is taken at face value, as fact? What results when the fabulations of science fiction, which create worlds sometimes similar, sometimes unrecognisable, from planet earth, are accepted as they are: not as allegories or metaphors, but as factual conditions? In the *Broken Earth* trilogy, for example, existence is inextricably tied to the materiality of the planet inhabited, on which exploitative, extractive behaviours have catastrophic effects. The allegorical lies in utilising the events comprising that narrative to understand past or future events that have occurred or may occur on this planet. The power of fabulation resides in how it *processes* the unknown and the *facticity of contingency*. In this sense, the factual conditions it presents are to be accepted with the same spirit of adventure as the philosophical speculation pursued in previous chapters: that is, adventure at the threshold of the known and unknown.

Steven Shaviro, in *Extreme Fabulations*, writes that Henri Bergson, who was the first to introduce the notion of fabulation to philosophy, characterised it as productive of a false experience that nonetheless had value. Bergson saw in what he called a "counterfeit of experience" the power to suspend judgement and reason, and thus a means to venture into the unknown. Shaviro describes this value as such:

> Insofar as it is a "counterfeit of experience" that suspends our usual assumptions and trains of thought, science fictional fabulation demands to be taken literally. That is to say, any successful work of science fiction produces a powerful reality-effect. We cannot take its descriptions only as allegories or metaphors. We also need to accept them as factual conditions that have unavoidably been given to us, at least within the frame of the narrative. By speaking of givenness, I am trying to suggest that—in the world of a science fictional work—these conditions both overtly display to us their contingency or arbitrariness, and yet at the same time stare us directly in the face with their ineluctable actuality.[433]

While fabulation in scientific and speculative fiction is productive of novelty that redresses the outer limits of the collective imagination, its actuality expresses a fundamental condition of existence: contingency. That is to say, contingency and risk are the fundamental characteristics of

[432] Whitehead, *Adventures of Ideas*, 244.
[433] Steven Shaviro, *Extreme Fabulations: Science Fictions of Life* (London: Goldsmiths Press, 2021), 3.

experience and the condition of relations that form experience; of the relation between experience and the earth, of the experience of the earth. Echoing Deleuze and Guattari in *What Is Philosophy?*, it could be said that there is no reason to experience but *contingent reason*.[434] Indeed, it is a necessary principle to confront when grounding experience in the stories of earthly things.[435] The purpose of this chapter is to explore the texture of contingency and risk as they form the figure of experience itself.

Section One introduces the idea of existential risk. Fundamental to climate change discourses, existential risk attempts to quantify and, ultimately, measure the risks posed by various threats as they relate to existence itself. In its most extreme form, global heating, ocean acidification, rising sea levels—the effects of climate change at large—pose various levels of risk to humanity; from forced displacement and global food shortages to inhospitable climates unfit for human life. Risk is invariant to life. The purpose of Section One is to introduce the fundamental sense of contingency inherent to existence itself, particularly to the existence of humanity.

What is so peculiar about existential risk is the inability to explore its outcomes *via experience*. Section Two introduces the speculative fiction of Amos Tutuola in order to explore the contingency of existence that the field of existential risk attempts to quantify. Tutuola's *The Palm-Wine Drinkard* is the tale of a man whose life is determined by an almost insatiable thirst for palm wine. One day, his own dedicated palm-wine tapster takes a fall from a spectacular height and dies. At a loss, the palm-wine drinkard embarks on a journey to find his beloved tapster, convinced that his death is not a permeant condition that will get in the way of quenching his thirst. As such, the drinkard undertakes a journey that is incessantly interrupted by horrors and terrors that at times break him down physically, other times open him up to new worlds. Tutuola's novel is an exploration of contingency, risk, and a sense of incompleteness that counters the European colonial idea of the substantial human being and the singular world. With *The Palm-Wine Drinkard*, the catastrophic contingency that breaks apart existing worlds and, simultaneously, opens up new ones, is made intensely clear. In Section Three it is argued that Tutuola's characterisation of experience exemplifies the idea of the pluriverse and, in particular, the notion of "worldquakes" which bring into being new worlds. Based on the work of William James and Martin Savransky, this section suggests that experience has to be figured in terms of catastrophic reason which, through the destruction of existing worlds in the creation of new ones, *enlarges reality and, therefore, experience too*.

Building on this line of thought, Section Four situates thought in relation to the earth itself.

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[434] Gilles Deleuze and Félix Guattari, *What Is Philosophy?* (London: Verso, 2011), 93.
[435] Debaise, 'Stories of Earthly Things', 116.

As was argued in the previous chapter, earthly things generate stories themselves. Looking to Deleuze and Guattari's theory of "geophilosophy", thought is situated in the earth itself which, through the action of things, is continually *ungrounded* as the process of disruption forces thought to attempt to apprehend the unknown. Driven by contingent reason, the concomitant *ungrounding and grounding* of thought lays out the conditions and stakes for experience: conditions in terms of its inherent and incessant contingency, and the stakes in terms of what thought must apprehend, reach for, and embrace. This, ultimately, provides the figuration of experience as one continually broken apart by the instability of its ground, from which new worlds are forced upon it to embrace or challenge in the creation of an enlarged and enriched reality which, ultimately, means the enlargement and enrichment of experience itself. As such, this chapter advances the creative aims of the thesis by presenting a figuration in terms of which "relations with worlds" can be conceived.

## Existential Risk

The ongoing climate crisis poses the prospect of a fundamental catastrophe: the extinction of human existence. Whilst much of the climate change discourse is, rightly, engaged with the mitigation of serious changes to the climate of the earth, and the way in which such changes will irrevocably alter life on earth, the threat of extinction is by far the very worst outcome for the human species. Catastrophic climate change is but one event tackled by the burgeoning field of existential risk. The Future of Humanity Institute at Oxford University, for example, led by founding professor Nick Bostrom, cover issues such as biosecurity and artificial intelligence (AI), assessing not just the existential risks they pose but the conceptual tools for understanding those risks. Bostrom's work on existential risk carves out a clear understanding of the very nature of risk in terms of what is to be lost.

Bostrom quantifies risk according to its scope and intensity, categorising events according to the size of the group of people it impacts, and the extent of the damage such an event has on that group of people. Dividing scope into personal, local, and global, and intensity into either endurable or terminal, the character of such a risk can be established. For example, an endurable personal risk is one's phone being stolen, countered by a terminal personal risk: death. Existential risk, it figures, is categorised as a terminal risk on a global scale. Aspects of climate change, such as global biodiversity loss or the warming of oceans, are global threats but ones that are potentially endurable, albeit horrible and with extreme loss of life. Existential risk, writes Bostrom, is "one where humankind as a whole is imperilled. Existential disasters have major

adverse consequences for the course of human civilisation for all time to come."[436] Throughout human history, there have been scant existential risks to the species, until the mid-twentieth century when the first atomic bomb was built and detonated.[437] Bostrom is quite careful in characterising the nature of this risk in particular. He remarks that at the time there was a significant fear that detonating an atomic bomb would cause a chain reaction that would ignite the atmosphere. Although we now know this to be an impossibility, Bostrom states that this was an existential risk given the level of knowledge and understanding present at the time. As such, it can be said that there was a *subjective probability* there would be an adverse reaction to an action such as the detonation of an atomic bomb even if afterwards it can be stated there was objectively no risk at all. Bostrom clarifies this point by saying that "*If we don't know whether something is objectively risky or not, then it is risky in the subjective sense*" which is, of course, the basis of estimating an objective risk.[438]

