PERIPHERAL FICTIONS: VULNERABLE BODIES AND MULTISPECIES ENCOUNTERS IN THE “EXTRACTIVE ZONE”

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DECLARATION OF AUTHORSHIP

I, Josephine Nicola Taylor, hereby declare that this thesis and the work I have presented in it is entirely my own. Where I have consulted the work of others, it is always clearly stated.

Declaration of Authorship__J.Taylor____

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Acknowledgements

This thesis was conceived at a time of complete and bare vulnerability. Writing it was an act of rebuilding what had become undone, producing hope from the past experiences of despair and psychosis. The turbulent world of living with bi-polar disorder has made writing a doctorate difficult. It would not have been possible without the dedication, intellectual encouragement, and unwavering support of my supervisor Danielle Sands.

My partner, Jacob Cook, has provided love, care, and joy through my academic journey, inspiring me to read more and more science fiction. Martin and Marie Taylor, my parents, have been a source of undeniable support, and have encouraged me to always dream and move beyond my expectations. Laura Taylor, my twin sister, who is exactly the same yet completely different, has always been there for me. Maureen Mellett, my grandmother, is and forever will be my shining and guiding star. Thank you to Martin Mellett for allowing me to understand that you can overcome the barriers you find in life.

I would also like to thank the wonderful friends and colleagues I have met through the duration of the PhD. Alex Underwood for a friendship that provides me solace and kindness in whatever circumstance. To my philosophy and literature pals: David Ventura, Ed Thornton, Tom Waterton, Lucy Benjamin, Francis Gene-Rowe, Gabriel, Matt Collyer, Kynthia Plagianou, and Dave Preston. The amazing people in the Beyond Gender Research Collective, who have been an inspiration and the utopians I need in my life. Thank you to Katie Stone and Tom Dillon from Beyond Gender for reading my chapters; my peers and colleagues at Warwick for stimulating conversations and collaboration; to my Coventry Queens, who are lifelong friends: Lani Dines, Lauren Shaw, Alice Thomson, and Sally Hernon; and to Liam Croot and Harrison Finch whose grace, glamour, and joy always inspires me. I would also like to thank both my Taylor and Mellett family, and my extended family over in Ireland. A special thanks is due to Tim McInerney, Martha McInerney, and Julia Stagg. The academics whose support and work has inspired and encouraged me along this journey are Robert McKay, Anat Pick, Dan Katz, Dagmar Lorenz-Meyer, Sharae Deckard, Ruth Cruickshank, Ruth Hemus, Daniel Whistler, and Sheena Wilson.

This thesis is dedicated to Maureen Mellett. As your mother said to you, 'education is no load.'

Abstract

In this thesis, I analyse the nonhuman narratives of petrocultures – cultures grounded in fossil fuels – examining the ways in which animal bodies serve as energy commodities and how regimes of extraction impact more than human communities. Exploring the representation of "extractive zones" in literary and visual culture from the nineteenth century to present, I draw upon three key figures: Anat Pick, Judith Butler, and Simone Weil. These thinkers all advance an ethics of vulnerability, which I argue can provide a possible disruptive antidote to violent regimes of extraction. Alongside these thinkers, I weave together decolonial and Marxist perspectives from Julietta Singh, Kathryn Yusoff, and the Warwick Research Collective. My project aims to combine an analysis of the material conditions in the "extractive zone" with theories of affect and emotion. I argue that this convergence can be used to underpin a multispecies ethics, which gestures towards a renewed relation to energy

My literary and cultural corpus begins with nineteenth century whaling in the world of Melville's *Moby Dick or the Whale*, addressing how whaling served as an early energy enterprise that ideologically informs the beginnings of crude oil extraction. Following this, I turn to contemporary energy regimes exploring the parallels between meat and oil culture. From modes of productions to their destructive consequences, I analyse visual and literary representations of roadkill and oil spills. Turning from present violence to future horizons, the final chapter explores science fiction narratives and paths towards energy transition.

Moving from nineteenth century to twenty first century literature and visual culture, I argue that the energy impasse, the deadlock of imaginative ways forward from the age of oil, can become unblocked through an attentiveness to the vulnerability of other species and the environment.

INTRODUCTION

Extractive Bodies, Fuels, and Fictions

Of Greek provenance, the word energy is stamped by a double entendre.

Composed of the prefix en- and the noun ergon, energeia can be literally

translated as "enworkment," putting-to-work, activation.

Michael Marder, *Energy Dreams, Of Actuality* (3)

According to Michael Marder's description, the term energy names a process of activation, mastery and coercion, a process in which energy is put to work and laboured upon. Energy resources are subjected to acts of mastery in capitalism, harnessed for the purposes of fuelling modernity. In the process of extraction and production, something is simultaneously transformed and lost whether it is the legacies of plankton and animal bones that form the matter of crude oil, or if it is the flesh of an animal's body that result in the meat upon our plates. We often discover that the stuff of life, biological and geological matter, is reduced to fuel and commodity. As Leanne Simpson articulates in an interview with Naomi Klein,

> Colonialism and capitalism are based on extracting and assimilating. My land is seen as a resource. My relatives in the plant and animal worlds are seen as resources. My culture and knowledge is a resource. The act of extraction removes all of the relationships that give whatever is being extracted meaning (Simpson; Klein, 2013).

Extraction here names the violent mechanisms of transformation and severance, a process of erasure, which evacuates meaning and disrupts relations. In this thesis, I argue that the paradigmatic mode of colonialism and capitalism is extraction; the act of extraction is simultaneously a material process and a world-view tied to capitalist machinations and logic. Energy, whether it be the meat that fuels our bodies or the black oil that fuels our vehicles, is mastered, harnessed, and extracted.

Life is fundamentally transformed once it becomes a commodity, severed from its previous meaning to become something utilised, considered inert and thing-like, yet occupying a different life altogether that is tied to market relations. Karl Marx articulates this process in the first volume of *Capital*:

> A commodity appears at first sight an extremely obvious, trivial thing. But its analysis brings out that it is a very strange thing abounding in metaphysical subtleties and theological niceties. The form of wood, for instance, is altered if a table is made out of it. Nevertheless the table continues to

> be wood, an ordinary sensuous thing. But as soon as it emerges as a commodity, it changes into a thing which transcends sensuousness. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing of its own free will. (Marx, *Capital*, Vol 1, 46)

In Marx's description, commodities begin to occupy a new imaginary that is dictated by anthropocentric frameworks and capitalist logics. Natural resources thus begin to dance and move beyond their previous meaning, but not through their own free will. Their transformation is rather driven by the machinations of market demands. Crude oil and animal bodies are not only materially transformed through extraction and production, but are given new meaning and utility through the regimes of capital.

Fossil fuels have frequently been described as the lifeblood of modernity, a metaphor that evokes a sense of corporeality, making crude oil appear as something intrinsic to human life.[1] Perhaps this metaphor is an indication of societal addiction, and such naturalisations of the fossil fuel economy suggests an inability to withdraw, the struggle to let go. This flesh and blood metaphor, however, draws us towards the crux of this thesis: the connection between animal suffering and energy regimes in cultural narratives, made visible by combining the fields of Animal Studies and petroculture.

Initially, the study of petroculture was a response to Amitav Ghosh's question: where is the Great American Oil Novel? He describes a certain muteness in the cultural imaginary regarding the oil encounter, suggesting that 'the history of oil is a matter of embarrassment verging on the unspeakable' (Ghosh, 29).[2] Over recent years, critics have come to respond to Ghosh's claim, discovering the ways in which crude oil is embedded within our cultural and artistic practices. Nevertheless, I want to focus on his notion of muteness and the invisibility of the oil encounter. If the oil encounter has produced this cultural amnesia, elided and silenced, how too does the animal encounter lead to a similar silence? Like the oil encounter, often described as hidden in plain sight, we encounter nonhuman life through the many products and derivatives formed from their flesh and bone. Commodification produces this silence by actively moving production to peripheralised locales and spaces. As Ross Barrett and Daniel Worden have described in their collection on *Oil Culture*, crude oil is 'foundational and ever present, yet it is also secreted away' (Barrett and Worden, xvii). Petroleum, its derivatives, and animal products are embedded within our economies and everyday life, yet their presence is often erased from cultural consciousness, or hidden, waiting to be uncovered. For Barrett and Worden, there is simultaneously a cultural ubiquity to crude oil and yet a strange absence. This strange

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[1] This conception of fossil fuels as the lifeblood of modernity is expanded upon in Matthew T. Huber's book *Lifeblood: Oil, Freedom, and the Forces of Capital*. It describes the ways oil is often endowed with 'magical', geopolitical and financial force and power.

[2] Ghosh argued in this essay that oil is seemingly absent from the cultural imaginary other than the pivotal work of Abdul Rahmen Munif's *Cities of Salt*. Graeme Macdonald, however, in his article 'Oil and World Literature' comes to question some of Munif's claims. Although Macdonald suggests some of Ghosh's concerns remain salient, the study of petroculture and petrofiction over the past twenty years has questioned Ghosh's understanding of absence of the oil encounter. Macdonald claims that perhaps Ghosh was unfamiliar with Upton Sinclair's 1927 novel *Oil!* Or Ghosh deemed it unworthy of the adjective "Great" (Macdonald, 7). Likewise, Peter Hitchcock describes the grip petroleum has on the American Imaginary citing Sinclair's novel as crucial work in mapping the rise of the fossil fuel industry in America.

opposition of being everywhere and nowhere characterises both the presence of crude oil and the nonhuman animal. Animals have become increasingly absent from urban centres, but their dead bodies proliferate in various forms and products.

Imre Szeman notes the difficulties and challenges of rendering visible projects of extraction: 'as extraction is a process that has usually taken place in the country rather than the city, in the periphery rather than the metropolis, the very existence of extraction can be difficult to render visible – and increasingly so' (Szeman, "Poltics of Extraction," 443). Responding to Szeman's observations, this thesis aims to render visible the multivalent effects of the fossil fuel economy and how it is connected with the violence enacted against nonhuman life. In it, I explore the collision of the nonhuman and petroleum in the cultural imaginary, addressing how what is elided or lost becomes apparent if we turn to literature and cultural production at the periphery within the space of the 'extractive zone' (Gomez-Barris, xvi).[3]

I combine the two fields of Animal Studies and petrocultures in order to inform a new perspective on what we consider natural resources and commodities. Bridging these two fields as a way to discover emergent solidarities invites the question of how a multispecies ethics could inform energy relations and transition. Or, conversely, what might an analysis of extractive capitalism offer Animal Studies. My intention is to trace and explore the nonhuman narratives of petrocultures from their origins, production, consequences, and into speculative energy futures. From the perils and imperial legacies of nineteenth century whaling, to modern forms of extraction and energy production, to the violent aftermath of oil spills and road kills, and, finally, to the science fiction expedition of the encounter with an alien and animal alterity, discovering new forms of energy, I shall uncover the nonhuman lives imbricated within energy regimes.

Petroculture and Animal Studies: First Encounters and Solidarities Across Disciplines

Petroculture is a growing discipline in the humanities that focuses on how crude oil has come to shape the cultural and social imaginary of the twenty first century. Sheena Wilson and Imre Szeman, the co-directors of the research collective, Petrocultures, in the University of Alberta, contend that a transition away from the age of oil requires not just technological and structural transition, but also cultural and social change to divest from fossil fuel dependency. Similarly, Szeman and Dominic Boyer argue that,

> The task is nothing less than to reimagine modernity, and in the process to figure ourselves as different kinds of beings than the ones who have built a civilization on the promises, intensities, and fantasies of a particularly dirty, destructive form of energy (Boyer and Szeman, 14)

[3] The term 'extractive zone' is taken from Macarena Gomez-Barris' work *The Extractive Zone: Social Ecologies and Decolonial Perspectives.* She coins this term to refer to 'the colonial paradigm, worldview, that mark out regions of "high biodiversity" in order to reduce life to capitalist resource conversion' (Gomez-Barris, xvi). At a latter stage in the introduction, I will provide a detailed exploration into this concept and how it serves as a focal point for my chosen literary and cultural sources.

The study of petrocultures is therefore a task of not only addressing how we have become ideologically and culturally invested in the fantasy of unlimited energy, but to reimagine ourselves as different types of beings, to create new narratives of possibility untethered from destructive and violent forms of energy production. Boyer and Szeman further argue that the critical insights gained from the cultural analysis of energy could begin 'to develop a different relationship to energy' (Boyer and Szeman, 19).

Petrocultures thus diverges from the many historical accounts that focus on the birth and rise of the oil industry. From Daniel Yergin's *The Prize: The Epic Quest for Oil, Money, and Power* to Peter Maas's *Crude World: The Violent Twilight of Oil,* many of these works are orientated around the politics of a global industry and at times tend to glorify the rise and growth of oil capitalism. There is a sense that while critiquing the corruption of oil companies such as Shell, Chevron, and BP, they simultaneously present a triumphant patriarchal capitalism, a world dominated and dictated by oil men.[4] The rise of the fossil fuel economy has been well documented by Andreas Malm's work, as well as Timothy Mitchell's exploration of democracy and carbon fuelled society. Alternatively, however, humanities scholars such as Barrett and Worden, perceive oil not simply as an industry, but as a culture: 'a business and a set of aesthetic practices, a natural resource and a trope' (Barrett and Worden, xxi). Such creative engagements with oil in the cultural imaginary allows for utopian thinking, ways of challenging our social and cultural investment in petroleum, and the embedding of oil within our notions of freedom and progress, as well as certain conceptions of the individual and liberty.

Stephanie LeMenager and Matthew T. Huber explore the ideological fantasies of oil that have informed the American constructions of freedom and liberty. For Huber, this imaginary is particularly tied to neoliberalism, a sense of atomised living and energies built into the conception of the 'American way of life.' As Huber suggests,

> The vision of "life" underwritten by the petroleum industry was contradictory. Life was constructed as a privatised (white) realm of social reproduction that was made possible through free competition and individual (male) breadwinners' own entrepreneurialism. Yet this individual "life" was also perilously dependent upon not only petroleum, but also the petroleum industry' (Huber, 234).

For Huber, entrepreneurial suburban life was built and relied on the petroleum industry, and its attendant driving ideals of individualism, and dependent on energy infrastructure and commodities. Through the popular tradition of the great American road narrative from *Easy Rider* (1969) to *Thelma and Louise* (1991), we soon discover that these notions of liberty are underpinned by petroleum.[5] Such narrative tropes of the

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[4] In Maass' journalistic account of crude oil politics, one executive declares that projects of extraction are a 'battle of giants' and 'it is a natural war, below the belt' (Maass, 116). The patriarchal world of oil comes to the forefront in these accounts.

[5] The road narrative and the movies has an intertwined historical significance as explored by Steven Cohan and Ina Rae Hark in their work *The Road Movie Book*. For these film scholars, the road and the movie is seemingly inevitable. They suggest that 'road movies project American Western mythology onto the landscape traversed and bound by the nations highways' (Hark and Cohan, 1). What is never discussed, however, is how such mythology of the last frontier is informed by colonial histories and conquest, and the ways freedom is enacted through a crucial reliance on energy and its infrastructure. Nadia Bozak makes an important intervention in this

road journey define what Mimi Sheller has described as the 'kinaesthetic' and 'aesthetic' (Sheller, 222) dispositions created by acts of driving, producing what Sheller terms 'emotional geographies' (Sheller, 223) of automobility.

In *Living Oil*, LeMenager describes this experience as 'the aesthetics of petroleum' (LeMenager, 68). For LeMenager, there is the question of why, despite environmental destruction and corruption, Americans' love oil. As she notes, 'loving oil has a great deal to do with loving media dependent on fossil fuels or petroleum feedstock from the early to mid-twentieth century, when oil became an expressive form, although often hidden as such, in plain sight' (LeMenager, 66). From classic series such as *Dallas* (1978), its reinvention in 2012, to films such as *Giant* (1956), and more contemporary productions including *There Will Be Blood* (2007), petroleum has captured a certain place in the American imaginary. To recall Marx's passage on commodities, petroleum seems to be dancing of its own free will, conjuring up desires and fantasies of new lives and an access to freedom.[6] As Huber suggests, 'we often think of our "addiction" to oil as a purely material relation – urban spatial form, disposable plastics – but we need to think more deeply about how our relation to petroleum shapes the way we think and feel about politics' (Huber, 239). Huber's suggestion invites us to understand the ways in which petroleum shapes not only our economy, but our social and cultural lives, the way that we think and understand individuality and freedom.

The neoliberal regime that provides the undercurrent for a life dependent on petroleum also feeds into twentieth and twenty first century feminisms. As Sheena Wilson has explored in her work 'Gendering Oil: Tracing Western Petrosexual Relations': 'the histories of feminism and oil are intertwined', with the 'age of oil in the West […] virtually synchronous with the women's rights movement' (Wilson, 248). For Wilson, the complex relation between the oil industry and the rise of Western feminisms is rife with ironies. The age of oil entails both the advancement of feminism as well as 'reinforcement of long-standing patriarchal conceptualisations of woman as object and as property' (Wilson, 248). Just as animal studies scholar Carol J. Adams describes the sexual and gendered politics of meat, there is a sexual politics to petroleum.[7] Cecily Devereux expands on this gendered dimension of the petroleum industry. Devereux cites Jean Baudrillard who declared: 'All objects, cars included, become women in order to be bought – but this is a function of the cultural system' (Baudrillard, 69). This passage, for Devereux, is indicative of a cultural impulse 'to represent both cars as women and women as cars, and thus equally and interchangeably, as commodities' (Devereux, 163). For Devereux, petroculture has informed and shaped the performance of femininity. The complex relation between women's right movements and the petroleum industry, both a detriment and force behind Western feminist ideals, demonstrates how entangled the fossil fuel economy is with notions of

regard with her work, *The Cinematic Footprint: Lights, Camera, and Natural Resources*. Bozak argues that despite cinematic attempts of environmental ethics, film production and distribution is heavily reliant on natural resources and, in particular, on fossil fuels.

[6] Ryszard Kapuscinski's famous quote from the *The Shah of Shahs* echoes the liberatory power attributed to oil: 'Oil creates the illusion of a completely changed life, life without work, life for free. Oil is a resource that anaesthetises thought, blurs vision, corrupts' (Kapusckinski, 35).

[7] Carol J. Adams', *The Sexual Politics of Meat: A Feminist Vegetarian Critical Theory*, was a crucial work in magnifying the interconnected oppressions of women and animals when it first appeared in the 1990s. Adams work will later serve as a key aspect of my methodological approach of a feminist animal studies perspective.

personhood, rights, and freedoms. Yet, as Huber suggests, in order to tackle the impending environmental crisis, 'we need to imagine new ways of life and living that can once again construct popular resonances around notions of public solidarity and the viability of collective management of environmental problems' (Huber, 240). If we are to conceive of a future free from fossil fuel energy, it becomes a task of divesting culturally and collectively from the petroleum industry. By understanding how energy shapes aesthetics and culture, petrocultural analysis presents modes of critique and also possible alternatives.

Whilst petroculture has contended with the gender politics of the fossil fuel industry, it must also look to the colonial and postcolonial histories of oil extraction in the Global South and how these are manifested in cultural narratives and production. As Peter Hitchcock contends, the geoculture of oil should focus not only on what is termed oil's ontology, but also oil's 'deep history in the exploitation of the South and of labour' (Hitchcock, 97). Jennifer Wenzel whose work focuses primarily on Niger Delta, coins the phrase 'Petro-Magic Realism' (Wenzel, 211) to reflect the relation between "petro-magic" '(a concept from political ecology) with the literary mode of magic realism' (Wenzel, 213). Wenzel focuses on fictions from Ben Okri and Ogaga Ifowodo examining the ways crude oil seeps into the literary form and highlighting how legacies of imperialism underpin extractive economies and petroculture. Postcolonial theorist Michael Niblett similarly investigates the cultural role of oil, alongside sugar, and its imbrication in histories of colonial conquest and imperial domination. The exploration of the oil industry as perpetuating the legacies of colonialism are further depicted in fictions such as Nawal El-Saawdi's *Love in the Kingdom of Oil*, Munif's *Cities of Salt* and Ken Saro-Wiwa's *A Forest of Flowers*. These fictions address crude oil not just as a cultural imaginary and aesthetics, but also explore the fossil fuel economy's material and environmental consequences in areas of the Global South. From the American dreams of freedom in narratives like Jack Kerouac's *On the Road*, invested in a world of petroleum, to novels such as Helon Habila's *Oil on Water,* that explore the devastating effects of the oil industry in the Niger Delta, petrocultures map the cultural manifestations of the petroleum pipeline from extraction to consumption, from oil guzzling regions to peripheralised production zones.

Like Wilson's and Wenzel's important interventions exploring the colonial and gender politics of petroculture, I too propose an intervention which responds to the silence within the field on the effects of the fossil fuel industry on our more than human world. I draw on Melanie Doherty's suggestion of advancing 'a non-anthropocentric imagining of oil' (Doherty, 367), but foreground the materiality of animal bodies and suffering in the context of energy extraction and production. By situating the nonhuman in petrocultural analysis, I aim to address the ways that energy extraction impacts nonhuman life. Boyer and Szeman describe energy humanities as producing a 'speculative impulse' (22) which offers different ways of perceiving and imagining future worlds. Providing this multifaceted conception of energy and its impact, enables a non-anthropocentric mode of thinking, capturing the various ways energy regimes and consumption affects nonhuman life.

For Patricia Yager, literature can be classified according to its relations with resources from wood and whale oil, gasoline to atomic power (Yager, 305). Energy resources can shape narrative structures, providing the

fuel to transport characters to distant climes, or create the pathways to pivotal events from horse power in *Wuthering Heights* to gasoline within the road journeys of Kerouac. Yager suggests that 'we need to contemplate literatures' relation to the raucous, invisible, energy-producing atoms that generate world economies and motor our reading' (Yager, 307). Similarly, my project endeavours to capture the resources of fiction and cultural production, while incorporating the place of the nonhuman as simultaneously a resource commodity and a victim of extractive capital.

To return to Ghosh's claim about the invisibility of the oil encounter, crude oil is perhaps not entirely absent from cultural forms but rather proliferates in different ways beyond its own physicality as a material substance, and can instead produce LeMenager's notion of the aesthetics of petroleum. There is not so much a focus on the oil rig or the extraction site than on the life which petroleum enables. In the animal encounter in literary and cultural production, we can also identify a certain erasure in the sense that animals become objects of study, rendered as artistic and metaphorical symbols, imbued with anthropocentric meaning. Animals, and notions of animality, manifest in cultural forms yet animals' physical and material presence are notably absent from modern life. In John Berger's essay, 'Why Look at Animals', he claims that 'in the last two centuries, animals have gradually disappeared' (Berger, 21). Berger highlights how animals' previous centrality to human life was 'of course economic and productive' (Berger, 3). Horsepower was used for transportation, for work in mills, and other species for food and clothing; animals had previously pertained a proximity to human life and work. In twentieth and twenty first century capitalism, however, Berger claims 'Everywhere animals disappear. In zoos they constitute the living monument to their own disappearance' (Berger, 26). In looking at the zoo animal, Berger suggests, the zoo visitor is alone. Can something similar be said of animal presences in literature and culture? Does cultural representation of the nonhuman further isolate us from them and produce a deeper silence? How might this lead to a process where animals' are rendered with anthropocentric meaning and artistic function? As a field, the questions Animal Studies raises and its exploration in literature, like petroculture, can serve to offer insights into our relations and how we perform them. Animal Studies in literature has focused not solely on the abstraction of animal as allegories, fables, and metaphors, but their material presences, allowing us to rethink the interspecies encounter. Nonhuman encounters in literature and culture can therefore pose and problematise the ethical dimensions of interspecies relations, amplify the discussion around species extinction and loss of biodiversity, as well as the impacts of climate change on animal life.

Kathryn Kirkpatrick notes that 'originating in the 1970s with ecofeminist work by Carol J. Adams and others on the interconnected oppressions of women, animals, and the environment, the field of animal studies has become a rich multidisciplinary endeavour transforming knowledge in the academy and generating interest among the general public' (Kirkpatrick, 2). The animal turn in literary studies draws on a diverse range of approaches from ecofeminism, posthumanism, continental philosophy, biological and social sciences. The vast array of influences is eclectic and cannot be neatly summarised into a cohesive whole. However, like Jennifer Wenzel's endeavour in her recent work *The Disposition of Nature,* which is to 'consider whether and how the literary can be a part of an environmental praxis: reading for the sake of the planet' (Wenzel,

2), the animal turn in literary studies can similarly be argued to be a process of ethical and political praxis. Reading animals becomes a method for understanding how operations of power and the human/animal binary inform systems of oppression, and why reading and literary analysis can benefit other species and creatures. As Jennifer McDonell notes, 'to think seriously about animals on their own terms is to begin to question the co-construction of the categories of the human and the animal that underpins human exceptionalism' (McDonell, 1473). Reading animals, and their cultural manifestations in literature, as well as certain constructions of the "human", is a central task in the practice of undoing present power relations that shape our multispecies encounters.

For Anat Pick, cultural forms from cinema to literature can demonstrate not only the cliched expression of the 'human condition', but also 'an expression of something *in*human as well: the permutations of necessity and the materiality that condition and shape human life' (Pick, *Creaturely Poetics*, 5). Pick applies a creaturely prism to culture which moves 'beyond an anthropocentric perspective' (Pick, *Creaturely Poetics*, 5). The task of the creaturely then is to trace what Pick terms 'the logic of flesh' (Pick, *Creaturely Poetics*, 6) across textual and cinematic encounters, a corporeal aesthetic and ethics which does not view species as a primary distinction between different creatures. The question the creaturely poses is how might literature and cultural forms revise and revisit our understanding of other species and our own inhumanity. Like Pick, Danielle Sands proposes that creative and literary forms, the act of storytelling, is not simply a human activity. Drawing on Donna Haraway, Sands suggests how nonhuman animals can be 'active participants in, and creators of, stories, and that stories are ideal spaces for imaginative cross-species connections' (Sands, 21). If, as Pick contends, 'the human-animal distinction constitutes an arena in which relations of power operate in their exemplary purity (that is, operate with the fewest moral or material obstacles) (Pick, *Creaturely Poetics*, 1), what can storytelling, fiction, and culture offer to disrupt these power relations? I turn to fiction and different cultural sources to not only expose the conditions shaping human animal relations, presenting what Matthew Calarco terms 'the disruptive force in animal suffering' (Calarco, 120), but also to stage new multispecies connections. Timothy Baker notes that 'nonhuman animals haunt the peripheries of contemporary fiction' (Baker, 1). I explore these peripheries addressing how experiments in fiction and art offer ways of turning to 'cultures [and] contexts that are not exclusively human' (Pick, *Creaturely Poetics*, 5).

The act of questioning human mastery and sovereignty over nonhuman life is a task undertaken by Animal Studies scholars from Carol J. Adams, Josephine Donavan, Cary Wolfe, Robert McKay, Susan McHugh, Erica Fudge and many more. McDonell further suggests that,

> One literary end of animal studies is the imaginative and empathetic identification with other animals' lives, and with the philosophical and ethical questions raised by that engagement. The methodological work of animal literary studies includes deconstructing representations of animals that appropriate the animal as merely literary and mythological figures (Derrida, 2002; Haraway, 2008) as well as critiquing the tendency to observe real animals without attempting to meet their gaze. (McDonell, 1474).

These central questions that a literary animal studies raises around an empathetic engagement with nonhuman life, and the field's concern with philosophical and ethical questions, can have important resonances and implications for the study of petroculture. If we can begin to identify with other species, and perceive their vulnerability and suffering, how might we also begin to recognise other forms of violence enacted against nonhuman lifeforms? From the plants and soil that are dying from toxic waste and polluting substances to oil spills that pour out into the ocean, the effects of the fossil fuel economy thus invite ethical questions which are aligned with a multispecies ethics.

Significant amounts of scholarship in Animal Studies have focused on the affective encounter, the power of empathy, individual emotions, and structures of feeling to transform human animal relations. Scholarship such as Lori Gruen's work on entangled empathy with primates or Donna Haraway's work on 'becoming-with' companion species, foregrounds a sense of mutuality and interrelatedness with other species.[8] Despite this focus in the field on individual affects, however, there has also been structural analysis exploring the intersections of race, species, and gender with works by Marjorie Spiegel, and more recently Claire Jean Kim's *Dangerous Crossing: Race, Species and Nature in a Multicultural Age*. Unpacking human power relations often exposes the intersections with various other forms of oppression and marginalisation across race, species, gender and class. Nevertheless, what is somewhat absent is an analysis of the material conditions of animal life under capitalism, when nonhuman life becomes what Nicole Shukin describes as 'animal capital' (Shukin, 6). Shukin makes a significant intervention into Animal Studies with her work, which brings together biopolitical critique and animal life while presenting an exploration into the centrality of animals to regimes of capital. My project similarly intends to emphasise the impacts of the capitalist regime on the nonhuman, while also drawing on the affective trajectories that inform much of Animal Studies as a field. My argument is that a multispecies ethics, informed by affects, emotion and philosophical enquiry, can inform a new perspective within the study of petroculture. And, alternatively, demonstrating how the methods of analysis developed in petrocultures that focus on commodity production can enrich and inform Animal Studies.

The focus on individual affects and the transformative encounter with the nonhuman in Animal Studies analysis differs somewhat from petroculture which is primarily invested in materialist approaches. This is evidenced by petro-critics such as Sharae Deckard and Graeme Macdonald who are members of the Warwick Research Collective (WReC) and specialise in Marxist critique and world-system theory. I argue for the convergence of these approaches by presenting a focus on the affective potential of the human/animal encounter, while at the same time offering a materialist analysis of extractive regimes and capitalist machinations. My work in this project advances the vital questions of Animal Studies that involve challenging the centrality of the human, invoking a movement to non-anthropocentricism, asking how this affects our relation to energy.

[8] Danielle Sands expands on the limitations of empathy in the field of animal studies in her work *Animal Writing: Storytelling, Selfhood, and the Limits of Empathy.*

The question of the animal has been radically reshaped by continental philosophy with works by Gilles Deleuze and Felix Guattari in *A Thousand Plateaus* and their theoretical exploration of ‘becoming animal’, and most notably Jacques Derrida’s *The Animal that Therefore I am*, as well as Giorgio Agamben’s theorisation of ‘bare life.’[9] Although I do not explore these thinkers specifically, I follow the continental philosophical trajectory in Animal Studies, informed by figures such as Val Plumwood, Judith Butler and Anat Pick who are indebted to this philosophical tradition. I thus move away from the rights based approaches of Peter Singer and Tom Regan in animal ethics, and instead advocate for Pick’s *Creaturely Poetics* that presents not an extension of humanism, but what she terms humanism’s radical retraction, discovering the animality or even vegetative aspects of the human itself (Pick, *Creaturely Poetics*, 6). Pick’s aesthetics and poetics of the creaturely inform much of the theoretical approach of this thesis. Like Pick, I explore the place of animals in literature and culture as literary and material presences. Following the recent *Palgrave Handbook of Animals and Literature*, I aim to ‘find ways to make sense of them as *animals*, attentive to their portrayal as an account of their own material or experiential reality’ (McHugh, Miller, McKay, 2). The ways in which literature can restage, discover, and reimagine our relation to nonhuman others from different species to energy sources opens up possible alternatives to the violence of the present. Just as petro-critics emphasise the role of culture in attending to energy change and crisis, the place of the nonhuman in the literary and cultural imaginary can offer a renewed relation to our fellow creatures. As McHugh, Miller, and McKay argue, ‘in creative, poetic hands, [animal] imagery produces new and insightful ways of understanding human life and the world around it’ (McHugh, Miller, McKay, 3). I explore the convergence of the nonhuman and energy extraction in the literary and cultural imaginary, addressing both the material realities of production whilst exploring the speculative impulse of a more ethical perspective towards our wider ecology.