This approach is what makes existential risks so unique: there is no opportunity for the normative approach of trial and error. Bostrom remarks that the thrust of *experimentation* that has driven human understanding and knowledge production is fundamentally redundant when it comes to understanding existential risks. The cumulative base of knowledge offers us the ability to conceptualise and theorise threats in the form of foresight and preventative action. However, there is no possibility of *learning from experience*—a mechanism fundamental to understanding the world in which we live. The futility of the trail and error approach and the obvious lack of experience in dealing with existential risks, as Bostrom remarks, means the human race is biologically and culturally under-prepared to cope with such risks.[439] Our collective comprehension of a scenario in which existence ceases to be can only be speculatively approximated through modelling or, indeed, speculative fiction. The paradox of thinking the extinction of thought, however, can be productive of inquiry into the nature of living. Contemporary approximations of possible extinction events take the form of models which, in theory, are adequate replacements for the trial and error approach Bostrom mentions above. Predicative modelling of extinction events, however, taps into an uneasy relationship between empirical verifiability, causality, and correlation; an uncertainty which, as Wendy Chun notes, grounds much of the climate change denial discourse.[440] The assumed relationship between evidence and reality, reality and truth, seems no longer to hold as correlations, rather than

[436] Nick Bostrom, 'Existential Risks: Analyzing Human Extinction Scenarios and Related Hazards', *Journal of Evolution and Technology* 9, no. 1 (2001).
[437] It bears mentioning that this period is given by the Anthropocene Working Group as the inception point of the Anthropocene, thereby drawing a clear relation between the human impact on the natural rhythms of the planet and the existential risk to the human species at large.
[438] Bostrom, 'Existential Risks'.
[439] Bostrom, 'Existential Risks'.
[440] Wendy Hui Kyong Chun, 'On Hypo-Real Models or Global Climate Change: A Challenge for the Humanities', *Critical Inquiry* 41, no. 3 (2015): 675–703.

causality, are fundamental to the prediction and generation of action in the face of such existential risks. Here, Chun implies that the supplanting of causality by correlation inspires a fundamental distrust in models because of the inherent unverifiability of the events and outcomes of the very things they model. However, rather than taking them as replacements for the phenomena they represent, Chun argues that risk modelling should be seen as a tool for generating hypotheses. Dubbing them "hypo-real", Chun argues that "if models work properly as evidence, they become unverifiable: if we are convinced of their verisimilitude, we will act in such a way that their predicted results can never be corroborated by experience."[441] To wait for the accuracy of these models' predictions to be verified, Chun argues, is to ultimately give up on the future by putting the burden of proof on scientists rather than understand the mitigation of risk as a political problem.

The quantification of risk through modelling, enabling predictions as to the likelihood of an event to occur and the outcome of such an event, however, does little to characterise the nature of extinction. Thomas Moynihan characterises the distinction between an apocalypse and extinction as such: "where apocalypse secures the *sense of an ending*, extinction anticipates the *ending of sense.*"[442] Extinction relates to existential risk not just as a terminus of sense, as the most extreme, permanent outcome, but as the termination of potentiality. Moynihan allies sense with potentiality because, for him, existential risk is a uniquely human problem tied to intelligence and morality. Indeed, the term "sense", from this perspective, is couched in notions such as rationality and knowledge, both ideas related to the "maturity" found in Enlightenment era thought. Moynihan specifically ties the discovery of extinction to this historical period, arguing that the newly-found awareness of the finitude of the human race is an integral development in, and constitutive of, modernity. According to Moynihan, the distinction between pre-modern and Enlightenment thought about extinction rests on the conceptualisation of value. In pre-modern thought, the cosmos was taken to be inherently rational and just, meaning that the *permanent destruction of value* was irrational and, therefore, could not be just. As such, the extinction of various species of plant and animal was not a major issue because they would return eventually, some place—a local extinction and not a terminal, global one. The risk of extinction was thereby not really an issue at all. With a cosmos full of value, in which nothing new becomes nor nothing ever disappears, the very idea of extinction is meaningless. As Moynihan writes, "the assumption that nothing is ever permanently lost also entails the indestructibility of *value*. Value is conserved through destructions and calamities (no matter the scale) because it will always eventually return. Completely regardless of us and our fate, the amount of value in the universe remains

[441] Chun, 'On Hypo-Real Models or Global Climate Change', 678.
[442] Thomas Moynihan, *X-Risk: How Humanity Discovered Its Own Extinction* (Falmouth: Urbanomic, 2020), 8.

constants."[443] This the idea of "eternal return", articulated by the notion of the "Principle of Plentitude". With the development of the Enlightenment comes a fundamental challenge to the notion of eternal return and the Principle of Plenitude through the disentanglement of fact from value. Indeed, Moynihan's core thesis is that the apprehension of value as moral and a product of human intelligence, separate from natural facts, introduced the idea of fragility to human existence: there was a profound risk that at some point all that was created could be wiped out in one fell swoop. In this sense the meaning of existence and extinction was isolated from the general cosmic realm, with the distinctly human nature of what had been built and what was yet to be built separated from the other earth-bound species that make up nature.

An examination of this can be found in Isaac Asimov's *A Choice of Catastrophes*, in which catastrophes are classified according to the varying extents and scales at which they threaten human existence and the world in which we live. Asimov's speculations ruminate on the very nature of extinction, or what he terms "final ends", imaging the ways in which such events would come about. Broken down into classes ranging from first to fifth according to the scale and breadth of the catastrophe affecting humanity, this examination of disasters contextualises extinction by what is out of our hands, such as meteor strikes, and what are very much potential disasters of humanity's making, such as nuclear war and climate change. For instance, an example of a catastrophe belonging to the first class would be the heat-death and contractions of the universe, thereby wiping out not just human existence, but cosmic existence in its entirety. Yet, Asimov finds in each instance of catastrophe a hypothetical way for human life to continue: with the heat-death of the universe, and a concomitant dropping of entropy increase as the heat-death approached, there may be pocket of low entropy to be discovered and exploited by humanity like gold mines of the current era.[444] Whereas an example of the fourth class would be the arrival and invasion of microscopic alien life expelled from a passing comet which, in a new environment, might mutate rapidly into a novel and deadly disease.[445] What Asimov's exploration of existential risks—from the collapse of stars to the terminal depletion of resources—seems to make clear is the risk inherent to existence. Extrapolating those risks from the machinations of the cosmos, at all scales, brings home a sense of not just finitude, but the uncanniness of existence itself. While Asimov's *A Choice of Catastrophes* utilises scientific theory as a basis from which to logically plot the various roads to extinction, it nevertheless exemplifies the importance of speculating upon the conditions of existence.

[443] Moynihan, *X-Risk*, 38.
[444] Isaac Asimov, *A Choice of Catastrophes* (London: Arrow Books, 1981), 39.
[445] Asimov, *A Choice of Catastrophes*, 252.

## Life in the Bush of Ghosts

Asimov's exploration of catastrophes demonstrates that life is necessarily always incomplete; experience is necessarily always partial, filled with the unknown and unknowable. In *The Palm-Wine Drinkard*, Nigerian author Amos Tutuola explores realities typified by a kind of integral *incompleteness* of experience and being, where the notion of a substantial being is obliterated by the cross contamination of entities; humans, ghosts, spirits, monsters, the dead, and gods alike. This work constructs seemingly paradoxical and oxymoronic realities, fractured but deeply relational, which challenge the kind of Eurocentric epistemologies entrenched in the colonial-era Nigeria in which Tutuola lived. His works directly challenged these ideas whilst integrating the social realities and epistemologies found in Yoruba culture. What Tutuola builds throughout his works, but particularly in *The Palm-Wine Drinkard*, is a figure of experience that fully expresses the contingency of life.

Amos Olatubusun Tutuola Odegbami was born in Abeokuta, Nigeria, in 1920. The son of Christian cacao farmers, his grandfather Odafin Odegbami was the head of the Odegbami clan, and was a chieftain of the Egba people. When Odafin died, some members of the family—Amos was one of eight children—took their grandfather's surname, while others, such as Amos, took their father's surname, Tutuola. Following their conversation to Christianity, owing to the persistence of Christian missionaries, the family Europeanised their name, with Amos becoming simply Amos Tutuola. This history of Amos Tutuola's name may seem trivial but, as Judith Tabron writes, his "name is an example of the way in which his life was to straddle the transition from traditional Africa to colonised Africa to independent Africa, a complete index of the twentieth century of Africa's history."[446] Amos served as a servant for an Igbo man, Mr F. O. Monu, from the age of seven who, in lieu of money, sent him to the Salvation Army school of Abeokuta in 1934, and later to the Anglican Central School in the same town. Throughout his life, Amos Tutuola undertook various professions: a blacksmith who practised in the Royal Air Force in Nigeria, bread seller, photographer, messenger for the Nigerian Department of Labour in 1948, and as a storekeeper for the Nigerian Broadcasting Corporation in Ibadan from 1956 until retirement. He died on 8th June 1997, aged 76.