In line with Melissa Haynes, this thesis asks ‘why are animals absent from so many histories of energy development?’ (Haynes, 35). I advance such an inquiry by exploring the place of the nonhuman in its relation to energy production and the violent aftermath of extraction within literary and cultural expression. Haynes goes on to note that the most obvious ways that animals are imbricated within energy regimes is through meat production. As Haynes argues, ‘the most intimate and obvious use of animal energy is the oldest: we eat the concentrated energy of animals in muscle energy and fat’ (Haynes, 36). Both crude oil and nonhuman bodies are rendered commodities for the purposes of either fuelling our bodies or for transportation. Not only are these industries paralleled through the material process of rendering life and biological matter into utilised commodities, but also through their environmental impact. In the *Ecological Hoofprint: The Global Burden of Industrial Livestock*, Tony Weis explores the ways the ‘meatification’ of diets and the growth of industrial livestock is equivalent, and in some cases, exceeds, the environmental destruction of the fossil fuel industry. By exploring the parallels between Animal Studies and petroculture, I investigate the abstract and

[9] Although these works are vastly influential, my focus is on bodily vulnerability which arises from the work of Judith Butler, Weil, and Pick. Pick differentiates her conception of bodily vulnerability from Agamben’s ‘bare life’ by arguing that she does not ‘regard animal life as absolutely bare’ (Pick, ‘Vulnerability,’15). Following Weilian thought, Pick notes the sacred aspect of all creatures.

material forms of oppression that operate in the domains of human-animal relations and energy politics. In later chapters, I explore the emerging solidarities between these fields by arguing that they produce a multispecies ethics which has ramifications for our energy futures.

Extractive Zones and Peripheral Fiction: Cultural and Literary Corpus

As a way to enter the space of commodity production through cultural sources, where both nonhuman life and the land is rendered lifeless, I turn to Gomez-Barris concept of the 'extractive zone' (Gomez-Barris, xvi). The extractive zone refers to how the colonial paradigm shapes certain geographies, rendering ecologies commodities and reducing environments to capitalist accumulation and production. My chosen literary texts and cultural sources are embedded in such spaces of extraction, production, and their disastrous aftermath. The literary and cultural material are geographically centred in energy rich regions, or areas affected by energy production and infrastructure. In the opening of my literary analysis, Herman Melville's *Moby-Dick* reveals how the body of the animal is itself an extractive zone, while McLaurin's *Sketches in Crude Oil* provides an historical account of the beginnings of crude oil extraction in North America. The literary texts and cultural sources are located in regions dominated by oil capitalism from the Niger Delta to Scotland. From roadkill in the U.K to oil spills that impact Indigenous communities in Canada, I explore the varying consequences of energy production and infrastructure on nonhuman life. Towards the end of the thesis, I suggest that the final frontier for commodity extractivism is beyond planet earth and into intergalactic regions of space. The science fiction genre serves as the final 'extractive zone' that explores colonial imaginaries and, as I will argue, emergent alternatives to the extractive paradigm.

Jennifer Wenzel argues that 'particular literary genres, aesthetic modes, and narrative templates provide the forms through which human understandings of nonhuman nature and its dispositions are forged' (Wenzel, 15). These forms can, as argued above, reinforce the position of the nonhuman as a mere commodity; but they can also, as Wenzel puts it, relay a 'world-imagining from below', that is, a form more attuned to the reality of peripheral spaces (Wenzel, 9). I therefore attend to a range of 'workings of the imagination' (Wenzel, 1), looking beyond just the literary form to other media such as photography, graphic novels, and historical accounts produced in spaces of violent production and extraction. Ranging from the literary, historical, and the visual, my chosen sources express different modes of receiving and attending to environmental crisis and nonhuman suffering. The range of cultural sources moves through different locales of extractive zones across time and space while aiming to centre the nonhuman animal. I open with energy origins of nineteenth century whaling, moving to contemporary energy regimes with crude oil extraction and industrial animal slaughter, following on to the consequences of production with oil spills and road kill, and concluding with energy futures. I therefore forge a trajectory of non-anthropocentric narratives of energy at the periphery.

I use the term 'peripheral fictions' for my chosen sources; this is a term that I adopt from Warwick Research Collective (WReC) to capture the regional focus of my literary and cultural corpus, which examines cultural

material drawn from spaces of extraction typically situated in (semi) peripheral locations. Bringing together different energy rich regions and extractive zones, I demonstrate the differing imaginaries of petroculture in the U.S, Scotland, Nigeria, Canada, the U.K, and, finally, within fictional planets in outer-space. The literary and cultural sources are all situated within the centre of energy production, extraction, or its infrastructure. For Michael Niblett, there is a correlation between literary modes and the phases of commodity life-cycles, in that the 'commodity frontier' is a 'narrative category' (Niblett, 43). Similarly, for WReC, the aesthetics of peripheralisation produce what they describe as an irrealist register. This entails cultural work that engages with supernatural qualities with examples including fantasy, science fiction, magic realism, and the Gothic. As WReC argue, 'irrealist aesthetics' correspond to the conditions and circumstances of 'combined and uneven development' (WReC, 70).[10] They argue that within the periphery new cultural and literary forms may emerge in which the 'shock of combined unevenness is registered with particular intensity and resonance' (WReC, 72). Describing these '(semi-) peripheral aesthetics' (WReC, 72), the collective show how an irrealist register is typically found in texts responding to extractive industries, spaces on the outer edge of global economies. The literary and cultural modes presented in this thesis capture such styles of estrangement and irrealism. From the strange adventures of *Moby-Dick* to the alien encounters in science fiction, as well as the surreal aesthetics of the oil-soaked landscape in Helon Habila's text, I enter cultural sources conceived in extractive zones as a way to discover unlikely encounters. Peripheral forms offer different modes of perception while capturing the material conditions which shape the extractive zone.

I argue that the extractive zone is the context in which Animal Studies and petroculture converge, as lands and regions become utilised for their natural resources, or animal life which is similarly rendered commodity or impacted by the effects of extractive regimes. For Gomez-Barris, the extractive zone magnifies 'the ongoing force of the colonial encounter' (Gomez-Barris, 2). To demonstrate that the extractive zone exposes the combined forces of capitalism and imperialism, I focus on how the legacies of colonialism manifest through energy regimes of extraction. As Gomez-Barris suggests, 'colonial visual regimes normalised an extractive planetary view that continues to facilitate capitalist expansion, especially on resource-rich Indigenous territories' (Gomez-Barris, 6). Gomez-Barris develops this concept in relation to regions of South America that have been affected by colonial histories and neo-colonial enterprises. The concept of the extractive zone echoes the earlier and pivotal work of Eduardo Galeano in *The Open Veins of Latin America.* This text remains crucial in exploring the dynamics of exploitation and resistance in regions of South America. Amongst many other resources including gold, sugar, and silver, crude oil is a resource that dominates the geopolitics of South America. Much scholarship has been carried out that focuses on resource exploitation in these regions such as Suzana Sawyer who explores Indigenous communities resistance to pipeline infrastructure in Ecuador and Marcela Torres Wong's work, as well as Gomez-Barris own case

[10] The category of irrealism is also developed by Michael Lowey within his notion of 'critical irrealism.' Sharae Deckard, WReC member, quotes Lowey noting 'In Löwy's intermediary category of "critical irrealism," otherwise realist narration is punctuated by the "logic of the imagination, of the marvellous, of the mystery or the dream" (196) (Deckard, 355). Irrealism is a register that proliferates in extractive zones, particularly in my chosen sources which pay attention both to the alterity of the nonhuman and the exploitation of the animal's body.

studies in Latin American regions.[11] These works emphasise the ongoing force of the colonial encounter, while also demonstrating the rise of alternatives and resistance that develops within Indigenous communities and environmentalist groups. Through exploring the extractive zone, my own work aims not to simply demonstrate the devastating effects of the fossil fuel economy but to illuminate a mode of resistance to it through cultural forms.

Gomez-Barris argues that the 'extractive view [...] sees territories as commodities, rendering land as for the taking, while also devalourising the hidden worlds that form the nexus of human and nonhuman multiplicity' (Gomez-Barris, 5). Within this frame of the extractive zone, I expand its definition by including the nonhuman animal who is stripped of agency and utilised as commodity. Sharae Deckard suggests that extractivism 'typically takes place in peripheralised zones, from which raw materials are removed and exported to cores for processing and production into commodities' (Deckard, 240). Through the world system of core and periphery, a Marxist dialectic, the production of natural resources occurs in peripheralised zones to fuel consumer centres. Turning to the extractive zone in the literary and cultural imaginary offers a way of magnifying what occurs at the periphery. I expand the periphery to include nonhuman life, typically erased from economic centres to where they occupy a marginalised space in Concentrated Feeding Operations and mass slaughter houses. The space of the extractive zone serves simultaneously as the animal body and the specific regions made materially undeveloped by imperialist capitalism.[12]

Tracing the narratives found in extractive spaces, I aim to address the 'destructive force of capitalism' while exploring the 'expressive and emergent alternatives'(Gomez-Barris, 12). The analysis of the extractive zone can present what Ann Bernard terms 'the resource-value of cultural activism' (Bernard, 367). By introducing the different forms of resistance that occur in the extractive zones, I develop what Michael Marder terms an anti-extractive and 'non-violent paradigm'(Marder, x). Exploring currents of resistance within cultural production from the extractive zone can present seeds of anti-extractive potential, ways of divesting and allowing our ecology to flourish. In Thea Riofrancos' *Resource Radicals: From Petro-Nationalism to Post-Extractivism in Ecuador*, she presents the antagonisms between resource radicals and anti-extractivist

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[11] Although there are many case studies and scholarship into the extractive economies of Latin America, there has also been other scholarship into the exploitation of resource rich areas such as Africa including *Mines, Communities, and States: The Local Politics of Natural Resource Extraction in Africa*, as well as addressing extractivism as predominant mode of modernity such as *Planetary Mine: Territories of Extraction Under Late Capitalism* by Martin Arboleda. In addition to this, Alexander Dunlap and Jostein Jakobsen develop the concept of total extractivism and the world eater to describe the contemporary condition of mass consumption in their work *The Violent Technologies of Extraction Political ecology, critical agrarian studies and the capitalist worldeater.*

[12] This process of undeveloped and maldevelopment of the periphery is expanded upon by Warwick Research Collective who will later form an essential part of my analysis of the periphery. As WReC elaborate, 'Capitalist modernisation entails development, yes – but this 'development' takes the forms also of the development of underdevelopment, of maldevelopment and dependent development. If urbanisation, for instance, is clearly part of the story, what happens in the countryside as a result is equally so. The idea of some sort of 'achieved' modernity, in which unevenness would have been superseded, harmonised, vanquished or ironed out is radically unhistorical.' (WReC, 13). The system of combined and uneven development in which resource rich regions are made materially underdeveloped through the extractive economies enforced by Western actors is further detailed in Walter Rodney's *How Europe Underdeveloped Africa*. I explore this process in greater detail in chapter three of the thesis that details the connections between colonialism, humanism, and capitalism.

movements in Ecuador. Riofrancos explores the divisions between those who aim for national ownership of natural resources against mainly Indigenous communities who protest for an anti-extraction movement. Both groups, however, sought to combat the imperialism of energy politics. The anti-extractive method is something I foreground in my literary analysis of the extractive zone. In my research, I thus develop an anti-extractivist paradigm by invoking a feminist animal studies methodology informed by philosophy, feminism, animal studies, as well as decolonial scholarship.

Outline of Thesis

My opening chapter presents a politics and ethics of vulnerability informed by a feminist animal studies perspective. I suggest that this feminist animal studies approach can offer a combined system of resistance to extractive regimes and violent modes of production, while generating an attentive focus towards nonhuman vulnerability. I turn specifically to Carol J. Adams work in *The Sexual Politics of Meat* and Rob Nixon's *Slow Violence* and utilise their concepts to address the effects of energy regimes on nonhuman life. I frame the issue of 'attention' through Adams' notion of the 'absent referent' and Nixon's concept of 'slow violence', arguing the effects of extraction can often be occluded from view. I then introduce the work of Judith Butler, Simone Weil, and Anat Pick. All three thinkers offer a form of radical exposure to vulnerability which I argue has implications for a renewed energy ethics and its connection to multispecies communities. In addition to this feminist animal studies method, I further draw on decolonial scholars including Kathryn Yusoff, Julietta Singh, and Sylvia Wynter, as well as Marxist scholarship including the Warwick Research Collective. By introducing a feminist animal studies perspective, alongside decolonial scholarship and Marxist literature, I aim to address the material structures of energy production while demonstrating vulnerability as a powerful antidote to present conditions.

The second chapter, 'The Marine Resource: Whaling and the Origins of Petroculture' opens with an analysis of Herman Meville's *Moby Dick*. Reading John McLaurin's historical account in *Sketches of Crude Oil*, I address how the colonial ideologies of nineteenth-century whaling parallel McLaurin's account of crude oil. The two texts reflect Gomez-Barris' notion of the extractive zone, an exploration into regimes of production, as both texts serve as examples of commodity narratives. I expose the colonial imperatives of whaling and the beginnings of oil extraction referring to the frontiers of Western science and the process of rendering land and animal as commodity. Beginning with Scott's understanding of nineteenth century whaling as an age of 'frontier adventure' (Scott, 12), I chart the transitions in energy discourse and trace the legacies of colonialism in energy history. In my analysis, I refer to my feminist animal studies methodology demonstrating the 'creaturely' aspects of *Moby Dick,* the exposure to vulnerability and discovery of finitude. I present creaturely readings of the two texts exploring the inherent contradictions between a violent colonial expedition of resource extraction versus a transformative encounter with a nonhuman alterity. I conclude with the marked transition in energy history from the violent spectacles of early production to the transition

to offshore and rural peripheries, moving into a more hidden process, one that can be categorised by the Fordism era of mechanised and controlled forms of violence.

This next chapter, 'Oil Extraction and Meat Production: Magnifying the Peripheral', examines contemporary forms of energy production that are moved to these peripheralised zones. Drawing together meat production and oil extraction through an analysis of Michel Faber's *Under the Skin* and Nnedi Okorafor's *Lagoon*, I demonstrate how modern energy consumption is organised through what David Harvey terms 'capitalist imperialism'(Harvey, 26).[13] Unlike the spectacles of violence seen in the previous chapter, I here turn to the way violence is obscured by geographical disparities between production and consumption. The narratives are set in Scotland and Nigeria, two very different regions impacted by regimes of extraction. Focusing on these regions and the effects of the production process upon them, I argue that the texts provide a 'telescoping function' (WReC, 17) which reveal the often hidden dimensions of commodity production. Alongside my feminist animal studies perspective, this chapter draws on the WReC collective's formulation of combined and uneven development, of consumer centres/cores and peripheralised spaces of extraction and production. My literary analysis investigates the parallels between oil and meat production, illuminating the occluded spaces of the slaughterhouse and the offshore oil extraction site. In both texts, the operations of capitalist extraction and production are viewed from the perspective of the nonhuman animal. Towards the end of my analysis, I present a feminist animal studies ethics of vulnerability as a possible rupture to the operations of capitalist production, drawing out the encounter with animal vulnerability within the two texts.

Whilst the previous chapter addressed structural and systematic forms of violence inherent to extractive processes, Chapter Four examines their destructive consequences including road kill, oil spills, and contaminated water. These examples are selected due to their capacity to provoke an affective response of grief, pain, or disgust through an encounter with the death of nonhuman life forms. I introduce these affects by turning to sources which return our focus to the nonhuman animal and their environment. I present an analysis of Steve Baker's photography exhibition *Roadside*, Helon Habila's *Oil on Water*, and Rita Wong and Cindy Mochizuki's *Perpetual*. Baker's work records the death of the animal from the collision with the automobile, and displays a montage of images of corpses and their surroundings. Habila's novel follows a journalist, Rufus, as he explores the oil-soaked waters of the Niger Delta. Wong and Mochzuki's graphic novel similarly traces the devastation of petromodernity in the rivers of Indigenous communities in Canada. In each of these sources, I explore the space of capitalist ruin addressing the affective encounter with death and destruction. Focusing particularly on Butler's theories of grief, Sianne Ngai's work in *Ugly Feelings*, as well as Sara Ahmed's notion of the sociality of pain, I then look to the transformative power of affect to invite political resistance to energy imperialism and its ever-expanding infrastructure. The trajectory of the chapter moves through scenes of ruin while generating the mobilisation of an ethical, and perhaps, even a creaturely transition from the age of oil. Uncovering the peripheral space of atrocity and devastation, which

[13] This brand of imperialism, capitalist imperialism, is defined by David Harvey as a hegemonic mode of exploitation that prioritises the economic. How this relates to resource extraction, and processes of combined and uneven development is further elaborated on in chapter three when exploring the movement from nineteenth century whaling to modern forms of energy extraction and production.

are typically erased from cultural consciousness, exposes the violence of energy infrastructure while offering the seeds of hope and resistance.