*The Palm-Wine Drinkard*, written over two days in 1952, was Tutuola's first book. A theme persistent throughout his writing career, Tutuola's playful use of broken English was simultaneously celebrated by European readerships and a source of denigration for Nigerians who felt misrepresented by its *badness*.[447] As with Tabron's comments regarding Tutuola's name as

[446] Judith L. Tabron, *Postcolonial Literature from Three Continents: Tutuola, H.D., Ellison, and White* (New York: Peter Lang, 2003), 43-4.
[447] Tabron, *Postcolonial Literature from Three Continents,* 36.

an index of the transitions of twentieth century Africa, the combination of traditional Yoruba folktales with English language and syntax, produced something fundamentally curious, magical, and fascinating. In this way, it is representative of postcolonial Nigeria. *The Palm-Wine Drinkard* is Tutuola's iconic work, in which many of the themes that would be explored throughout later books are condensed into one spiralling story. At the heart of this story is the palm-wine drinkard, a human-spirit hybrid with a near-insatiable thirst for palm wine.[448] Born to "the richest man in our town", the palm-wine drinkard spends the days consuming the entire supply of palm wine produced on the nine square mile farm of 560,000 palm trees in place of any sort of employment.[449] To cater for this supernatural thirst, his father hires a palm-wine tapster of comparable skill to tap kegs: "tapping one hundred and fifty kegs of palm-wine every morning, but before 2 o'clock p.m., I would have drunk it all; after that he would go and tap another 75 kegs in the evening which I would be drinking till morning."[450] There is a relationship of mutual dependence, feeding off one another's excellency at consuming and tapping palm-wine. Six months after the death of the drinkard's father—which is a total of 15 years and six months since the tapster started working for him—one morning the tapster goes to fetch palm-wine from the tallest palm tree on the farm, but slips and falls to his death. As the tapster would not usually keep him waiting for such a long time, the drinkard goes with two friends to search for him, finding after a brief search the dead tapster at the bottom of the tree. Following an interlude during which the drinkard fetches his own palm-wine and drinks to his "satisfaction", a grave is dug underneath the tree and the tapster buried. Yet, for the drinkard, this leaves him in a difficult spot: with no tapster, he cannot drink palm-wine and, with no palm-wine, his friends abandon him. After a search for a new tapster proves unsuccessful—"I could not get me one who could tap the palm-wine to my requirement"—a resolution must be found.[451] According to the elders of the village, those who have died do not travel directly to heaven, instead "living in some place somewhere in this world". The drinkard, therefore, decides he must journey to the "Deads' Town" to find his tapster as it is the only way he can resume his activities of drinking palm-wine: "One fine morning, I took all my native juju and also my father's juju with me and I left my fathers hometown to find out whereabouts was my tapster who has died."

Over the course of the journey to the Deads' Town, the drinkard encounters situations and entities that require him to metamorphosise. Yet, through the descriptions of what he metamorphosises *into*, what he actually *is* becomes increasingly uncertain, suggesting a

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[448] Palm wine is an alcoholic beverage made from the fermented sap of various palm trees. Throughout *The Palm-Wine Drinkard* there is an ambiguity in what the tapster collects from the palma and what the palm-wine drinkard actually drinks, suggesting at times that the wine comes directly from these trees. It would seems that the tapster is responsible for collecting sap, the fermentation process, and the tapping of *kegs* for the drinkard to consume.
[449] Amos Tutuola, *The Palm-Wine Drinkard* (London: Faber and Faber, 1990), 7.
[450] Tutuola, *The Palm-Wine Drinkard*, 7.
[451] Tutuola, *The Palm-Wine Drinkard*, 9. In Passim.

fundamental *incompleteness of being*. This incompleteness is not revealed as a new condition, rather it is shown to be the metaphysical conditions of the story itself. A lack, however, this is not, as *being* is portrayed as composite, incorporating elements socially through relations with at times similar, at times disparate, dichotomous, and antimonious, entities and qualities. In this sense, figuring being as fundamentally incomplete is a rebuke of the notion of substantialist individual and dualist ontologies, thereby positing social reality as composite. It is here, as Francis B Nyamnjoh notes, that the challenge to colonial European epistemologies by traditional African notions of social reality can be found.[452] The following examples will help to express this point.

The palm-wine drinkard's journey is not easy: "in those days, there were many wild animals and every place was covered by thick bushes and forests" exclaims the drinkard, in assessment of the terrain that confronts him.[453] After several months and several encounters—including one in which the drinkard professes his name to be the "Father of gods who could do everything in this world", and uses juju to change into a bird to trick an old man-god—the drinkard tells the story of a curious creature.[454] Described as the "complete" gentleman, the narrator describes how the daughter of the head person of the local town went missing. Travelling to the local market one day, the daughter happens upon the "complete gentleman", who is dressed in such fascinating clothing, she decides to follow him out of the market on his way home. Despite the gentleman telling her not to follow, she continues to do so, keeping pace with him for twelve miles, at which point they reach "an endless forest in which only all the terrible creatures were living".[455] As they venture further into the forest, the "complete gentleman" begins to shed parts of his body which, it transpires, he had only rented for his visit to the market. His feet are returned first, paying the owners as they go; removing every limb until "this gentleman or terrible creature remained only the head and both arms with neck, by that time he could no crawl as before but only went jumping on as a bull-frog and now this lady was soon faint for this fearful creature whom she was following."[456] Finally, as the now-incomplete gentleman returns the arms and neck, then the hair and skin on his head, his form is revealed to be a disembodied skull, albeit one who can jump great distances and speak with a human voice.

As the "complete" gentleman disintegrates, discarding his rented body parts, showing himself as the Skull—the proper name Tutuola gives him—an eery sense of consistency arises. Throughout the return of the hired components comprising the body, the voice and agency of the gentleman/Skull remain. Indeed, upon reaching the Skull's house, which is a hole in the ground filled with other skulls, it is their collective intelligence and action that keeps the lady

[452] B. Nyamnjoh, *Drinking from the Cosmic Gourd: How Amos Tutuola Can Change Our Minds* (Oxford: Langaa, 2017), 2.
[453] Tutuola, *The Palm-Wine Drinkard*, 9.
[454] Tutuola, *The Palm-Wine Drinkard*, 9-10.
[455] Tutuola, *The Palm-Wine Drinkard*, 19.
[456] Tutuola, *The Palm-Wine Drinkard*, 20.

captive. When she attempts escape, "they were rolling along the ground as if a thousand petrol drums were pushing along a hard road" eventually recapturing her.[457] Nyamnjoh argues that this episode "is a tale of the horrors and futilities of an insensitive insistence on completeness, independence or autonomy that can only be achieved by sacrificing sociality and living in total solitude."[458] Writing further that spirits and "gods in touch with humanity feel and behave the same as humans." Such a refusal of self-determined completeness is allied with the refusal of colonial notions of individuality, which is opposed to a more social, relation form of being undetermined by substance, as is represented by the disintegration of the "complete" gentlemen into the Skull. What this figuration of being as incomplete and relational necessitates, therefore, is an understanding and appreciation of the relative fluidity with which being is composed. The case of the Skull is an example of a theme that runs throughout Tutuola's work: being is a composite force that holds together, however impermanently, sometimes dichotomous notions.