The concluding chapter examines how these seeds of hope and resistance might develop through the imaginaries of alternative futures within science fiction narratives. Moving away from the contemporary violence of energy extraction and its impact on nonhuman life, I look to narratives of futurity and their engagement with nonhuman life forms and energy sources. Again, employing my feminist animal studies methodology, drawn from Anat Pick, Simone Weil, and Julietta Singh, I expose the ways vulnerability is a modality which can gesture towards a new relation to energy in the SF narratives of Liu Cixin's 'Moonlight', Ursula Le Guin's *The Dispossessed*, and Stanislaw Lem's *Solaris*. Liu Cixin's short story 'Moonlight' provides a cautionary tale of green capitalism, challenging narratives of potential technocratic mastery by demonstrating that renewable energy resources alone are not enough to guarantee a just and ethical future. *Solaris* and *The Dispossessed* alternatively envision a rupture and suspension of human mastery, opening us to vulnerable co-existence with other life forms. *The Dispossessed* follows the character Shevek as he moves from two different planets, one capitalist, the other anarchic. Informed by Weil's notion of attention to suffering, I examine Shevek's desire for communication across barriers and ideological walls, addressing his contemplation on affliction and generating community. My reading of Le Guin's *The Dispossessed* is thus combined with Weil's concepts of affliction and decreation, where I analyse scenes of suffering which generate solidarity amongst others. I then turn to a literary analysis of *Solaris*, informed by Julietta Singh's *Unthinking Mastery.* I argue that the ocean based planet refuses to be harnessed for extractive purposes, instead demonstrating a subterranean agency of its own. The failure of the Solaris scientists to master the planet introduces new potentials for relations which demonstrate Singh's concept of dehumanist solidarities and acts of mutual exploration.

The conclusion argues for the importance of centring a politics of vulnerability for energy ethics and transition. Driven by an impetus of hope generated by the literary and cultural material examined in this thesis, I reveal the imaginative horizons of energy futures. Using Rivers Solomon's *The Deep* as a guiding analogy, I present the concluding sentiment of this thesis: that we must adopt a non-anthropocentric view and ethics which transforms how we perceive and interact with energy, abandoning green capitalist solutions to the energy crisis. Exploring Oliva Laing's question of whether 'art can do anything, especially during periods of crisis' (Laing, 2), I argue that cultural and literary work can generate a change in the violent conditions of energy production, concluding that art may offer different ways of being untethered from the violent drives of extractive economies. As Sheena Wilson argues, 'Energy justice is not a guaranteed outcome of energy transition' (Wilson, "Solarities or Solarculture", 145). My work offers an alternative energy ethics informed by vulnerable encounters with other species, which aims to provide a new perspective on how to conceive energy transition and attend to the nonhuman animal.

METHODOLOGY

Chapter One

The Ethics and Politics of Vulnerability:

Transversal Alliances

Nothing in the world can rob us of the power to say 'I'. Nothing except extreme affliction. Nothing is worse than extreme affliction which destroys the 'I' from the outside, because after that we can no longer destroy it ourselves. What happens to those whose 'I' has been destroyed from outside by affliction?

Simone Weil, 'The Self' (99)

The practice of vulnerable reading can move use "beyond" mastery, not in the sense of exceeding it but in the sense of surviving it in order to envision being otherwise in and for the world.

Julietta Singh, *Unthinking Mastery: Dehumanism and Decolonial Entanglements* (23)

Simone Weil's philosophy centres upon the unravelling of the self through severe affliction, the process of losing the ability and agency to say 'I'. The experience of affliction for Weil is fundamentally tied to bodily vulnerability.[14] Weil contends that 'the vulnerability of precious things is beautiful because vulnerability is a marker of existence' (Weil, *Gravity and Grace*, 108). Like Julietta Singh, Weil understands vulnerability as introducing not only the risk of destruction but presenting something transformative, revealing other ways of being in and for the world, as well as beyond it (towards the divine). Singh's claim about the practice of vulnerable reading suggests that vulnerability is not entirely negative, as she offers a depiction of vulnerability which presents ways of becoming together in common. Weil's concept of affliction is the inevitable result of bodies and lives that are and remain vulnerable and dependent on what exists outside of themselves. To be vulnerable, is to be subject to pain and suffering, open to brute and external force; in Weilian terms, it is to be exposed to the force of gravity – which is the weight of the material world.[15]

[14] Through such severe affliction, Weil suggests the process of decreation emerges, the process of self-becoming unravelled. The act of decreation leads to a closer kinship with God for Weil. As she notes in *Gravity and Grace*: 'If only I knew how to disappear there would be a perfect union of love between God and the earth I tread, the sea I hear.'(Weil, *Gravity and Grace*, 49). The intimacy with God emerges through an attention to the impersonal for Weil, the experience of becoming a 'thing'. What is particularly striking is the ecological aspects of such thinking, of becoming a vehicle to connect with the earth she treads and the sea she hears. Weil's thought is fundamentally theological, focused upon a greater union with God. Yet, despite my secular approach, Weil's work remains significant for an attentiveness to environmental injustice and nonhuman suffering.

[15] For Weil, gravity is the force of the world which draws us away from God. As Weil writes, 'All the natural movements of the soul are controlled by laws analogous to those of physical gravity. Grace is the only

Vulnerability, and its various implications, from affliction, pain, to mutual co-dependency and fellowship, can however offer sites of resistance and hope in moments of despair and violence. Weil's statement that vulnerability is a marker of existence provides the focal point of Anat Pick's *Creaturely Poetics,* which foregrounds a non-anthropocentric ethics and aesthetics, discovering fellowship through vulnerable co-existence across species lines. If vulnerability can serve as a disruptive antidote to the violence against nonhuman others, how might such ruptures foster a challenge to capitalist machinations and the commodification of life? Whilst vulnerability may leave us, in Judith Butler's words, radically 'undone' (Butler, *Precarious Life*, 23), the purpose of this chapter is to demonstrate that vulnerability is a productive modality and site of resistance, offering a position of empowerment over victimhood and despair.

My methodology draws together feminism and Animal Studies highlighting the ways the modality of vulnerability unites them. Both employ the art of noticing, provide methods of exposure, and forge a combined system of resistance. Whilst vulnerability serves as a point of convergence for this feminist animal studies methodology, I also refer to historical materialist and decolonial approaches to address nonhuman and environmental injustice. Providing a combination of the affective and the structural, individual response and material conditions, this methodology generates a challenge to the hegemonic forces that shape human and nonhuman relations in capitalist modernity. Using a variety of conceptual tools while also exploring bodily affects, I look to the recognition of vulnerability as offering the potential to rupture neo-colonial and capitalist regimes of energy production.

I begin by exploring the solidarities between feminism and Animal Studies. Drawing on Sara Ahmed's call for a 'political labour of noticing' (Ahmed, *Living a Feminist Life*, 32), a political act and art to open our capacities in order to recognise those neglected from ethical and political questions, I suggest that noticing is a project that builds alliances against multiple forms of oppression. Introducing ecofeminist concepts of interrelated subjugation and black feminist thought on intersectionality, I show how feminist work provides a lens of exposure and tool of resistance to oppression.

As part of my feminist animal studies methodology, I will focus on the work of Carol J. Adams and Rob Nixon. I argue that the concept of 'slow violence' (Nixon, 1) advanced by Nixon, and Adams notion of the 'absent referent' (Adams, 40) serve as tools of exposure and recognition. In Nixon's words, they point towards the violence that is not typically considered violence at all (Nixon, 2). These methods of exposure focus on the challenges of representation, the cognitive dissonance that often shapes consumption and production, and the systematic and material erasures which occur through commodification.

I then challenge such erasures and violence through a focus on vulnerability as advanced by three crucial thinkers: Judith Butler, Simone Weil, and Anat Pick. The radical formations of vulnerability, dependency, grief, attention, and fellowship are concepts which emerge from these theorists' explorations of violence and

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exception' (Weil, Gravity and Grace, 1). Working under a opposition of gravity and grace, Weil describes how gravity is the materiality of the world whereas grace is the operation of the spiritual and the divine.

its possible antidotes. Using vulnerability as a possible steppingstone to developing just and feminist energy futures, I intend to explore each theorists' conceptual tools as a mode of resistance to extractive economies.

In the following section, to provide the context of commodity production and extractive regimes in specific locales and spaces, I turn to historical materialist and decolonial scholarship. If erasure forms a central component of energy regimes, what specific regions and subjects become marginalised and elided? Introducing the Marxist dialectic of core and periphery, as presented by the Warwick Research Collective (WReC), I offer an analysis of energy production and its consequences through this frame of combined and uneven development. Presenting further analysis of extractive and neo-colonial regimes, I also draw on the scholarship of Kathryn Yusoff, Sylvia Wynter, Julietta Singh, and Alexander G. Weheliye. I thus explore the intimacies of the colonial project of extraction alongside humanist discourse and ideology. If, as Pick suggests, the 'human is a tenuous, fragile construct' (Pick, *Creaturely Poetics*, 27), it is also an ideological one invested in legacies of imperialism that draw oppressive lines of distinction, delineating the "human" from its supposed "others."

This methodology of building alliances across often separated and distinct schools of thought provides a magnified view and exploration of the extractive zone, revealing the hegemonic structures which shape modes of production and obscure their consequences, whilst showing how the present violence of petroculture might be resisted and exploring potential alternatives. I look to the discovery of vulnerability as both a unifying force across discourses and a possible rupture in practices of violent extraction. It is through building paths of solidarity across difference that we 'might begin to construct the provisional infrastructure of a new world amidst the ruins of the old' (Out of the Woods Collective, 5). As the Out of the Woods Collective go on to suggest, 'the ecological crisis is a product of centuries of this system, of innumerable extractions and exploitations, indescribable enslavements and extirpations (4).'[16] Imre Szeman and Jennifer Wenzel note the multifaceted aspects of extraction describing 'the relationship between resource extraction as a moment and process under capitalism (or socialism), and extractivism as an ideology and cultural logic that permeates social imaginaries as well as literary and other discourse' (Wenzel and Szeman, 1). This thesis aims to forge an anti-extractive paradigm in response to violent practices of extraction as they are articulated and visualised through literature and culture. To encourage such an ideological shift, this chapter brings together feminism and Animal Studies, exploring present solidarities and possible future fellowships.

Feminism and Animal Studies: A Combined Method

The act of noticing is at the centre of both feminism and Animal Studies. Both critical discourses serve as systems of exposure that aim to reveal forms of suffering and oppression that are often marginalised and

[16] Out of the Woods Collective produced a collection called *Hope Against Hope: Writings on Ecological Crisis,* where they foregrounded an antithesis to capitalist regimes and production through what they term as 'disaster communism' (11). They aim to generate a collective world building that is against the 'business as usual' and neo-colonial responses to ecological disaster. Their anti-capitalism is inspired by 'Black, Indigenous and anti-border anarchists and communists' (14).

neglected. I argue in this section that we can transform our ethical and political questions by introducing noticing as an art and a praxis, one which revises and ruptures the delineation between the "human" and its nonhuman others.[17] This thesis is an intervention into a prevalent lack of recognition; I thus aim to address the absences, erasures, and silences which lead to certain lives, events, and atrocities becoming peripheral. I combine the methods developed within Animal Studies and feminism in the context of energy culture as way of registering its violence, producing ecological awareness and recognising the destruction of extractive energy regimes.

Feminism offers tools of recognition that can generate new ways of seeing the world, overcoming the violent disparity between what we choose to look at and what is unseen. As Ahmed claims:

> As a child you might have been taught to turn away from homeless people on the street, to screen out not only their suffering but their very existence. They are nothing to do with you. Hurry on, move on. We are learning not only whose suffering should affect us, or how we should be affected by whose suffering; we are busy exercising the very distinction, between those who matter and those who do not. It is a distinction predicated on violence. It is a distinction enforced through violence. We are learning to screen out what gets in the way of our occupation space. Once you have learned this something, you don't notice this someone. (Ahmed, *Living A Feminist Life*, 32).

How might such logic be applied not only to feminist and human rights concerns, but also to those of the nonhuman and environment? It becomes a case of acknowledging what suffering is registered, whose life is of value and who and what is forgotten. Through the combined theoretical lenses of feminism and Animal Studies, we learn to turn towards those who are elided from consciousness and to the often hidden yet pervasive violence inflicted by energy extraction and consumption.

Feminist consciousness can begin with an act of recognition and exposure, an awareness of the disparity between those lives which are considered valuable and those considered subordinate, pushed out of the frame of significance. For Ahmed, 'a feminist consciousness can feel like a light switch that has turned on' (Ahmed, *Living a Feminist Life*, 31) exposing unacknowledged pain and suffering, revealing oppressive structures that may have been previously unapparent. Noticing is a deeply political act, a way of addressing the lives, tragedies, and events which have been erased from consciousness. As Ahmed further notes, 'noticing becomes a form of political labour' (Ahmed, *Living a Feminist Life*, 32), and it is through modes of recognition that we become alert to the oppressive structures and dualisms which shape our world and relations. Through the art of noticing, one can not only recognise conditions of oppression, but can also imagine alternative and creative new ways of being in the world at both a structural and social level.

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[17] Anna Tsing in her anthropological study of matsutake mushroom introduces arts of noticing, suggesting that the environmental crisis requires 'new tools for noticing' (Tsing, 25). My argument that noticing is an art and praxis is more informed by Simone Weil and Anat Pick's concept of attention, a form of attention that is impersonal and where, in Weilian terms, the subject is empty and waiting.

Feminist practice also introduces an ethics of care, and different ways of viewing relations.[18] Specifically, feminism generates the possibility of 'creating relationships with others that are more equal' while addressing 'how to keep coming up against histories that have become concrete, histories that have become solid as walls' (Ahmed, *Living A Feminist Life*, 1). Feminism makes the wall malleable by opening our horizons to new and just futures, in which we form different communities and create unlikely bonds of fellowship.

Developing spaces and bonds of solidarity can be a challenge not only to extend feminist ideas and tools beyond the movements themselves, but also within the many communities and different strands of feminism. As bell hooks' critique of *The Feminine Mystique* makes clear, Betty Friedman's work, for example, concerns the plight of white women, neglecting women of colour and those from working class backgrounds (hooks, 14). To prevent our scope becoming limited in this fashion, I would argue, alongside such texts as *Revolutionary Feminisms* that, 'radical feminist thought and praxis must necessarily be internationalist in its solidarities, alliances and outlook' (Bhandar; Ziadah, 17). What this suggests is a way of broadening the horizons of feminist movements away from the nation state and particular formations of identity, and instead building alliances across difference. My intention here, however, is not to survey the complexities and fractures of different feminist movements, but rather to utilise the tools of particular feminist critiques; nevertheless, it is important to note that feminism is not homogenous, and that there are splinters and fractious relations within it. Despite these differences, feminism offers a vocabulary of plurality and illuminates interrelated forms of oppression that are crucial for developing a non-violent and anti-extractive paradigm.

Black feminist thought offers this sense of plurality. Patricia Hill Collins, a leading figure in black feminist thought, describes intersectionality,

> as a way of understanding and analysing the complexity in the world, in people, and in human experiences. The events and conditions of social and political life and the self can seldom be understood as shaped by one factor. They are generally shaped by many factors in diverse and mutually influencing ways. When it comes to social inequality, people's lives and the organization of power in a given society are better understood as being shaped not by a single axis of social division, be it race or gender or class, but by many axes that work together and influence each other. Intersectionality as an analytic tool gives people better access to the complexity of the world and of themselves (Collins, 14).