Nothing exemplifies this point better than the treatment of life and death as equally impermanent. Roughly halfway through his journey, the drinkard and his wife—the lady trapped by the Skull—are instructed to visit the "Unreturnable-Heaven's town" described as "a town in which are only enemies of God living, only cruel, greedy and merciless creatures".[459] Upon entering, both are tied up and tortured in various horrific ways. Their heads are shaved—with sharp stones, then broken glass—rubbed with pepper then set alight. "By that time, we did not know whether we were still alive or dead."[460] Following this initial phase of torture, their bloody and charred bodies are taken to a field in which two shallow graves have been dug, with their bodies promptly placed inside and buried up to a point at which only their heads are above ground. Food is placed slightly out of reach. Throughout the next few days, the villagers continue to torture them: one time defecating on them, another time setting their heads on fire again, and jumping on their skulls. Yet, with the help of a benevolent eagle and a sudden down pouring of rain—attributed to God—they escape, proceeding to kill every villager by burning their buildings down. After almost a year spent recuperating from their ordeal, the couple continue on their journey to find the dead tapster. Encountering a river too wide and deep to cross, they see a "big tree which was about one thousand fifty feet in length and about two hundred feet in diameter" that was white, as if it had been painted, with two giant hands beckoning the couple to stop and head towards it. Reaching out, the hands pick up both people, taking them through a door into the tree. The cause of what happens next is not immediately clear, nor ever made fully clear. Tutuola writes that:

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[457] Tutuola, *The Palm-Wine Drinkard*, 22.
[458] Nyamnjoh, *Drinking from the Cosmic Gourd,* 148. In passim.
[459] Tutuola, *The Palm-Wine Drinkard*, 60.
[460] Tutuola, *The Palm-Wine Drinkard*, 61.

> Now by that time and before we entered inside the white tree, we had "sold our death" to somebody at the door for the sum of £70: 18: 6d and "lent our fear" to somebody at the door as well on interest of £3: 10: 0d per month, so we did not care about death and we did not fear again.[461]

Yet, after passing through the tree, which was some kind of luxurious village filled with dancers, and entering a "Red-town", the couple are quizzed about where they came from and their state of being: "he asked whether we were still alive or dead before coming there. We told him that we were still alive and we were not deads."[462] Throughout *The Palm-wine Drinkard*, the most severe situations, such as those concerning life and death, are treated with such a flippantly casual attitude so as to suggest they are not the defining elements or features of being. As Nyamnjoh points out above, the construction of a reality in which spirits and gods coexist with humans and animals, where their individual sense of being is composed *collaboratively*, is one that rejects European colonial modernity. More importantly, however, it is a reality in which the impermanence of both life and death means that any sense of existential risk is fundamentally reconfigured, if not totally removed. Indeed, Nyamnjoh writes that:

> In Tutuola's universe, Death is a form of circulation and not a matter of permanent severance of links with life and the living. One is dead to a particular context, as a way of becoming alive to prospective new contexts. Death is a form of adventure and exploration of the infinitudes of life.[463]

Reconceptualising death as relative and fundamentally constructive of ways to live, as Nyamnjoh observes, is an important point. In *The Palm-Wine Drinkard*, this point is inverted: life is a form of adventure and exploration of the infinitudes of death. When the drinkard and his wife finally reach the Deads' Town, and finally find the tapster, they hear of the two-year training the tapster went through, only once he "qualified as a full dead man, then he came to this Deads' Town and was living with deads."[464] Ultimately, the "alives" cannot stay with the "deads", so the drinkard and his wife have to return to their village without the tapster. Although the whole journey seems to have been a waste, the drinkard somewhat ironically finds a way to live despite the now permanent loss of his beloved tapster.

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[461] Tutuola, *The Palm-Wine Drinkard*, 67.
[462] Tutuola, *The Palm-Wine Drinkard*, 74.
[463] Nyamnjoh, *Drinking from the Cosmic Gourd,* 153.
[464] Tutuola, *The Palm-Wine Drinkard*, 100.

## Pluralism, (In)complete

What appears to be most acutely paradoxical in *The Palm-Wine Drinkard* is the characterisation of a world without existential risk. After all, if "death is a form of circulation and not a matter of permanent severance of links with life and the living", as Nyamnjoh notes, then the threat of an ending of sense for an individual is nullified. Or, to state it more accurately, if experience is necessarily incomplete and fundamentally relational, it is not an individualised sense of existential risk that is nullified, but a collective nullification of extinction as such. Existence is contingent, but not owing to the threat of existential risk, rather it is contingent because of its radical incompleteness. I want to suggest that in *The Palm-Wine Drinkard* the sense of incompleteness arises from the plurality of worlds things themselves generate and, as such, contingency is generated precisely through the friction of possibility that arises when stories are composed.

The journey the palm-wine drinkard takes through the bush of ghost expresses two things: the overarching, metaphysical pluralism of which the universe comprises, and the encounter of difference from which the universe is composed. That is to say that what makes *The Palm-Wine Drinkard* as a story so intoxicating is the embrace of difference as a beautiful kind of incompleteness that generates the metaphysical pluralism of the universe. The sense of risk—in being consumed and torn apart by unknown creatures, for example—isn't characterised as a danger as such, but as the experience of novelty in its rawness. If the factual conditions of *The Palm-Wine Drinkard* are to be accepted, then the proposition put forward by Tutuola is thus a question of how to manifest the plurality of experience, and the experience of plurality. In other words, the question of how to enlarge reality, and experience thereof, from the ground up?

In the *Palm-Wine Drinkard*, there is a clear dichotomy between the idea of substantial being within a singular universe, and the pluralism of which being and the universe is composed. Agency is distributed among all things which act as they wish in whatever sort of way. Nyamnioh writes that agency "is available and affordable to humans as singular, plural and composite beings —whole or dis(re)membered—and in human or non-human forms, apparent or virtual, tangible and intangible alike."[465] Referred to ambiguously as "creatures", their *capacity to act* is what inspires such a quotidian sense of fear in the palm-wine drinkard. Although Nyamnjoh seems to characterise agency as some kind of separate force that anything could, in theory, apprehend and utilise—reminiscent of the conceptualisation of magic in the *Broken Earth* trilogy—it is a clear reorientation of the philosophical perspective back into the things of the earth. Moreover, Tutuola refuses the unifying monologic of the colonial cosmology, instead making clear that the

[465] Nyamnjoh, *Drinking from the Cosmic Gourd,* 4.

relative chaos lies at the points of interaction between things. Refusing the neatness of the colonial monologic cosmology results in a contrasting universe which, following William James, appears as a "turbid, muddle, gothic sort of affair, without a sweeping outline and with little pictorial nobility."[466] James utilises this description to contrast the "classical constructions of reality"—i.e. Western scientific—with the *pluriverse* or *multiverse*. Indeed, for James:

> Pragmatically interpreted, pluralism or the doctrine that it is many means only that the sundry parts of reality *may be externally related*. Everything you can think of, however vast or inclusive, has on the pluralistic view a genuinely "external" environment of some sort of amount. Things are "with" one another in many ways, but nothing includes everything, or dominates over everything. The word "and" trails along after every sentence. Something always escapes. "Ever not quite" has to be said of the best attempts made anywhere in the universe at attaining all-inclusiveness … *However much may be collected, however much may report itself as present at any effective centre of consciousness or action, something else is self-governed and absent and unreduced to unity.*[467]

The parable of the disintegrating Skull is expressive of this point. The body parts rented from the various creatures of the bush give the Skull an impression of completeness that allowed him to blend in with the crowd at the market. But, even as the Skull begins to shed his parts, returning them to their respective owners, both his demonstrable agency and potential agency are not affected. Even though when it comes time to return his rented arms, presumably impacting his ability to do the simple things arms allow, "he pulled them out and gave them to the owner, he paid for them."[468] Moreover, as the stranger who followed the Skull into the forest attempts to run away, "the Skull chased her and within a few yards, he caught her, because he was very clever and smart as he was only Skull and he could jump a mile to the second before coming down."[469] What this portrayal suggests is that, just like the Skull's self-governance and agency, it can be inferred that the rented body parts exist in the very same way: independent, unreduced to unity. Following this line of thought raises further questions: to whom do to the rented body parts belong? Can they be said to have owners or is their relation to other bodies as contingent and precarious as their relation to the Skull?

Building from this example, the universe that is composed seems not just contingent, but potentially infinitely plentiful and expanding. The pluriverse, as Martin Savranksy describes it, is "ongoing and unfinished, its composition is piecemeal, always in the making, bursting at the seams, growing by its edges."[470] Contra to the colonial monological cosmology that *reduces*

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[466] James, *A Pluralistic Universe,* 45.
[467] James, *A Pluralistic Universe,* 321-2. First emphasis in original, second emphasis added.
[468] Tutuola, *The Palm-Wine Drinkard*, 21.
[469] Tutuola, *The Palm-Wine Drinkard*, 21-2.
[470] Savransky, *Around the Day in Eighty Worlds*, 70.

*experience and the possible*, the notion of the pluriverse insists on expansion arising from contingent relations between things: "It *insists* on their turbulent togetherness, precipitating divergences, transitions, and transformations."[471] Although in this instance derived from James, the idea of the pluriverse is not, somewhat logically, confined to the lineage of Western thought to which James is a part. Indeed, Arturo Escobar details the ways in which the Epistemologies of the South propose pluralistic ontologies grounded on relations.[472] For example, a common phrase of people inhabiting the areas running alongside the Yurumanguí river in Colombia is *acá nacimos, acá crecimos, acá hemos conocido qué es el mundo* (here we were born, here we grew up, here we have known what the world is).[473] What the world *is* is local, built together with the things of that locality, thereby not excluding the possibility of other worlds built from other relations.

Within the work of William James, the meeting points of worlds is what Savransky characterises as "*worldquakes*". These are the events through which a world forces itself into being: when the world in which one hitherto existed is fractured and out of the interstices comes another. Savransky develops the idea of "worldquakes" from a passage in which James recounts his first experience of an earthquake while visiting California in Spring of 1906. As the earth began to tremble, and the furniture and things that inhabited the room in which James stood began to fall violently to the floor, as "plaster cracked, an awful roaring noise seemed to fill the outer air" of something forcing itself into the world.[474] As quickly as the violence rose, silence descended, leaving the previously stable world and ensuing violence behind. The explosive intrusion of something that seemed to have lurked underneath caused in James a sense of glee at the vividness such an abstract idea or verbal term as "earthquake" could take on when translated into sensible reality and verified concretely.[475] It is this experience that Savransky describes as having precipitated a "veritable *worldquake*, the insinuation of another world underway, of a buzzing multiplicity of other worlds in this world, of the feeling of another world passing into one's experience."[476] Such shock at the intrusion of difference is simultaneously empirically felt and abstract because the *possible itself* has come into being, thereby making the fundamental contingency of the present known and felt. Characterising this sensation, Savransky writes that:

> It was the worldquake that made the pluriverse felt. Indeed, nowhere is the feeling of reality in the plural made more present, more dramatic, more exhilarating, more shocking, than at those moments when one brushes against the feeling of difference in the concrete and the trembling

[471] Savransky, *Around the Day in Eighty Worlds*, 70-1.
[472] Arturo Andrés Hernández Escobar, 'Thinking-Feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South', *Aibr-Revista De Antropologia Iberoamericana* 11 (2016): 11–32.
[473] Escobar, 'Thinking-Feeling with the Earth', 17.
[474] William James, *Writings, 1902-1910*, ed. Bruce Kuklick (New York: Literary Classics of the United States, 1987), 1215.
[475] James, *Writings*.
[476] Savransky, *Around the Day in Eighty Worlds*, 72.

> of togetherness strikes our experience.[477]

Feeling the force of the pluriverse alters experience. Although *The Palm-Wine Drinakrd* seems to tremble with difference that alters the experience of its protagonist, another example demonstrates the vivid sensation of the pluriverse. Midway through the journey, the palm-wine drinkard and his wife reluctantly reach the "Unreturnable-Heaven's Town". Here, again, is a place similar to others encountered: "This town was very big and full of unknown creatures, both adults and children were very cruel to human-beings, and yet they were looking for ways of making their cruelties even worse."[478] Although these creatures do enact cruelties on the couple, it is their way of being in the world—their world—that is most striking:

> These unknown creatures were doing everything incorrectly, because there we saw that if one of them wanted to climb a tree, he would climb the ladder first before leaning it against that tree; and there was a flat land near their town but they built their houses on the side of a steep hill, so all the houses bent downwards as if there were going to fall, and their children were always rolling down from these houses, but their parents did not care about that.[479]

What Tutuola details here is a minor worldquake, but a worldquake nonetheless. Indeed, what makes *The Palm-Wine Drinkard* so striking is the plethora of worlds that violently intrude upon one another. It is not so much a linear tale whose protagonist is able to navigate these worlds on the same terms each time, rather each encounter with a new world forces an adjustment to the ways in which life can continue in such a new world. Indeed, each time a worldquake occurs, it is portrayed as a kind of catastrophe enact upon a world that is forced into the past: a catastrophe that hampers the search from his beloved tapster, but a catastrophe that he must endure. The contingency with which the current world is built is emphasised each time a catastrophe occurs, but that catastrophe, in making apparent the possibility that arises from that assertion of the pluriverse, is the enlargement of reality as it currently is, at that moment, known.

## Grounded Life, Ungrounded

> Hard to salute each other, harder to describe each other, and hardest to look at each other at our destination.[480]
>
> **Amos Tutuola**, *The Palm-Wine Drinkard*

[477] Savransky, *Around the Day in Eighty Worlds*, 73.
[478] Tutuola, *The Palm-Wine Drinkard*, 58.
[479] Tutuola, *The Palm-Wine Drinkard*, 58-9.
[480] Tutuola, *The Palm-Wine Drinkard*, 104.

When the palm-wine drinkard arrives at the Deads' Town and learns that neither can he stay, nor can his tapster return home, he is strangely accepting of the situation—surprising given the terrors of the long, pain-staking journey he and his wife have endured. Life for the deads in the Deads' Town is incompatible with life for the alives. "Because," the tapster explains, "everything that they were doing there was incorrect to alives and everything that all alives were doing was incorrect to deads too … a dead man could not live with alives and their characteristics would not be the same."[481] "Incorrect" presents a polite contrast between two incompatible worlds which, when characterised in slightly stronger terms, can be dubbed "catastrophic". That is, catastrophic in terms of the critical ending of possibility that drove the drinkard's journey to patch-together his former world that broke apart with the death of the tapster. As the tapster falls to the ground, the drinkard's world is *ungrounded*.

James' encounter with the earthquake in California, which Savransky characterises as the pluriverse making itself felt, is the *ungrounding* of a world and the *grounding* of another. Or, to phrase it slightly differently, the violent assertion of the ground itself breaks the sense of established order, forcing chaos upon its inhabitants, for whom a new world has come into being. Prior to his trip to California, James' friend, "B", said that they hoped James became "acquainted with *that* California institution", the earthquake.[482] This simple, off-hand remark leaves an impression on James' mind of a "permanent individual entity" that lurks beneath the surface of the state, quietly waiting for a moment to once again force itself on those who live on the surface.[483] When they experience the violent shaking of its tremors, James and his fellow hotel guests all describe the experience similarly; as if the force was the action of a singular thing, acting with intent, and directed solely at that person at that time. Although the earthquake itself affected a vast region, each person seemed to experience it singularly: it was *their world* that shook; it was *their world that was ungrounded*. Only after the fact, as guests congregated to share their experiences and impressions of this force, that their individual worlds are brought into relation with others, weaving together a universe from their own worlds. "One informant," writes James, "interpreted it as the end of the world and the beginning of the final judgement."[484] Amongst the ensuing chaos, James further reflects on the nature of this force:

> For "science," when the tensions in the earth's crust reach the breaking-point, and strata fall into an altered equilibrium, earthquake is simply the collective *name* of all the cracks and shakings and disturbances that happen. They *are* the earthquake. But for me *the* earthquake was the *cause* of the

[481] Tutuola, *The Palm-Wine Drinkard*, 100.
[482] James. 1215. Emphasis in original.
[483] James, *Writings*, 1216.
[484] James, *Writings*, 1216.