Understanding how multiple factors can lay the foundations for different systems of oppression is essential to black feminist thought; intersectionality served as a crucial analytical tool in response to the hegemony of

[18] Feminist care ethics has been criticised for its promotion of gender essentialism, originating with the work of Carol Gilligan. However, interesting work has emerged that moves beyond the focus on gender characteristics and instead looks at the role of care more broadly in environmental practices. In Maria Puig de la Bellacasa's *Matters of Care: Speculative Ethics in More than Human Worlds,* she is 'motivated by the view that care can open new ways of thinking' (Bellacasa, 28). Bellacasa demonstrates the ethics of care by participating within ecologies of soil and more than human worlds.

white supremacy and patriarchy in the workforce, in feminist movements, and in the civil rights movements. What is important to recognise here is how black feminist discourse raised consciousness about interrelated forms of marginalisation while also encouraging solidarity across difference. As Ahmed suggests, feminism is 'the dynamism of making connections' (Ahmed, *Living A Feminist Life*, 3), and therefore can function to generate alliances across difference. Black feminist thought, as epitomised by figures such as Audre Lorde and bell hooks, showed the ways that feminism could expose the intricacies and similarities between race, gender, and class, and therefore configured the battle against patriarchy as not a singular battle taken by certain women alone.[19]

In the same way, ecofeminists and Animal Studies scholars have gone beyond the bounds of the human to suggest further links involving other species and the environment itself. Ariel Salleh's foreword to *Ecofeminism* in the work of Vandana Shiva and Maria Mies, emphasises the word "connect" in the formation of an ecofeminist perspective. As Salleh notes,

> 'Only connect' – this sums up what the perspective is about. Ecofeminism is the only political framework I know of that can spell out the historical links between neoliberal capital, militarism, corporate science, worker alienation, domestic violence, reproductive technologies, sex tourism, child molestation, neocolonialism, Islamophobia, extractivism, nuclear weapons, industrial toxics, land and water grabs, deforestation, genetic engineering, climate change and the myth of modern progress (Salleh, x).

Ecofeminists examine the interconnected oppressions of women and the environment, understanding the 'mastery over and conquest of nature as an expression of capitalist patriarchy' (Mies and Shiva, xviii). Ecofeminism is a grassroots movement, a philosophy, and an analytical tool.[20] Just as we are often moved to become feminists by a sense of injustice, we are similarly affected by the injustices which shape human and nonhuman relations. The negative affective experience when facing gender oppression, or witnessing the suffering of the nonhuman, the destruction of the environment, can produce a movement towards transformative action. As Ahmed expresses, 'a movement requires us to be moved' (Ahmed, *Living A Feminist Life*, 5). It is therefore important to create alliances across divisions and species lines to address the structural conditions which shape different types of domination. By uniting feminism and Animal Studies as a combined practice of resistance, I aim to expose interwoven systems of oppression and demonstrate how the construct of the "human" is deeply embedded within patriarchal structures, as well as later addressing its relation to colonial legacies.

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[19] bell hooks focuses on the intersections of race, class and gender *in Where We Stand: Class Matters.* Another key thinker in this area is Angela Davis with *Women, Race, and Class*. Davis also highlights the problems and racism that occurred in early white feminist movements and the class prejudice that followed.

[20] Another important figure in the different movements of ecofeminism is Greta Gaard, In her work, *Ecological Politics: Ecofeminists and the Greens*, she describes ecofeminism as a 'coming together of insights gained from various movements and historical events […] ecofeminism offers both a critique of existing conditions and an alternative; it is both multiple and diverse' (Gaard, 31). There are various forms of ecofeminism, the one I focus on in particular is developed by Val Plumwood which avoids the dangers of gender essentialism.

This multispecies solidarity between women, animals, and the environment is at the heart of the work of Carol J. Adams, Josephine Donavan, and the ecofeminist Val Plumwood. Understanding and critiquing the ways in which patriarchy oppresses both women and animals becomes a way of liberating ourselves from the rational, masculine, and managerial discourse that subsumes women, animals, and the environment as objects of literal and metaphorical consumption. This recognition of a related oppression serves to create a combined resistance to the capitalist patriarchy. As Donavan and Adams declare in their essay collection *Women and Animals*:

> It could be argued that theorising about animals is inevitable for feminism […] historically, the ideological justification for women's alleged inferiority has been made by appropriating them to animals: From Aristotle on, women's bodies have been seen to intrude upon their rationality. Since rationality has been construed by most Western theorists as the defining requirement for membership in the moral community, women – along with non-white men and animals – were long excluded. (Donavan and Adams, *Women and Animals*, 2).

Donavan and Adams perceive rationality and reason as tools of oppression, denied to certain lives and awarded to others. They argue that reason has been used to differentiate and privilege the human, and the white European male in particular, imposing a distinction they present as tied to a fundamental absence of recognition. As Marilyn French notes in *Beyond Power*, the domination of women and nature is the result of a Western masculine ideal and the denial of a human-animal connection (French, 2). For French, the cause behind this belief in man's superiority is maintained by his alleged access to the higher powers of reason and control. Such didactic distinctions serve to create disposable bodies, which are not recognised as human agents. Val Plumwood's *Feminism and the Mastery of Nature* also interrogates this form of binary thinking; she proposes an integrative project where both 'men and women must challenge the dualized conception of the human identity and develop an alternative culture which fully recognises the human identity as continuous with and not alien to nature' (Plumwood, *Feminism and the Mastery of Nature*, 36). This project enables us to recognise the ways in which patriarchy and male domination are at the centre of the oppression of both women and the nonhuman animal, as well as the exploitation of the earth itself.

Drawing these disciplines together in the context of petroculture is a way of widening our sensory field, allowing us to register how crude oil and its production simultaneously affects the nonhuman and the environment in multiple and varying ways. The aim is to recognise how resource extraction and its environmental and social consequences are maintained by a patriarchal and anthropocentric structure. If we start to notice how petroculture is underpinned by humanist and patriarchal ideals, we can begin to unravel such structures and transition away from extractive regimes. A feminist animal studies thus asks us to turn towards what is distant and unfamiliar, to recognise differences and similarities, to perceive beauty in what is Other while demanding we overcome the distinctions which allow violence to go unrecognised. It introduces ecologies of care, an ethics based not entirely upon sentience, personhood, or subjectivity, but on the basis of vulnerability. Feminism and Animal Studies enable us to acknowledge what is made vulnerable and prevented from flourishing as a consequence of our extractive and consumer cultures. Thus, I turn to

these discourses as a way to simultaneously expose environmental damage and animal suffering and to encourage a transition from fossil fuel energy dependency.

A recurring theme within feminism, Animal Studies, and energy humanities is that of representation and visibility. The question that strikes many petrocritics is this: how do we capture the effects of oil when it appears to slip from the literary, cultural, and social imaginary? Crude oil in particular becomes allusive by corporate evasion, and the nature offshore production.[21] Similarly, feminism and animal studies are concerned with the representation of the voices, images, and lives which are denied social intelligibility and whose suffering or oppression can often be refused visibility. This crisis in representation requires theoretical tools of exposure to render visible the displaced effects of our extractive culture. For this I turn to the feminist and Animal Studies scholar Carol J. Adams and her concept of the absent referent, and also engage with the Environmental Humanities scholar Rob Nixon's understanding of slow violence.

Methods of Exposure: "The Absent Referent" and "Slow Violence"

Carol J. Adams' ground-breaking work in *The Sexual Politics of Meat* offered what she termed as feminist-vegetarian critical theory. The concept I wish to explore in greater detail is that of the 'absent referent' (Adams, 20). Nixon's *Slow Violence and Environmentalism of the Poor* is a similarly pivotal work which articulates what can be the slow moving atrocity of ecological damage through his concept of 'slow violence'(Nixon, 1). Both scholars have different ambitions: Adams focuses mainly on animal and feminist ethics and meat consumption, whereas Nixon aims to articulate the devastation of the environment through literature in areas of the Global South. Nevertheless, there are commonalities shared between these two theorists involving representation, recognition, and exposure. I use these concepts in tandem to point towards the nonhuman suffering and ecological destruction which can often be erased from cultural focus.

Adams' absent referent articulates the severance and cognitive dissonance of meat eating. When purchasing meat we do not associate the neatly packaged and processed *item* or *commodity* with the living, breathing animal it once was. The absent referent thus functions as a form of displacement, detaching us from any ethical recognition which might hinder our consumptive habits. In Adams' account, this displacement functions in three ways. Firstly, there is a physical displacement, in which animals are slaughtered far from the view of the consumer, sequestered in an enclosed location from which their suffering can be neither seen nor heard by the public which will consume them. Secondly, there is a linguistic displacement, in the sense that we adopt a different style to address the animal we are about to consume: they are spoken of in the aesthetic terms of a cuisine, rather than through terminology which might suggest a formerly living creature. The third operation is that of metaphor, where the actual figure of the exterminated animal is replaced with

[21]Sheena Wilson describes this process in *Sight, Site, Cite, Oil in the Field of Vision*. As Wilson describes: it could be argued that oil is a uniquely occluded substance: not only does its exchange value engender an enormous corporate project of hiding, an explicit machinery of deception and spin, its pervasiveness, its presence everywhere, perhaps singularly christens its position as "hidden in plain sight" (Szeman & Whiteman)' (Wilson, Imaginations, 2).

a metaphorical use of meat as a reflection of one's experience in terms of an inert product: to 'feel like a piece of meat' is not to recognise animal meat for what it once was, but to think of oneself in terms of the manipulated object we have made. These three functions produce a selective amnesia which enables consumption without any ethical obligations towards the nonhuman animal.

For Adams, ‘the absent referent can be anything whose original meaning is undercut and absorbed into a different hierarchy of meaning’ (Adams, 21) and for the purposes of this thesis I will be reapplying the concept to petroculture. To that end the most significant dimension will be the physical displacement of the effects of oil consumption. Like the meat industry, the effects of oil culture are shaped by a sense of displacement, whereby we enjoy the pleasures permitted by our fossil fuel lifestyles with little or no regard for the consequences of environmental degradation. Such a parallel has been noted by Melissa Haynes in her analysis of the animal’s role within energy development:

> Just as oil extraction sites stand at distance from gas stations, concentrated animal feeding operations and meat packaging plants are kept at a remove from urban centres, and bloodless packages of beef and pork are hard to imagine as ever having been cows or pigs (Haynes, 36).

I intend to further these parallels by drawing together Adams’ concept of the absent referent with Nixon’s notion of slow violence. I further advance Haynes’ argument by elaborating on the parallel mechanisms which shape both energy production and the treatment of nonhuman animals. The combination of the absent referent and slow violence allows me to address and magnify these operations of displacement and abstraction.

Nixon opens *Slow Violence and Environmentalism of the Poor* with an epigraph from Arundhati Roy:

> I think of globalization like a light which shines brighter and brighter on a few people and the rest are in darkness, wiped out. They simply can’t be seen. Once you get used to not seeing that something, then, slowly, it is no longer possible to see it. (Roy, 1).

Nixon’s epigraph indicates the uneven nature of representation in our globalised world, within which our focus is directed only to certain lives, tragedies, and events by the mass media. Like Adams’ absent referent, Nixon hopes to overcome these representational challenges by using theoretical tools of exposure. Nixon conceives of the concept of slow violence as a way of capturing the events elided from view due to the ‘spectacle deficiency’ which ensures they are not considered newsworthy. He defines slow violence as ‘a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all.’ (Nixon, 2). What unites Adams’ and Nixon’s work is their focus upon what ‘remains outside our flickering attention spans- and outside the purview of a spectacle-driven corporate media’ (Nixon, 6). Slow violence and the absent referent can thus both help us to draw attention to the often invisible violence of petroculture. Despite Nixon’s specific focus on environmental damage, and Adams’ focus on the suffering of the nonhuman animal, the central concern for both theorists is that of recognition. Connecting these two concepts will therefore serve as the ground for a radical work of exposure which reveals the connections between a planetary crisis and

the continued oppression of the nonhuman animal. Nixon and Adams point us towards this crisis in representation, whereby they acknowledge the environmental damage and animal suffering which is absent from consciousness. Narrative and art from the periphery therefore offers ways of contending with this crisis in representation. For Nixon and Adams, it is a case of 'making the absent referent present' (Adams, 22), producing a 'different kind of witnessing: of sights unseen' (Nixon, 15). The literature and culture I examine expose these different kinds of witnessing, producing presence in the space of absence.

But how might we cultivate such recognition, allowing the effects of our fossil fuel culture to be revealed? For this I turn to three exemplary thinkers of exposure in the fields of feminism, philosophy, and animal studies: Judith Butler's work on grief and vulnerability, Simone Weil's philosophy and decreative ethics, and Anat Pick's *Creaturely Poetics*. Weil's extraordinary statement that 'the vulnerability of precious things is beautiful because vulnerability is a mark of existence' (*Gravity and Grace*, 108), encapsulates what I wish to draw from these figures: an ethics which incorporates a responsibility towards the animal Other grounded not in their possessing particular (human) qualities, but instead from a recognition of their vulnerability. Having vulnerability as our focal point allows us to turn to a 'different kind of witnessing' which produces 'sights of the unseen' (Nixon, 15), addressing all life and thereby including all that which falls outside of our current ethical radar. Attuning ourselves to the vulnerability of other species and the earth itself can lead us to an ecological awareness and ethics which would enable us to escape our fossil fuel intensive lifestyles and engage in more sustainable practices and envision feminist and just energy futures.[22]

Radical Vulnerability: Butler, Weil, and Pick

The ecofeminist Val Plumwood details a personal account of what she terms "becoming prey" in the event of an attack by a crocodile. In response to the media's exaggeration and demonisation of her attacker, Plumwood writes about the concept of invulnerability – something she views as 'typical of the mind of coloniser' (Plumwood, *Being Prey* 34). The experience of being prey allowed for a reflection on the demarcations the West builds between itself and nature. As Plumwood notes, 'in the West, the human is set apart from nature as radically Other' (Plumwood, *Being Prey*, 34). For Plumwood, the outrage invoked by the media over the incident of her becoming prey is nothing but a reminder of our own animality, in which we are also vulnerable to others, and the terrifying prospect of becoming meat. The implication of such an attack is the unbearable reality of our own radical vulnerability.

Butler, Weil, and Pick's philosophical thought and analysis is anchored in such conditions of vulnerability. Like Plumwood, however, the revelation of vulnerability leads not to a cry of despair but to the building of solidarity, of recognising a multispecies and global community. In what follows, I detail central concepts from Butler's later work on grief, Weil's philosophical enquiries into attention and decreation, and Pick's

[22] Stacy Alaimo's also explores the importance of vulnerability in her book *Exposure: Environmental Politics and Pleasures in Posthuman Times*. I choose to focus on Butler, Pick, and Weil's definition of vulnerability which foregrounds suffering, grief, and pain as a focal point for interdependency.

creaturely fellowship and notion of 'letting be.' The operations of exposure and recognition remain central modalities of the following exposition, which aims to demonstrate vulnerability as a force of collective resistance. The purpose of bringing these three thinkers together is to explore the vulnerability and affect and how this leads to a path towards fellowship.[23]

Butler's work in *Precarious Life*, *Frames of War*, and her most recent book, *Force of Non-Violence*, centres on the politics of mourning and bodily precarity. In the earliest account of these concerns, Butler discusses the absence of mourning for the violence that the US inflicts on regions in the Middle East. As Butler argues,

> There are no obituaries for the war casualties the United States inflicts, and there cannot be. If there were to be an obituary there would have had to have been a life, a life worth noting, a life worth valuing and preserving, a life that qualifies for recognition. (Butler, *Precarious Life*, 34)

Butler describes the uneven distribution of grievability, outlining a certain politics and hegemonic structure to acts of mourning. While Butler's work focuses primarily on the human, I wish to extend her insights to the nonhuman animal and the environment by acknowledging the ways we are embedded in more than human worlds. Her work invites the question of how we are to form an ethical response to those we cannot see, whose names we cannot know, to those whose form and face are not familiar and even those who do not possess a face at all.[24] How might such questions allow us to think ecologically with Butler's work, moving beyond the domain of the human to consider the vulnerability of all life forms? For Butler,

> an obligation does emerge from the fact that we are, as it were social beings from the start, dependent on what is outside ourselves, on others, on institutions, and on sustained and sustainable environments, and so are, in this sense, precarious (Butler, *Frames of War*, 23).

I would argue that Butler's thinking enables us to consider how we are not only mutually dependent on other humans, but also on the environment and different species. Becoming aware of our own sense of precarity and of the world around us invites a non-anthropocentric perspective which rejects species hierarchy and human exceptionalism, and allows us to view nature not as entirely instrumental to the human species, but instead as comprised of vulnerable agents entitled to flourish.

For Butler, certain states of vulnerability can be induced through the experience of grief. Butler remarks that loss 'makes a tenuous we of us all' (Butler, *Precarious Life*, 20) in that 'something about who we are is revealed, something that delineates the ties we have to others' and which 'shows us that these ties constitute

[23] Theories of affect and its significance to climate injustice will be theorised at length in Chapter Four. My intention here is to provide an overview of vulnerability and its implications for energy. Chapter Four, however, focuses on the development of affect theory, the significance and theorisation of grief from Sigmund Freud to Butler. Another affective dimension that will be later introduced will be disgust in relation to Sianne Ngai's work in *Ugly Feelings*, exploring processes of deflection and rejection of nonhuman suffering.

[24] Butler's ethics on precariousness is inspired by the philosophy of Emmanuel Levinas. Anat Pick comments on this influence, noting 'For Levinas, the other person, in its very fragility, calls the self into being. In the sway of responsiveness to someone else, subjectivity forms. In this way, Levinas argues, the other precedes the self, and ethics— the primordial encounter with another— precedes ontology (my existence as an autonomous subject)' (Pick, 'Vulnerability', 416). The significance of the face of the Other comes to the fore in Levinas' philosophy, an Other which precedes the formation of the self and brings the self into being.

who we are, ties or bonds that compose us' (Butler, *Precarious Life*, 22). Grief evokes a sense of fragility which reveals what makes us who we are and what binds us to other creatures and the world around us, implicating us in lives which are not our own. Butler argues, however, that whoever becomes the subject of mourning is dependent upon our notion of who is recognisably human.[25] The solution for Butler is to focus upon the human face as a buffer against the vicious brutality which derealises certain lives – working against de-humanisation through the recognition of a common humanity and vulnerability which serves to address the anonymous 'Others' excluded from our ethical sphere. Butler frames her argument in the aftermath of September 9/11, a traumatic event which produced a sudden realisation amongst the American people and the West that even they were vulnerable subjects. Reflecting on the implications of injury, grief, and vulnerability, Butler declares,

> To be injured means that one has the chance to reflect upon injury, to find out mechanisms of its distribution, to find out who else suffers from permeable borders, unexpected violence, dispossession, and fear, and in what ways (Butler, *Precarious Life*, XII).

Our exposure to injury and loss reveals how we are subject to what exists outside of the self. America's response to this vulnerability, however, was the waging of perpetual war. The inclusive power of recognising a shared state of precarity and vulnerability, the ability to form a collective 'we', failed in America's case and instead formulated an 'us' and 'them' divide, a shoring up and solidifying of borders, and the proliferation of violence. Butler, however, suggests an alternative non-violent ethics to the exposure to vulnerability and grief, one which can evoke a sense of compassion and solidarity, and inspire a quest for global justice. The mass outrage and grief surrounding 9/11 led Butler to a consideration of how different tragedies and deaths hold an uneven political power. Turning to the prisoners of Guantanamo Bay and those lives lost due to US military invasion, Butler notes how certain lives will be highly protected while others will find no such value or support. They appear as 'faceless' or 'whose faces are presented to us as so many symbols of evil, authorising us to become senseless before those lives we have eradicated, and whose grievability is indefinitely postponed' (Butler, *Precarious Life*, xvii). In the face of such violent exclusion, Butler's argument, however, in this earlier work, remains anthropocentric focused primarily on human events and tragedies.

While I agree with Butler's call for a radical sense of openness towards the Other, I believe this cannot be accessed through an expansion of humanism, but rather through its retraction. Initially, Butler situates her ethics as a response to specifically human tragedies, forgetting that our interactions are built upon more than human worlds. This anthropocentrism is revised in her most recent work. As Butler argues,

> An ethics and politics of nonviolence would have to account for this way that selves are implicated in each other's lives, bound by a set of relations that can be as destructive as they can be sustaining.

[25] Chloe Taylor highlights Judith Butler's omission of animals in Butler's theorisation of precarious life in the essay *The Precarious Life of Animals, Butler, Coetzee, and Animal Ethics*. James Stanescu, however, finds Butler's work a productive frame to chart what he terms as a 'queer and feminist animal studies' (Stanescu, 567). I likewise utilise Butler's work to think beyond the human frame.

> The relations that bind and define extend beyond the dyadic human encounter, which pertains not only to human relations, but all living and inter-constitutive relations (Butler, *The Force of Nonviolence*, 9).

As Butler's recent work suggests, which lives we consider grievable has important implications for our relations to other species and the environment itself. If grief and vulnerability possess a transformative power, igniting a sense of solidarity and interdependence, they can also serve to create more just ways of living and a way to empathetically engage with the world.

In order to mourn a lost life, however, it must be considered a life in the first place. As Butler notes, "there are subjects who are not quite recognisable as subjects, and there are lives that are not quite – or, indeed, are never - recognised as lives" (Butler, *Frames of War*, 4). It is my intention to not focus primarily on subjectivity as the basis of our ethics and grounds for the work of mourning. Instead, in order to mourn beyond the human, we must utilise Butler's notion of vulnerability as a way of recognising nonhuman life.

Mourning can perhaps be a tool to respond to ecological and planetary crisis. As Ashlee Willox Cunsolo notes 'we need the mechanisms to extend grievability to non-human bodies and recognise them as mournable subjects, particularly within the discourses of climate change.' (Cunsolo, 141). The political implications of who is to be considered grievable and who is not provides an insight into the operations of power that determine which bodies are publicly valued over others. To highlight the deaths left outside of public obituaries and the bodies denied social intelligibility, to mourn those deemed unmournable, can become a powerful form of resistance.

Willox cites evidence of the transformative and affective power of mourning during the 1990s AIDs crisis protests. She does not try to equate the lives of nonhuman animals and the environment with those lost to the AIDS epidemic but instead aims to highlight how the activists' struggle for recognition and how they channelled grief and loss into political action. Mourning in this way presented a form of resistance which served to empower bodies which had been denied ethical value. For Willox, this type of mourning is a recognition of the lives of the oppressed and serves to enforce solidarity and inspires intervention, providing a framework we can apply to climate change, utilising the grief we feel over the loss of biodiversity, nonhuman suffering, and environmental destruction to create political and environmental change. In Deborah Gould's research on the AIDS activist group ACT UP, she notes: 'affect, in short, has the potential to escape social control, and that quality creates greater space for counter hegemonic possibilities' (Gould, *Moving Politics*, 39). Gould's account of the period notes how death and loss surrounded the activists and how 'mourning became militancy within the movement' as grief turned to anger and action (Gould, *Moving Politics*, 8). Their public displays of mourning and political funerals served to 'redefine the AIDS body as something mournable and something absolutely imperative to grieve publicly and openly' (Willox, 147). It became a way of reconstituting the rights of subjects who were denied social intelligibility and of demanding the recognition of those lost to the epidemic within public discourse. As Eve Sedgewick states, 'it's been one of the great ideological triumphs of AIDS activism that, for a whole series of overlapping communities, any person living with AIDS is now visible' (Sedgewick, 24). The movement utilised the power of affect,

mourning, and the art of noticing to demand change in how the victims were treated by government bodies and wider society.

Although I am not attempting to conflate the AIDS activists' struggle for health care, structural change, and recognition with animal ethics and environmental protest, the revelation of how marginalised bodies became ethically and politically relevant through the affective and transformative effects of mourning has parallel possibilities for igniting environmental justice. The case serves as an inspiring framework for a combined feminist Animal Studies where exposure and recognition can generate structural and political change. Memorialising death and destruction – human, animal, and plant – is a radical form of attention, a message of our present and past co-existence, a reminder of how we are bound and affected by one another and that our relations and interactions shape who and what we are.

While grief and mourning has been revealed as an essential aspect of any politics of recognition or visibility, generating affect and the possibility of action, it must be joined with a further recognition in the form of a vigilance and an attention to the vulnerability of the living. Like the work of Butler, the philosophy of Simone Weil provides us with exemplary methods of exposure. For Weil, 'attention is the rarest and purest form of generosity' (Weil, *Gravity and Grace*, 104). Attention is a way of attuning ourselves to the suffering of the Other, making ourselves open and receptive to their experience of affliction. As Weil writes, 'attention consists of suspending our thoughts [...] our thought should be empty, waiting, not seeking anything, but ready to receive in its naked truth the object that is to penetrate it' (Weil, *Gravity and Grace,* 104). My purpose in turning to Weil is to demonstrate how her work offers ways of suspending human mastery and revealing an attentive quality to nonhuman vulnerability. Like Julietta Singh, Weil's thought involves an act of dispossession revealing vulnerable modes of perceiving. Singh's project is to work towards mastery's undoing. Weil, likewise, presents ruptures in sovereignty and outlines the possibility of living in more just and equal ways.

Weil's scholarly work and life were motivated by her search for truth and her attempts to transcend the arbitrary demarcations that segregate and divide us. Her concept of attention is a way of reading others which moves beyond previous preconceptions and constructions of difference, revealing the subject in all its truth and vulnerability. Such a call for a radical sense of openness is fundamental to the theoretical model of feminist animal studies which I am proposing. By adopting Weil's notion of attention within the context of energy culture, we can address not only how fossil fuels have impacted human lives but can also open ourselves to the ways it has shaped and effected the lives of the nonhuman.

For Weil, attention also names a love for one's neighbour, a message of compassion which is arguably an inherently ecological one. As Timothy Morton has argued, 'Ecology is about radical co-existence', in that thinking ecologically 'involves becoming open, radically open – open forever, without the possibility of closing again' (Morton, *Ecological Thought*, 18). Morton's definition of ecological thinking reveals how Weil's thought can be connected to an ecological consciousness which perceives the self as an interdependent being, subject to circumstance, and open to what exists outside itself. In her letter to Father Perrin her desire for a radical sense of co-existence is self-evident: 'I have the essential need, and I think I

can say vocation, to move among men of every class and complexion, mixing with them and sharing their life […] merging into the crowd and disappearing among them' (Weil, *Letter to Father Perrin*, 1). Weil's vocation is shaped by her to desire to understand and to empathise with the Other. Attention leads to a kind of interpersonal merger, one which results in a divine sense of compassion. As Weil herself notes, 'a divine inspiration operates infallibly, irresistibly, if we do not turn away our attention, if we do not refuse it' (Weil, *Attention and Will,* 233). For Weil, pure attention consists of this divine and supernatural quality, allowing us to turn to suffering in all its unbearable forms and expose our own sense of fragility. Despite Weil situating her ethics within this predominantly human and theological sphere, her philosophical thought invites us to look beyond the human and attune ourselves to what has been excluded.

One of the ways we achieve this state of pure attention is through the experience of affliction – the endurance of a suffering so psychologically and physically severe that one no longer views themselves as a subject and instead becomes depersonalised, 'an anonymous focal point of pain' (Pick, *Creaturely Poetics*, 31). It is a process where the 'I' is lost, and we become 'deprived of personality and made into things' (Weil*, Love of God*, 73). This experience according to Weil is not an altogether negative one, for to accept the blind incomprehensibility of suffering can lead to a sense of compassion. For Weil, the recognition of the finitude and vulnerability of human existence through affliction results in a closer relation to God and a deep sense of empathy for our neighbours. Although religiosity is fundamental to Weil's thinking, I am more interested in the ways her philosophical method enables us to read and understand the suffering of other humans and different species. Weil's thoughts on affliction offer a different approach to dehumanisation, one in which it can be transformed, like mourning, to develop an other-centred ethics.[26] Weil relates her own experience of affliction to her experience as an employee in a Renault car factory. She declares that, 'Here you are nothing. You simply do not count. You are here to obey everything, to keep your mouth shut' (Weil, 60). Weil's analysis of the roots of oppression in manufacturing work reveals how one becomes an object, deprived of agency, losing the ability to identify as a subject.

The radical sense of openness that Weil achieves through the notions of attention and affliction offers an alternative way of thinking about energy culture and its effects, one in which we recognise the earth and its creatures not as instrumental to human needs. As Pick has noted, 'attention is anti-philosophical; it does not produce arguments or truth claims about its object' (Pick, *Creaturely Poetics*, 5) but is instead a way of seeing without identification. It is therefore a way of widening our perspectives and producing an ethics which goes beyond the principle of familiarity and anthropocentric frameworks. Like Butler's interpretation of mourning, affliction and attention can hold a transformative power that enables us to recognise the oppression of the nonhuman animal, the vulnerability of plant life, and our ecologies.

[26] Yoon Sook Cha develops an Other-Centred ethics through Simone Weil's philosophical thought. Such an ethics is built upon an interdependency with others – how the Other's cry of suffering creates an ethical bind. Yoon Sook Cha's reading of Weil is fundamental to my analysis in the final chapter, where shared conditions of suffering generate acts of solidarity.

Yoon Sook Cha suggests that a decreative ethics emerges from Weil's philosophy, which leads to an ethical bind towards the Other. Decreation for Weil can sometimes result in discovering the ultimate absence of God through the experience of affliction. As Weil writes,

> What is terrible is that if, in this darkness where there is nothing to love, the soul ceases to love, God's absence becomes final. The soul has to go on loving in the void, or at least to go on wanting to love, though it may be only with an infinitesimal part of itself (Weil, *The Love of God and Affliction,* 172).

Within the endurance of affliction, however, a sense of the divine operates as a form of love from God, which manifests through an attunement to one another, an address to and care for the afflicted. As Lisa Radakovich Holsberg suggests, 'decreation allowed human beings to participate in the love of God through the loving of another' (Holseberg, 63). For Sook Cha, the modalities in Weil's philosophy from attention, affliction, and decreation, offer a process of withdrawal, a way of removing operations of power. This produces a decreative ethics which has the following aim:

> For the decreative aim of obligation is specifically to preserve the other from harm, so as to preserve the core of his impersonal being. Accordingly, one does not exactly "do" anything, as it were. And the help that one proffers models a withdrawal of claims to mastery and sovereignty. (Sook Cha, 4)

The withdrawal of sovereignty and mastery is a key aspect of my approach to energy regimes and relations. If we are to conceive of just energy futures, how might the withdrawal of mastery become significant to move beyond the techno-utopian dreams of capitalism's management of nature? To withdraw is to become attentive to injustice, as Weil writes: 'the spirit of justice and truth is nothing else but a certain kind of attention, which is pure love' (Weil, *The Human Personality*, 92). Withdrawal, or what Pick later comes to refer to as 'letting be', offers a distinct form of love which is impersonal and distant. Through Weil's philosophy, we begin to feel the earth on which she treads. Although Weil's ambitions are fundamentally tied to the search for God, the implication of her philosophy can be towards the earth, to hear the cry of afflicted, to help heal the anonymous wounds of another.

Anat Pick's work in *Creaturely Poetics* is inspired by Weilian thought, and she looks to the transformative and positive effects of reclaiming dehumanisation. As she declares in her introductory chapter, 'I am interested in whether and how dehumanisation can be reclaimed as, at least partly, positive.' (Pick, *Creaturely Poetics,* 4). She introduces her concept of the creature: 'a living body – material, temporal, and vulnerable' (Pick, *Creaturely Poetics*, 5). Reading through a creaturely prism is a way of rejecting the human/animal binary, discovering a shared vulnerability across difference. For Pick, the human itself is not a neutral term, but on the contrary is shaped by structures of power where everything outside of 'man' is either reduced to a disposable body or branded as a resource for human utility or consumption. Pick introduces the notion of the creature as an opportunity to reconceive our own sense of animality, the fundamental finitude and vulnerability which we share with nonhuman and vegetal life.