> disturbances, and the perception of it as a living agent was irresistible. It had an overpowering dramatic convincingness.[485]

Despite James' continual delight in personifying the earthquake, the shift in perspective detailed above exemplifies the broader philosophic turn found in his discussion of earthly things. That is to say that, although the ground is exerting its physical force, *it is also exerting and imposing its own story on the world of others*. It is simultaneously *ungrounding* and *grounding worlds*. With this, the contingent reason of the ground and of experience is felt more acutely.

The catastrophic force of the earthquake not only made clear the contingency of the ground but also, by fissuring James' world, asserted itself as generative of thought. It forces thought, it makes us think, and does not care about the existing ideas we have about it. In this sense, situating thought in the earth itself recalls Deleuze and Guattari's notion of "geophilosophy" with which they attempt to reorientate philosophy away from considerations of historicity and temporality to spatiality, geography, and the materiality of the earth. Indeed, geophilosophy asserts that "thinking takes place between the territory and the earth" whereby the territory is the parsing of the earth which is always an unstable base.[486] Thought, as such, it is always inextricably tied to the earth, where it navigates the ungrounding that incessantly takes place: an incessant deterritorialisation. This is why Deleuze and Guattari state that the activity of philosophy is driven by a "synthetic and contingent principle—an encounter, a conjunction" according to which "the principle of reason such as it appears in philosophy is a principle of contingent reason and is put like this: there is no good reason but contingent reason; there is no universal historic expect of contingency."[487] The activity of thought is therefore always a simultaneous *ungrounding* and *grounding* forced by the earth and inclined to the unknown.

Geophilosophy, in other words, establishes a relationship of thought between the earth and the unknown or *outside*. Savransky writes that the earth is therefore not a solid foundation, but is "the inchoate and the unformed, an Earth which provides no foundation but is the very *unground* of thought."[488] Always contingent, always ungrounding. So, when the tapster falls from the great height of the palm tree, just as when the earthquake shakes James in his Californian hotel room, an forceful ungrounding takes place that upends a previous sense of stability and forces thought to contend with the outside, to attempt to ground itself again. For James, the sensation of a new world coming into being is awe-inspiring. His experience of the earthquake in California filled him with a feeling of "pure delight and welcome" as the abstract idea of an earthquake exerted

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[485] James, *Writings*, 1216-7. Emphasis in original.
[486] Deleuze and Guattari, *What Is Philosophy?* 85.
[487] Deleuze and Guattari, *What Is Philosophy?* 93.
[488] Martin Savransky, 'Passages to the Outside: A Prelude to a Geophilosophy of the Future', *Dialogues in Human Geography*, 12 (January 2023), 3.

itself on the 'sensible reality' of his experience, enriching it, causing him to exclaim to himself "*Go* it … and go it *stronger!*"[489] This intense sensation of contingency—of the existing world, and of what the new world will bring—is enriching for James, not just at the time, but through the whole experience of this "worldquake" is recounted in his writing. It is precisely this conceptualisation of his experience as one of a new world coming into being that produces this enrichment. *The Palm-Wine Drinkard* also expresses the activity of thought and, by extension, experience, as constant ungrounding and grounding, and the force of contingent reason is always asserted in the destruction and construction of new worlds.

## Chapter Conclusion

Just like a meteor bearing down on earth, or the inevitable heat death of the universe, the contingency of existence is invariably inescapable. Catastrophe is an inevitable and fundamental condition of existence, whether that is the full-scale extinction of the human species, or the catastrophic shake of an earthquake that bring about a new world in which to exist. Life and existence itself is necessarily contingent. The purpose of this chapter was to explore the character of contingency as it relates to experience, utilising speculative fiction to think something that, at its extreme, is unthinkable by nature. As such, this chapter sought to figure experience in terms of contingency and risk, with which the plurality of experience that constitutes the plurality of "relations to worlds" can be thought.

Section One sought to characterise the overarching notion of risk within a contemporary context and as it relates to existence. Existential risk and the study thereof concern the assessment and classification of risks that threaten the existence of the human as a species. By quantifying the types of risk and the scale of their threats, institutions such as The Future of Humanity Institute construct a picture of the landscape of contemporary risk, both in terms of human-made risk and those, such as meteor strikes emanating from deep space, over which there is little to no control. What makes the study of existential risk so peculiar is the unverifiability of its outcomes as, to experience such an outcome is to be annihilated. In this sense, the field of existential risk exemplifies the inherent contingency of existence, analysing activities that exacerbate or mitigate that contingency.

As the outcome of an existential risk cannot be experienced, it requires speculation to examine and explore its character. Section Two introduced the speculative fiction of Amos Tutuola to explore the contingency of existence. A tale of a terrifying journey into the bush of ghosts, *The Palm-Wine Drinkard*, it was argued, is not just a fantastical story of impossible

[489] James, *Writings*, 1215-6. Emphasis in original.

conditions, but an exploration of the plurality of worlds brought about by catastrophic contingency. Tutuola builds a figure of experience that is fundamentally relational and incomplete—a figure built in opposition to the European colonial idea of the substantial human being and singular world. The consequences of this line of thought and figuration were worked through in Section Three, which expanded upon the notion of the pluriverse developed by William James. Reading this directly from James and through Martin Savransky's extrapolation of the notion of a "worldquake", this section ultimately argued that the catastrophic expression of contingency enacts an enlargement of reality, instead of a reduction, because it apprehends possibility in the formation of new concepts and experiences.

Section Four builds on the argument pursued in Section Three by situating this speculative thought in the earth itself, which actively *ungrounds* and *grounds* experience simultaneously. Turning to Deleuze and Guattari's notion of geophilosophy, this section extended the discussion of contingency by characterising contingent reason as the driver of experience, bringing into relation the earth and the unknown. Ultimately, this chapter attempted to build a figure of experience that fully expresses the contingency inherent to existence, but not one that quivers with the fear elicited by existential risk, rather one that situates the contingent as a force that apprehends the possibility and unknown dimensions of thought, existence, and experience.

# Conclusion

The term "experience" has been repeatedly emphasised throughout this thesis as a concept of critical importance to knowledge production. In a very simple sense, the concept of experience is itself of fundamental importance, not just in terms of knowledge production, but as a fact that needs to be perpetually kept in mind and reasserted. Nobody deserves to have their individual and collective experience invalidated. This is a point that undergirds each argument presented in this thesis. The methods, schemes, and strategies used to conceptualise experience should do so with the spirit of adventure and care, continually asserting the stark fact that experience matters; that the relations between experiences—their interactions and aversions—form a landscape of care which, fundamentally, matters. The ways in which these experiences and their relations can be enriched, and the care that inspires, is of fundamental importance. And while I have attempted to justify this stance philosophically, there is also a point at which philosophical justification becomes unnecessary in the face of a simple commitment for care. That has been the motivation for this thesis.

This thesis sought to present the terms by which the experience at the centre of the singular "our relation to the world", latterly becoming the plural "relations to world", could be emphasised and enriched. Starting with an analysis of contemporary and historical literature that engages with this subject, the thesis established a critique of the frameworks and methods of knowledge production that arose from the "colonial encounter", through which the social reality of the West was constructed. It was argued that critique was a necessary precondition of any attempt to construct new concepts whose aim is to reconfigure the fundamental relation to worlds, and that experience be foregrounded as both the premise and outcome of such an endeavour. A method of knowledge production that reestablished experience as the foundation and outcome of knowledge production—outcome in terms of enrichment—was then proposed. This focussed on the relation between experience and abstraction, particularly the abstraction of experience and the ways in which abstractions are experienced. As the heart of the thesis, a propositional method dubbed "reconstruction" sought to establish the steps, and therefore key elements, in the process of abstracting experience, and then the nature of abstraction required in order to ground experience, not allowing nature to bifurcate. That is to say, this method presented a case for conceiving abstraction as situated, and proposed a particular notion of figuration as a means by which situated abstraction functioned to enrich experience. Speculative figuration as a means of generating new concepts, drawn from the fiction of N. K. Jemisin and Amos Tutuola, put to work the theoretical foundations that were laid earlier in the thesis. It was proposed that with these reconfigurations the plural relation to worlds could be reconsidered.