Pick's creaturely poetics is grounded in corporeality and vulnerability, revealing a common embodiment with other species, which demonstrates a shared susceptibility to injury and pain. For Pick, the recognition of shared vulnerability can generate new forms of a multispecies community and compassion (Pick, *Creaturely Poetics*, 69). Despite Pick's emphasis on the corporeal, however, the environment does not have to be excluded from the ethical radar of the creaturely. On the contrary, the creaturely theoretical framework allows an open approach to life which can include insects, plants, and the environment itself. This open framework is not a means of subsuming all forms of life into one category, but a way of recognising their nuances, differences, and similarities – developing a non-hierarchised space where it is not an ethical case of *either or*, but an inclusive and definitive *and.*

In order to become creaturely subjects, we must recognise our shared sense of vulnerability with all living things. For Pick, an orientation towards vulnerability offers a mode of exposure. She states that 'universal and shared vulnerability blurs species distinctions since humans and non-humans alike are subject to natural law, to injury and death.' (Pick, 'Vulnerability,' 2). Recognising our finite and temporal condition can enable us to form an alliance with plant life and nonhumans as the perception of our shared state of precarity leads to an illumination of our co-dependency and our responsibility to allow other creatures to not only survive but to flourish. Pick's focus on vulnerability becomes a way of breaking down the violent borders of humanity, removing arbitrary constructions by revealing similarity and adding nuance to our differences; she is guided by Weil's thought in the sense that she 'would like to make it, not less painful, only clearer' (Weil, *Letter to a Priest,* 1). Like Weil and Butler, Pick is concerned with how the exposure to vulnerability can lead to ethical action. Both Weil and Pick are concerned with non-vocal expressions of pain and suffering, that which is often unexpressed or too severe to articulate, or with no common language to express it.

The often inexpressible nature of pain is articulated by Elaine Scarry:

> When one hears about another person's physical pain, the events happening within the interior of that person's body may seem to have the remote character of some deep subterranean fact, belonging to an invisible geography that, however portentous, has no reality because it has not yet manifested itself on the visible surface of the earth. Or alternatively, it may seem as distant as interstellar events referred to by scientists who to us mysteriously of not yet detectable intergalactic screams of very distant Seyfert galaxies, a class of objects within which violent events of unknown nature occur from time to time. (Scarry, *The Body in Pain*, 4).'

Scarry highlights the difficulty in understanding and empathising with another human being's suffering; the nonhuman is not her focus, but her argument suggests the difficulty of recognising pain beyond the human where there is no familiar schema to rely on or an immediate acknowledgment of a shared condition. Pick perceives such inability to recognise bodily pain in other creatures as a process of deflection, a term she borrows from Cora Diamond. Deflection, Diamond contends 'happens when we are moved from the appreciation, or attempt at appreciation, of a difficultly of reality to a philosophical or moral problem apparently in vicinity' (Diamond, 57). It is a process of refusal, an inability to recognise and perceive the

other as someone or something familiar. Pick's return to the corporeal reality then is perhaps a method of communion and connection; it demands the communication of bodily vulnerability and the recognition that 'like all living beings: animals are temporal and finite: they are born, they live, and they die' (Pick, *Vulnerability,* 2). It is this 'rawness of nerves', a bodily affective response, which allows us to register extractive violence and its impacts on nonhuman life and the environment.

Butler, Weil, and Pick all focus on the negative consequences of vulnerability, such as mourning, pain, and death, and how these may lead to ethical recognition and action. As Pick suggests,

> Vulnerability dispassionately denotes the condition of being embodied as necessarily limited, and limited by necessity, but always already encompassing the dialogic relation between bodies that underlies caring. Within this vulnerable range are possible all kinds of experiences (Pick, *Creaturely Poetics*, 15).

Pick notes how there are a variety of possibilities that come with focusing on our corporeal vulnerability, experiences which can lead to ecologies of care. Often, however, vulnerability does not lead to ethical action but to a state of anxiety and a reassertion of humanity in the face of suffering. Pick explores this within the context of the Holocaust declaring that 'cultural anxiety over species identity determines the ways the Holocaust is and is not represented.' (Pick, *Creaturely Poetics*, 24). The Nazi genocide of the Jewish people is shaped by a rhetoric of de-humanisation, denying their identity, and reducing them to the status of objects. In the face of such brutality, Pick highlights how literature in the aftermath of the traumatic events lead to scholarship which focused on the reclamation of humanity in works such as Primo Levi's *If This is a Man*. As Pick goes on to state, the goal is to reassert human dignity in the face of atrocity (Pick, *Creaturely Poetics*, 24). Pick explores the imperatives of reclaiming humanity after an exposure to unbearable vulnerability. Nevertheless, the unravelling of the human identity, in its 'doing and undoing,' reveals it as 'a tenuous category, a fragile construct' (Pick, *Creaturely Poetics*, 27). Unlike Butler, Pick is interested in reclaiming animality after the endurance of de-humanisation, understanding how atrocity can leave us stripped of the constructs we use to divide ourselves from the nonhuman animal. Inspired by Weil's thoughts on affliction, Pick explores how severe suffering can lead to philosophical and intellectual insight. The afflicted are, in the words of Weil, like 'a being struggling on the ground like a half crushed worm' (Weil, *Love of God*, 69). Pick notes how Weil conceives of such affliction and suffering as a 'divine technique, a sort of theological gateway.' (Pick, *Creaturely Poetics,* 31). It becomes a way of accepting the blind and incomprehensible suffering all species face, and the damage that is often felt but not yet perceived or recognised. In so doing, we can establish a sense of relational subjectivity, defined not by what we are, but by the relations and the environment which surrounds us. Such a perspective has important ramifications for energy culture and allows us to understand the violence it presently inflicts.

Pick's creaturely fellowship manifests as transformative action as it becomes a 'way of illuminating the relations we currently have – and the ones I believe we ought to have – with the world around us, human, animal and other' (Pick*, Creaturely Poetics*, 156). Utilising Weil's notion of attention, Pick illuminates the connections and bonds that can be formed and are already in place beyond the human. For Pick, 'Fellowship

is ridiculous, ungainly, carnivalesque even – but solid and unquestioning. It is rooted in bodies exposed to time and (literally the roller coaster ride) at the mercy of gravity' (Pick, *Creaturely Poetics*, 188). By taking notice of our embodied reality, we find that we are not atomised creatures, but are embedded within and interdependent on other species and environments. All living things are 'both appreciators and victims of a material existence' (Dorsky, 17). This statement, for Pick, is where a creaturely poetics begins: a simple truth which conveys our vulnerability and our suffering as an inevitable consequence of our embodiment. Recognition of one's own finite conditions, as well as those of other species is, as Pick articulates, 'the communication of the extraordinary through the ordinary' (Pick, *Creaturely Poetics*, 191).

Vulnerability, and its various manifestations in the work of Butler, Weil, and Pick, offers an ability to attend to and hear the cry which can remain unarticulated and non-vocal. However, there is another concept that remains crucial for my literary analysis of energy extraction: Pick's notion of "letting be", further inspired by Weil's philosophical thought. Pick's understanding of 'letting be' is that it is 'a conservationist impulse that honours the existence of beings and things by looking-without-devouring' (Pick, *Iris Murdoch Review*, 49). Pick describes how Weil repeatedly returns to the act of looking. For Weil, to gaze upon beauty is to remain distant, yet empty, a non-devouring gaze which is attentive and open. This act of withdrawal for Pick is a process of letting be, something which is developed through the act of attention. Pick notes, 'as a disposition and a technique, attention entails a relaxing of personal will and the cultivation of detachment, which allow the object to emerge more clearly' (Pick*, Iris Murdoch Review*, 51). This sense of detachment offers a mode of mutual exploration rather than domination or mastery. As I will later explore in the work of Julietta Singh and decolonial practice, vulnerability presents new relations which are non-masterful as we withdraw from the lure of sovereignty.

As I argued in the second section, Rob Nixon and Carol J. Adams point us towards the amnesia which occurs in the face of ecological damage and the slaughter of nonhuman animals and to the disparity which exists between production, consumption, and their consequences. This disjuncture is predicated on violence, the process of choosing to turn away, and a demonstration of the uneven development of the capitalist world system. Weil articulates this uneven process in the following statement: 'A power, whatever it may be, must always tend towards strengthening itself at home by means of successes gained abroad' (Weil, 60). The process of succeeding abroad can be aligned with Western powers' means of accumulating resources from other locations across the globe and leaving environmental devastation elsewhere and physically out of sight. There is a politics to what 'remains outside our flickering attention spans – and outside the purview of a spectacle driven corporate media' (Nixon, 6). Turning to Butler, Weil, and Pick, however, as a combined praxis of a feminist animal studies, united through vulnerability, becomes a way of opening our attention to what has been excluded from the spectacle driven media and the anthropocentric narrative. Nixon's identification of the 'representational challenges' (Nixon, 10) confronted by cultural theorists in the face of ecological devastation are addressed through these three exemplary thinkers of exposure. Through mourning, affect, affliction, as well as the creatural thought, we find that the ecological devastation and animal suffering, at the centre of energy extraction, can become exposed and felt.

However, in order to address not only the individual affects faced in response to nonhuman suffering and environmental destruction, it is important to turn to the material conditions and colonial legacies which shape the space of the extractive zone. Commodity production, and crude oil in particular, is immersed within the histories of colonial conquest. Exploring the mechanisms of uneven development is a central task in the attempts to reconceive and discover just and utopian energy futures. Drawing out the relation between extractive violence, imperial legacies, and the force of humanism, presents a challenge to the current capitalist system. Affect and vulnerability cannot provide structural change alone, yet combined with a materialist and decolonial analysis, we can begin to rebuild and generate hope from environmental ruin.

Materialist Critique and Decolonial Thinking

Putting my feminist animal studies methodology into practice, also requires an understanding of the material relations and colonial legacies which shape the extractive zone, examining the ways capitalism and histories of colonialism facilitates co-dependency and uneven development. I will describe at length what David Harvey terms the 'new imperialism' (Harvey, 1) in Chapter Three, but it is important here to advance Marxist understandings of core and periphery (semi-periphery), as well as combined and uneven development which form an essential component of my analysis of the extractive zone.[27] For Ellen Meiksins Wood, 'the new imperialism is what it is because it is a creature of capitalism' (Wood, 9). It is therefore crucial to understand how the extractive zone is built and shaped by the entwined mechanisms of capitalist coercion and colonial legacies. Drawing on Kathryn Yusoff, Sylvia Wynter, and Alexander G. Weheliye, I also explore the construction of the "human" as being bound to the capitalist and colonial project. In addition to this, I focus on Julietta Singh's decolonial method which illuminates vulnerability as a passage to non-masterful politics and gesture towards the non-extractive paradigm I propose.

Cara New Daggett highlights the interwoven histories of energy and colonialism. In her chapter, 'The Imperial Organism at Work', she describes the formation of European colonies as integral to projects of energy extraction. As she writes,

> Fossil-driven technologies of transportation and communication helped in the creation of new European colonies, as in Africa, as well as in the extension of greater control over already existing regimes, as in the circulation of materials and bodies; the concentration of wealth in some sites occurred at the expense of other people and things, necessitating authoritarianism in certain sites and moments, a phenomenon that has been exhaustively catalogued by postcolonial theorists and thinkers in the global south. (Daggett, 132)

[27] In Chapter Two, I demonstrate the violent imperialism of nineteenth century whaling and earlier oil exploration, whereas Chapter Three outlines the more covert and economic forms of imperial management in the twentieth and twenty first century. This process is epitomised in what David Harvey terms as 'the new imperialism' (Harvey, 1) and is also theorised by Ellen Meiksins Wood in *Empire Of Capital*. In Chapter Three, I therefore advance my thinking around the relation between humanism, empire, and capitalist extraction.

Daggett describes the process of combined and uneven development, which Walter Rodney refers to as a process of underdevelopment in his case study within regions of Africa. Warwick Research Collective (WReC) advanced this theory of the construction of core/periphery and semi-periphery that results in a process of combined and uneven development, while examining this dialectic in relation to World Literature. Influenced by Immanuel Wallerstein, the WReC group elaborate upon the global world system as structured according to capitalist production, generating an opposition between core and (semi) periphery. For WReC, 'the theory of 'combined and uneven development' was therefore devised to describe a situation in which capitalist forms and relations exist alongside 'archaic forms of economic life' and pre-existing social and class relations' (WReC, 11). The production of the archaic and the modern is foregrounded through colonial exploitation, a process of extracting wealth and its later distribution to consumer centres, while leaving commodity productive regions bereft of the mineral resources which they produce. As WReC further note, 'capitalist development does not smooth away but rather produces unevenness, systematically and as a matter of course' (WReC, 12). The capitalist regime generates what Franco Moretti describes as a system that is 'simultaneously one and unequal' (Moretti, 149). Moretti's statement refers to how no regions across the world are now separate, capitalism monopoly is global yet the benefits accrue to the Global North while extracting from the Global South.

For Kathryn Yusoff, the projects of commodity extraction and their colonial histories are intimately bound with a certain construction of the "human". As Yusoff suggests, 'modern liberalism is forged through colonial violence' (Yusoff, 2). Such a statement is indicative of the ways humanism as a "civilising" project is imbricated within colonial ideologies and violent histories of displacement and exploitation. Yusoff further outlines the category of the human and its counter category, the inhuman, describing how they are 'historically relational to discourse of settler-colonial rights and the material practices of extraction' (Yusoff, 2). Daggett also importantly notes how this construction of the "human" did not begin with fossil fuel industrialisation and extraction but much earlier as theorised by postcolonial theorists such as Sylvia Wynter, Walter Mignolo, and Irene Silverblatt (Daggett, 133). For theorists such as Wynter, this idea of Western Man defined against a racialised Other originates with the Renaissance and the Spanish colonisation of the Americas. Wynter suggests that the description of the rational, political subject: Man, forges the parallel invention 'Man's Human Others' (Wynter, 313). Working with Wynter's ideas of the Coloniality of Being, Alexander G. Weheliye argues that for Wynter 'the promise of black studies – the numerous other ruptures precipitated by the 1960s – lies in its liminality, which contains potential exit strategies from the world of man' (Weheliye, 28). Weheliye's project in *Habeas Viscus* is to attend the centrality of race to notions and constructions of the human. Like Wynter, he is interested not in conforming to the master code of Man, the colonial construction of the liberal subject, but rather to forge new and different genres of the human.

Opening Julietta Singh's *Unthinking Mastery* is an epigraph from Weheliye's work: 'What different modalities of the human come to light if we do not take the liberal humanist figure of Man as the master-subject but focus on how humanity has been imagined and lived by those subjects excluded from this domain' (Weheliye, 8). In the same fashion, I aim in this thesis to reject the liberal humanist figure of Man

who is bound to an extractive and colonial paradigm; by rejecting this construction of the human, we can encourage what Weheliye suggests as new modalities of the human. In Pick's terms, it can generate a creaturely poetic, rediscovering humankind outside of its oppressive delineations. Rediscovering a sense of animality, or as Pick suggests, even the vegetive aspect of ourselves, can encourage new formations of the human outside of the colonial extractive paradigm. If, as Yusoff argues, 'the "Age of Man" is a dominant and dominating mode of subjectification – of nature, the non-Western world, ecologies and the planet' (Yusoff, 54), it is important to configure what Weheliye describes as exit strategies from this domain.

Like Butler, Weil, and Pick, Singh describes possible exit strategies through the modality of vulnerability. For Singh, such conditions of vulnerability can begin through the process of failing to master. As Singh describes,

> In failing to master, in confronting our own desires for mastery where we least expect or recognise these desires, we become vulnerable to other possibilities for living, for being together in common, for feeling injustice and refusing it without the need to engage it through forms of conquest. (Singh, 21)

By turning to narratives of mastery (which in my case are narratives of extraction), we discover how these narratives 'are always fragile, threatened, and impossible' (Singh, 18). Vulnerability as simultaneously a passage to agency and a non-masterful form of politics, can offer a new way of forging energy relations outside of the extractive paradigm. For Singh, vulnerable modes of listening, of attentiveness, can produce what she terms 'dehumanism promise' which is to become 'sensitive to those human and inhuman beings that we currently conceive as proximate to us, and most urgently to those who which still imagine as radically distinct' (Singh, 64). In this sense, dehumanism can be likened to the project of the creaturely, discovering the relations we may have lost, and the connections in which we ought to have. Vulnerability, however, can lead to the reassertion of yet more violence, but it also generates the possibility of care, of rediscovering relations, which foster a multispecies ethics that has significant ramifications for our energy present and future.