The aim of this thesis was, ultimately, to sketch out a problematic founded on the "profound mutation in our relation to the world" and its resulting alienation, and work towards identifying and putting into practice the terms by which this alienation could be overcome. The key to this project was the concept of experience.

## Contribution to Knowledge

The core contribution of this research is the identification and analysis of experience as a fundamental problem in the sense of alienation that results from and contributes to, in Latour's words, the "profound mutation in our relation to the world". The implications of removing experience as the foundation of knowledge production were explored through a critique of the methods by which the social reality of the West was constructed: methods that continue to assert themselves at times subtly, at times overtly, in a contemporary context most acutely characterised by the concept of the Anthropocene. This was the focus of Chapter One, which sought to define the core theoretical attempts to grapple with the "profound mutation in our relation to the world", not just in terms of how it can be overcome—which seemed to be the prominent response—but the precise nature of the problem.

The Anthropocene is emblematic of the troubles inherent in a concept that attempts to do so much, on such a vast scale. Although it could be said that it repackages a set of problematics that have been addressed by waves of environmentalism across a few interrelated discourses, the deceptive simplicity of the Anthropocene concept is one of the reasons for its fast and widespread adoption across so many discourses. And it is not just the scale of its articulation—temporally in its epochal statement, and totally in accounting for the relations between the human species and the earth that constitute planetary existence—but it is the generality of its constituent concepts that make it a relatively easy target for criticism. The *anthropos* as man, which is given as synonymous with the human, is but one contention. *Who does the Anthropocene speak of and for?* is a common refrain throughout the humanities when the Anthropocene concept is raised. There are two points here that Chapter One attempted to make clear: firstly, that the Anthropocene concept was formulated within the discursive parameters of geology and earth systems science, meaning that the problem it attempts to answer and the way in which it does so are different compared to the way in which the same set of problems would be treated by the humanities. Indeed, a significant issue I have tried to highlight is the uncritical acceptance within the humanities and social sciences of a concept developed in a discursive (scientific) context outside them *without critiquing the conceptual framework and methodologies of that discourse*. This is demonstrative of the second point that I have attempted to raise: that, within the context of

"our relation to the world", scientific knowledge is inadequate when it comes to fully articulating the qualitative dimensions of experience that matter and that constitute living on and with this planet. With the identification of the *anthropos* as man, for instance, there was presumably no intention on the part of Paul Crutzen to effectively "whitewash" the entirety of the human species, suggesting that it is one homogenous mass whose contribution to the ongoing catastrophic climate emergency was equal across all its parts. The paradigm of scientific research and knowledge production is not the singular authority on the activity of existence on this planet: Western scientific knowledge is not universal, nor is it objectively-assured. As such, one of the contributions made in Chapter One is the identification of experience as a fundamental concept missing from many of discursive attempts to comprehend, conceptualise, and produce knowledge about, "our relation with the world". This is a point that some thinkers working within this context, such as Haraway, Spivak, and Latour to an extent, appreciate. But, as the refrain of this thesis restates throughout, there is a necessity to critique the conceptual frameworks and methods of Western knowledge production, particularly the historical contexts in which its evolution occurred.

Chapter Two sought to confront the hegemony of Western scientific knowledge and demonstrate the ways in which the concept of experience has been expunged from its foundation, and the machinations that led to the figure of man, as *anthropos*, referring to a very specific type of human. By hegemony I mean the dominance of that particular kind of scientific knowledge—its concepts and methodologies—being employed as *the* knowledge of the world and, to some extent, of existence itself. The Anthropocene discourses—the natural sciences and the broader environmental humanities—have been developed out of this hegemonic scientific framework and, as I contend throughout the thesis, there is an urgent need to perform a critique of the development of these frameworks of knowledge prior to producing any conceptual reconfigurations, such as the proliferation of various *-ocenes*. Chapter Two is where this critique took place. There were two strands of thought present throughout this chapter: firstly, the decolonial critique of the ways in which the West and its knowledges developed in relation to the colonial expansion of Europe and concomitant enslavement of people throughout the African continent, Caribbean, and South America. Although phrasing this development as "the colonial expansion of Europe" positions it within a geographical register, the West is here understood as not a place but a project, as per Eduoard Glissant's theorisation. Through an engagement with the work of Walter Mignolo, Denise Ferreira da Silva, and Sylvia Wynter, it was shown that the frameworks of scientific knowledge on which the social reality of the West was constructed were developed through the physical and theoretical abduction of people and their lived experience. What was of particular importance throughout the initial part of Chapter Two was the tripartite

relation between cosmological schemes (such as Medieval Christian), the lived experience of the European colonisers, and the way in which their encounter was reconstructed in accordance with cosmological knowledge in order to produce new knowledge about the world as they saw it. The recursivity of this organisation of knowledge production created a kind of colonial logic which, it was argued, is the very same that continues to structure scientific knowledge and condition experience because it is the interaction of these two elements that constitutes the social reality of the West as a project. The notion of objectivity—the "god trick", as Haraway calls it—could thus be said to quite literally steal the autonomy of lived experience from those people who, according to the theological then secular cosmology of the West, were not human. It is this problem that continues to plague contemporary life.

The second part of Chapter Two concerned the theorisation of this logic in terms of the function of abstraction. Wynter's work, in particular, facilitated an understanding of the ways in which abstraction can abduct experience. One of the contributions of Chapter Two was putting Wynter's work in communication with that of Alfred North Whitehead, particularly the concept of the bifurcation of nature. In *Provincializing Europe*, Dipesh Chakrabarty writes that there is both an inadequacy and indispensability to utilising European thought "in helping us to think through the experiences of political modernity in non-Western nations."[490] It is inadequate because it is founded on the theft of experience of those that are non-Western and therefore not capable of expressing the conditions of possibility for experience outwith its own provincial outlook, and it is indispensable because of its role in the creation of the social reality of the West and the critique of that position. Studying and working at Cambridge University then at Harvard, Whitehead's work is a cornerstone of twentieth century Western philosophical and mathematical thought. He is from the very heart of the canon of Western intellectualism. Why, then, utilise his work to discuss a topic for which it is inadequate? The reason is that Whitehead's work contains conceptual tools that enabled me to contribute further to the understanding of the specific problem the thesis tackles: the impoverishment and theft of experience. Whitehead's theory of the bifurcation of nature was brought in to enlarge the understanding of the problem that had already been sketched out utilising Wynter's work. I have been careful to work with Whitehead and Wynter as it were, collaboratively, rather than bringing in Whitehead to explain everything—which is a danger with his metaphysics in that it can account for everything. The significant contribution of Chapter Two was thus putting the work of Whitehead and Wynter in communication with one another to identify the problematic concerning experience and to perform a critique of the historical developments of a particular mode of abstraction that abducts experience, thereby setting out the steps necessary to reestablish experience as the

[490] Chakrabarty, *Provincializing Europe,* 16.

foundation and outcome of knowledge production.

Chapter Three addressed the relation of experience to abstraction, while Chapter Four addressed the relation of abstraction to experience. In this sense, they investigated both sides of the same problem, which was the ways in which experience can be reestablished as the foundation of knowledge production, and the mode of abstraction that continues to ground experience in thought. One of the core concerns of Chapter Three was establishing the parameters of an investigation into experience. The way in which Whitehead outlined the set of problems that the bifurcation of nature addresses was particularly instructive because it concerns the dismissal of experience in the scientific construction of nature as its fundamental reality. As such, Whitehead's motivation was to establish experience as the *site* from which nature could be reconstructed and according to which the qualities of experience could be established. What this means is that experience needs to be taken as *given*. This point was made to distance the discussion of experience from post-Kantian theories that question the conditions and structuration of experience. One reason for approaching the question of experience from this perspective was, as mentioned at the top of this concluding chapter, that by refusing experience as a metaphysical principle as such means that criteria need to be drawn up about what and whose experience matters and can be counted. Within the context of this thesis, this selective approach was dismissed as inadequate to the problematic identified in previous chapters and the goal pursued. In this sense, accepting the premise that experience is given is a speculative leap; one that is propositional and intentionally committal to a line of thought the aim of which is to intensify experience through an alteration to the methods of knowledge production that have created an alienation in "our relation to the world". As such, the contribution of Chapter Three was to establish the key factors and criteria required for a method of knowledge production based on experience. This propositional method was termed "reconstruction". The method of "reconstruction" was named as such because of the requirement to quite literally ground the specific time and place of *an* experience—what Whitehead dubs the *locus standi*—as the generative point of knowledge production. Against the floated, uprooted concept of objectivity that undergirds the Western machine of knowledge production, these particular qualities situate experience in context. Moreover, "reconstruction" is thus a process of abstraction, through which existing ideas and concepts are involved as a means of understanding. The critique of existing ideas and the way in which they contribute to the reconstruction of experience is an important critical step in ensuring that existing modes of abstraction and concepts themselves do not diminish experience, either by allowing nature to bifurcate or invalidating experience entirely. As such, the contribution of this chapter was a propositional method of knowledge production the foundation of which is experience, and the outcome of which is the enrichment

of experience.

Chapter Four further addresses the relation of experience to abstraction, this time from the perspective of abstraction. It was argued that establishing the specific temporal and spatial dimensions of experience was of particular importance. As such, in Chapter Four, the function of abstraction to retain and emphasise those characteristics was of equal importance. What this means, and the contribution this chapter made, was to establish the *situated* character of abstraction in particular, and knowledge in general. The aim of the propositional method of knowledge production dubbed "reconstruction" was to reestablish experience as the foundation of knowledge production. It was also stated that the enrichment of experience is the goal of such a method of knowledge production, pursued as a means of overcoming the alienation in "our relation to the world". Theorising abstraction and knowledge as *situated* means not just to ground experience but to relate the production of knowledge back to the problem it attempts to answer. However, this does not mean simply to translate experience into knowledge verbatim. Of course, retaining fidelity to that particular experience is important, but enrichment is desired. Enrichment, in this context, pertains to the intensification of future experiences through the introduction of novel ideas. This is a step that requires speculation: it is a reach into the unknown, thereby testing the limits of what is known, and the nature of lived experience. Figuration, as the means by which figures are produced, was introduced as a means by which experience could be speculated upon. Rather than a naive speculative endeavour, the work of Sylvia Wynter shows the ways in which figuration is a device used to build the symbolic schemes of which social reality was constructed. This is an important point as the discussion of speculative figuration could quite easily be taken to mean a flight into fiction that creates a greater distance between abstraction, experience, and the world. Instead, this chapter proposed a theorisation of figuration as a necessary means of conceptual engineering the goal of which is to reconfigure and create anew concepts that, firstly, are situated and, secondly, empirically enrich experience. The contribution of Chapter Four was, therefore, the theorisation of abstraction as situated and the proposition of figuration as conceptual engineering.

Chapters Five and Six, the final chapters of this thesis, explored and tested the particular understanding of figuration advanced in Chapter Four. The cumulative contribution made by these two chapters was the proposition of speculative figures through which "our relation to the world" can be reconceptualised. Central to both chapters was the shift towards a pluralist perspective which argues that the universe is composed of many worlds, instead of a singular, substantial world. As such, both chapters were propositional of not just the reconceptualisation of "our relation with the world" but of new and novel "relations with worlds".

Chapter Five undertook a speculative reconceptualisation of the concept of matter.

Communicative of the materiality of the earth, the concept of matter is utilised by scientific discourses to articulate the fundamental unit of which reality is constituted. Within this specific context, this concept is functional. However, this chapter argued that the concept of matter is a "predatory abstraction" which functions reductively; most classically in terms of the bifurcation of nature as a *site* of reduction. This argument was advanced in relation to the theorisation of the "geosocial formation" by Nigel Clark and Katherine Yusoff, who argue that the geological processes of the earth are productive of social structurations. That is, theoretical and physical formations that give sociality a structure and meaning. It is a particularly novel way of conceptualising "our relation to the world" and, indeed, the formation of worlds. However, this chapter argued that the concept of matter that is so central to Clark and Yusoff's theorisation inhibits the proper *grounding* of that social relation between the materiality of the earth, experience, and social realities. In order to perform some conceptual engineering to the concept of matter, I turned to the speculative fiction of N. K. Jemisin and her *Broken Earth* trilogy. There, on an uncannily-familiar future planet, the materiality of the earth bristles with vibrancy and energy. Jemisin's figuration of matter as fundamentally *expressive and relational* produces societies fraught with tensions and conflicts, with hierarchies based on *humanness*. Yet this humanness is itself based on the power of certain beings to exert control over the materiality of the planet. It is, in this sense, a fundamentally social conceptualisation of matter that is, ultimately, generative of positive and negative social relations. The contribution this chapter made was, therefore, a testing of the theoretical machinery of the thesis in terms of figuration, as well as the proposition for a reconceptualisation of the "relation to worlds" premised on the experience of the activity of materiality.

Further testing of the notion of figuration occurred in Chapter Six, the final chapter of this thesis. There has been a slight danger that emphasising experience as the foundation and outcome of knowledge production is aimed at creating some sort of stability: that, in some sense, there is something infallible about the facticity of experience compared with the realm of abstraction. While these concerns may indeed be unfounded, Chapter Six sought to fully explore the texture of contingency, precariousness, and risk inherent in experience. Our collective contemporary planet situation is characterised by the existential risk of catastrophic climate collapse. It is an inescapable condition of contemporary existence. As a concept, existential risk presents an insurmountable problem: it can only be speculated upon and theorised because, necessarily, it cannot be experienced. The contingency and risk inherent in experience, and latent to the condition of life itself, has a very hard limit: individual or collective death. Extinction. The contribution of this chapter was the speculative figuration of contingency, precariousness, and risk, which are inexorable qualities of existence and which, therefore, exert significant influence

on "relations with worlds". In order to figure this condition, I turned to the speculative fiction of Amos Tutuola whose novel *The Palm-Wine Drinkard* is an exploration of contingency, risk, and a sense of incompleteness that counters the European colonial idea of the substantial human being and the singular world. It was argued that each experience of the palm-wine drinkard was one in which the fundamental contingency of existence was not only felt, but in which the existing world was shattered, bringing into existence a new one. The was characterised by the notion of "worldquakes" drawn from the work of William James and Martin Savransky. The palm-wine drinkard, on his journey to find his dead tapster, is continually consumed by catastrophe; continually inebriated by the indiscernible boundary between life and death. It was argued that the figuration of existence cultivated by *The Palm-Wine Drinkard* involves a continual and concomitant *ungrounding and grounding*, which was explored in terms of Deleuze and Guattari's theory of geophilosophy. The contribution of this chapter was the figuration of existence as catastrophic which, it was argued, is always productive of new worlds and always situated in the earth itself. As such, this final chapter sought to produce a figuration of experience that expresses the precariousness of our "relations with worlds".

In conclusion, this thesis advanced a critical and constructive study of the concept of experience in relation to knowledge production of "our relation to the world". By responding to and intervening in existing debates on the nature of "our relation to the world" articulated by the concept of the Anthropocene, and its host of conceptual characters, the thesis sought to contribute to this scholarship by making clear the necessity of a critique of the frameworks of Western scientific knowledge undergirding these discourses, as well as providing the terms by which that critique should operate. Building on the work of Walter Mignolo, Alfred North Whitehead, and Sylvia Wynter, the critique resulted in a proposal for a speculative method of knowledge production dubbed "reconstruction", through which experience could be reestablished as the foundation and outcome of knowledge production. To explore this method, this thesis proposed a specific understanding of figuration, through which concepts could be engineered and reconfigured. This notion of figuration was put to the test in relation to the concept of matter and the conceptualisation of existence as suffused with contingency and risk. Turning to the speculative fiction of N. K. Jemisin and Amos Tutuola, novel figurations were proposed; figurations that would produce new "relations to worlds". Ultimately, this thesis argued for a critical and constructive method through which experience could become the fundamental means by which the alienation characterises that "our relation to the world" could be overcome.

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