Vulnerability in the Extractive Zone

This outline of my theoretical approach examines the implications of combined system of resistance, forging intimate links and fellowship across various schools of thought. All of the theorists discussed form essential components of my analysis of the extractive zone in literary and cultural sources. As Singh suggests, 'reading literature can be a crucial vantage point from which to rethink the human as a product shaped and enforced through narratives that are historically, socially, politically, and filially produced' (Singh, 108). My project is defined by discovering different modalities of the human through vulnerability, and the possibilities and promise of such a project for our relations to energy and the wider environment. In moments of violent extraction, from the harpooning of the whale, the rendering of flesh to meat, to the violent consequences of automobility, I look to the affective powers of vulnerability as a site of resistance.

In Pick's analysis of Elizabeth Bishop's poem, 'The Fish', she suggests that vulnerability arises 'as both a state of conflict and designates both violence and resistance' (Pick, *Vulnerability*, 418). For Pick, the fish's desperation for survival and visible vulnerability marks an act of resistance. As Pick highlights from this poem, 'fish vulnerability and resistance go hand in hand' (Pick, *Vulnerability*, 419). As Pick goes on to conclude, 'vulnerability is not the absence of power, but the product of power relations' (Pick, *Vulnerability*, 422). Magnifying vulnerability in the extractive zone presents the ubiquity of power relations, yet also their possible suspension. What new ways of conceiving energy, how we interact with it, and how we produce it, can become possible if there is a suspension of violent "human" dominion and mastery? It is in the space of violent extraction in which I look for the surprising and often suppressed forms of resistance, ignited by revelations and exposure to vulnerability. By mapping the material conditions under capitalism, and illuminating the force and history of colonial legacies, while providing a feminist animal studies approach, this thesis serves to mobilise vulnerability as a site and call for resistance against extractive practices.

ENERGY ORIGINS

Chapter Two

The Marine Resource:

Commercial Whaling and the Origins of Petroculture

Global capitalism is a seaborne phenomenon.

Capitalism and the Sea Liam Campling & Alejandro Colas, (1)

They saw the boats. Heard those same repurposed boats who came to kill them for their successful blubber, the oil that lit the books and blood of slavery. Even now, it is the commercial pursuits of another form of oil that threatens the bowhead whales whose fat fuelled the capitalist project. Bowhead whales have breathed so much history and outlived it too.

Undrowned, Black Feminist Lessons from Marine Life Alexis Pauline Gumbs, (47)

Herman Melville's character Ishmael makes a revelatory statement when he declares 'whaling is imperial!'(24) The rise of American imperialism and the growth of the capitalist project can be found in the very foundations of Melville's canonical work, *Moby-Dick or the Whale.* Melville's narrative offers an insight into the history of commodity and energy production, tracing the beginnings of a globalised world market. Although whale oil was not primarily used for transportation, as crude oil is, this chapter uses *Moby-Dick* to examine whaling as an ideological precursor for fossil fuel extraction and our modern day petrocultures. As Campling and Colas note, 'whaling is an ancient fishery traceable to Neolithic cave paintings in Korea, but […] under capitalism the hunt for whales changed profoundly, quantitively and qualitatively' (Campling and Colas, 188). The Western form of capitalist whaling as an energy enterprise is often erased from collective consciousness, viewed as part of a barbaric past, no longer seen in relation to our current modes of energy production. This chapter serves to address this evasion, exploring the ways whaling serves as a precursor for fossil fuel extraction. I therefore focus specifically on nineteenth century

whaling in the United States rather than contemporary Japanese whaling or whaling culture within Indigenous communities. [28]

In John F. Kennedy's coffin lies a whale tooth engraved with the presidential seal, a gesture which points towards the whale's ongoing symbolic power within the American popular imagination. Far surpassing the British and Dutch, the United States was the world leader in nineteenth century whaling, establishing an energy regime which lit homes across the country and which cemented the long sea voyages as emblematic of the American spirit of risk, adventure, and the conquering of frontiers. As Heidi Scott suggests, 'Whaling was the first American industry to make global economic impacts' (Scott, 4). By turning our attention to nineteenth century whaling, I aim to explore the growth of a capitalist project, which redefines nature and our relationship to it. By addressing the colonisation of the seas and the commercial whaling industry in the U.S., this chapter aims to magnify the frontier aesthetic of nineteenth century whaling, which continued unabated into the beginnings of the petroleum industry. By understanding the ways commercial nineteenth century whaling provided the seeds of globalised project of commerce and extractive practices, we can expose the imperial legacies informing the contemporary petroleum industry.[29] As Zachary Michael Radford suggests in his analysis of *Moby-Dick*,

> Melville's analysis of America's imperial nature in the early nineteenth century was deeply grounded in the ways in which he perceived that the country was not merely concerned with continental expansion, but rather, in the days of *Moby-Dick*, angling for empire on a global scale. (Radford, 2).

In particular, by examining whaling as an imperial project, tethered to aims of a globalised market, I frame the sperm whale as an early iteration of the "extractive zone."

It is for this reason I turn not only to *Moby-Dick* but also to John McLaurin's historical account of the origins of the petroleum industry in *Sketches in Crude Oil.* Exploring how these energy resources exist within a

[28] Kate Aronoff interviewed Bathsheba Demuth who notes the sharp distinction between commercial whaling of the nineteenth century and Indigenous practices. As Demuth declared to Aronoff: "The only thing that Indigenous whaling and commercial whaling have in common is that they kill whales," she said. "The dividing line between subject and objects—understanding animals as fundamentally separate—is not operative" in Indigenous whaling, she told me, where bowhead whales hunted for subsistence are understood "as constitutive of human social worlds. That's very different from understanding whales as a commodity.… Commercial whalers really could only use the fat," carried as blubber along the outside of the animal. "Whalers would strip that out. The rest was waste material, left to float for sharks." Reconstructed numbers indicate that Indigenous whalers killed roughly 100 bowhead whales a year around the advent of commercial whaling in the Bering Strait, out of a population of 20,000 bowhead whales. Commercial ships routinely harvested hundreds or thousands in a single season' (Demuth and Aronoff, The New Republic, 2021)

[29] I have chosen to focus on nineteenth century whaling energy regimes rather than another of crude oil's precursor: coal. My decision in centring whaling is to expose the importance of the nonhuman body to extractive regimes. Much work has been carried out around coal mining and the social and cultural relations it entails. Timothy Mitchell outlines how the rise of mass politics and industrial action are entwined with the coal industry. For Mitchell, the movement to crude oil led to a decline in social movements and trade union action amongst industry workers. Kathryn Yusoff also presents an illuminating account of the history coal and what she terms inhuman agency in her work 'Queer Coal: Genealogies in/of the Blood.' I alternatively, however, focus on the materiality of the animal's body as an early demonstration of the extractive zone.

continuum enables us to illuminate the current violence of the petroleum industry and its expansion of a capitalist imperial project. To also break down the conception of what has been termed the "whale oil myth" – the idea that the energy transition from whale oil to petroleum was enforced by market based solutions – I explore the ways in which whaling as a mode of energy production foregrounds and haunts our current extractive practices. I argue that the transition from whale oil to petroleum was not an ethical one. As Charlotte Epstein notes, the transition was due to the fact that 'whaling itself became uneconomical' (Epstein, 1). A capitalist energy regime solely focused on economic drives could no longer rely on the world of whaling as the increasing cost and labour required for a whaling ship such as the fictional Pequod, as well as the depleting whale population, made it unprofitable. As Jason W. Moore has argued, capitalism is about putting nature to work, accumulating profit in the cheapest form imaginable: whaling could no longer provide the energy necessary to power such a system.[30]

Despite the fact that much of my later literary and cultural sources in this thesis are situated in peripheral regions, I begin with the commercial and economic centres of the nineteenth century exploring the growth of the capitalist imperial project in the United States. I thus open with an exploration of American imperialism and the watery commodity frontiers of commercial whaling. Nevertheless, although the texts are situated within these economic centres, I argue that the texts demonstrate peripheral aesthetics through their exploration of commodity production. My literary analysis opens with *Moby-Dick*, addressing its role as a 'commodity narrative' (Brodhead, 3). According to Philip Armstrong, the question of the narrative, both in form and theme, is 'what do whales mean?' (Armstrong, 15). This question informs much of my analysis, which examines the varying presentations of the whale, as either a frontier to be crossed, a natural resource, or something to be examined under a scientific gaze. In each case, the act of interpretation is a way of absorbing the whale into human signifying systems and perhaps most significantly into the discourse of global capitalism, rendering nonhuman life into commodity. The competing discourses in *Moby-Dick* from the poetic to the economic provide an illuminating insight into the beginnings of our petrocultures exploring how the violent rhetoric of the frontier informs different modes of energy production.

Following my analysis of *Moby-Dick*, I draw analogies between whale oil and petroleum with the introduction of McLaurin's *Sketches in Crude Oil.* Released in 1923, McLaurin's account of what he calls 'a glimpse of the grandest industry of the ages' (McLaurin, 1) marks the transition into the petroleum era. I address how crude oil is depicted as a vast frontier, eroticised and subdued by the white coloniser. I demonstrate McLaurin's exploration of a capitalist narrative of upwards growth and progress: the extension of modern "civilisation" in which petroleum is figured by McLaurin as 'the badge of enlightenment' (McLaurin, 434).

[30] Jason W. Moore in *A History of the World in Seven Cheap Things* speaks of how capitalism produced 'cheap nature.' He states that 'Capitalism's "law of value" was, it turns out, a law of Cheap Nature. It was "cheap" in a specific sense, deploying the capacities of capital, empire, and science to appropriate the unpaid work/energy of global natures within reach of capitalist power.'(Moore, 89).

Towards the end of the chapter, I draw on my feminist animal studies methodology exploring moments of resistance and exposure to vulnerability. I point to Judith Butler, Simone Weil, and Anat Pick's work as a powerful antithesis to the commodification of nonhuman life forms. I examine the strange, irrealist, and creaturely qualities of *Moby-Dick*, which generate a participation and alliance with the nonhuman world. My reading of *Moby-Dick* thus moves from exploring the growth of a capitalist project to the emergence of a creaturely and environmental ethics. I then address the absence of the creaturely in *Sketches in Crude Oil*. Although *Sketches in Crude Oil* remains fundamentally a work of commercial entrepreneurialism, Scott highlights the complex relation between these two energy regimes, the primary difference being that 'oil drilling is not overtly slaughter, as whaling is, so the ethical line is necessarily a subtler one' (Scott, 15). However, by applying the same vulnerable modes of reading, listening, and perceiving, I argue that one is able to observe the vulnerable elements of the land itself, its pulse and rhythm, pierced and ruptured by industrial and capitalist activity.

I conclude by tracing the transition from the visceral and violent images of past commodity frontiers to the more hidden, controlled, and occluded systems of energy production involved in our contemporary usage of fossil fuels. I argue that this neo-colonial form of violence is akin to Nicole Shukin's analysis of Fordism, as a mode of production which entails a mechanised and strategic form of violence. The frontier rhetoric of whaling and nineteenth/early twentieth century oil extraction belongs to a different historical moment. The petroleum industry reinvented itself, turning to what Heidi Scott terms a 'façade of technological expertise.' In effect, this reinvention is a form of historical amnesia, one which severs the modern energy production from its violent and imperial origin. Despite this concealment, I argue that violent systems inherent to these distinct energy regimes have not been displaced or eradicated, but rather reinvented in that the violence of the nineteenth century whaling industry continues to shape the petroleum era.

American Imperialism: Watery Frontiers

The mythology, legacy, and history of the American frontier is bound to narratives of conquest, imperialism, and capitalist expansion. The historian of the American West, Patricia Nelson Limerick, responds to Fredric Jackson Turner's thesis on the American frontier in her work *The Legacy of Conquest*. As Limerick describes,

> The centre of American history, Turner had argued, was actually to be found at its edges. As the American people proceeded westward, "the frontier [was] the outer edge of the wave—the meeting point between savagery and civilization" and "the line of most effective and rapid Americanization." (Limerick, 27).

For Turner, Limerick argues, the frontier is a core component of American histories of colonialism and conquest. It is particularly significant that the frontier occurs at the periphery, the outer edges of the wave. Whaling was a project occurring at these outer limits, leaving the edges of the land towards the sea, and ideologically connected to such violent distinctions of "savagery" and "civilisation." While the American

frontier informed the violent displacement and genocide of Indigenous communities, it similarly informed the conquest of the seas and marine life.

In Moore's and Patel's, *A History of the World in Seven Cheap Things*, they argue that the frontier has been central to the growth of capitalist expansion. As they argue,

> Capitalism not only has frontiers; it exists only through frontiers, expanding from one place to the next, transforming socioecological relations, producing more and more kinds of goods and services that circulate through an expanding series of exchanges. But more important, frontiers are sites where power is exercised—and not just economic power.(Moore & Patel, 19).

The frontier is an essential aspect of whaling history, presenting the prospect of an unknown voyage conquering and subduing the distant waters. As Moore and Patel illuminate, the frontier presented power structures not only through economic means, but in the case of whaling, brute force. The frontier presents operations of violence which are further influenced by categories of the human and the nonhuman, the proposed "civilising" force of capitalist progress.

Bathshebua Demuth writes that 'being a whaling nation made the United States an imperial one' (Demuth, 34). In an interview about her book, *Floating Coasts*, Demuth suggests 'the rush for commodities and the rush for territory are really intertwined' (Demuth, *Literary Hub*, 2020). As previously cited, Kathryn Yusoff explicitly highlights how extraction histories are connected to the project of imperialism. If, as Ishmael declares, whaling was an imperial endeavour, it is clear the United States began to rise as an imperial force having superseded British fleets in advancing a global market in whale oil.[31] Commercial whaling ships that hailed from New Bedford and Nantucket forged the pathway to American imperial hegemony through dominating global trade in energy production and distribution.

The Smithsonian Museum in Washington D.C curated an exhibition on commercial whaling of the nineteenth century; the exhibition's statement illuminates America's position as a world leader in this trade announcing,

> American whaling flourished from the late 1700s through the mid-1800s. Hundreds of ships left American ports, hunting the planet's largest living creatures. Commercial whaling began in the Atlantic, but as whale populations declined, the chase spread to the Pacific and Arctic oceans. While whalebone and ivory were valuable, a whaler's main profits came from the oil derived from whale blubber. (Smithsonian Museum*, Commercial Fishers: Whaling*, 2021)

Perhaps further indicative of the U.S whaling's imperial legacies and its connections to the expansion of the capitalist project, the character Starbuck from Melville's *Moby-Dick* provided the inspiration for the name of the American global chain "Starbucks." Melville's project presented a magnification of capitalist growth

[31] Within the article, *The Decline of US Whaling: Was the Stock of Whales Running Out*, the authors suggest the United States 'In the crucial northern grounds quickly attained productivity levels far superior to those of the British fleet, which had dominated the whaling industry for more than thirty years. The Americans employed smaller crews than did their British rivals, but crews of higher quality' (Davis, Gallman, Hutchins, 569).

and subsequently inspired the name of a corporate American global franchise.[32] If being a whaling nation made the U.S an imperial one (Demuth, *Floating Coasts*, 34), it simultaneously underpinned the growth of a capitalist one. David Harvey's conception of the 'new imperialism' (Harvey, 25) is informed by U.S economic hegemony, yet this earlier manifestation of U.S imperial power through whaling was still entrenched in the ideologies of violence, conquest, and the frontier rhetoric. Harvey's exploration of capitalist imperialism that dominates through economic strangulation and indirect coercion comes to the fore in the next chapter within the discussion of contemporary energy production. What strikes as particular to whaling, however, is the overt spectacle of violence, a clear battle of "Man against nature." This is not to suggest contemporary modes of neo-colonial energy regimes are not violent, but that there is more of an explicit form of dominance and conquest in nineteenth century whaling than the modern offshore oil site.

The beginnings of America's imperial hegemony can be traced back to the capitalist enterprise of U.S whaling. In *Capitalism and the Sea*, Campling and Colas describe 'the beginnings of American industrialisation' as initiated through the whaling energy regime. (Campling and Colas, 189). As they note,

> Whaling off the New England seaboard from the 1690s was among this colonial territory's first industries, marking the 'beginning of early American industrialisation'. It quickly grew from a near-shore fishery to an off-shore one in 1710s, based on the famed Nantucket Island, and after 1740 long-distance sea voyages lasting several months became commonplace. By the 1820s New Bedford has superseded Nantucket, boasting more whaling vessels than the rest of the world combined in the 1850s, which was also when new technologies such as the exploding harpoon made the kill more efficient. (Campling and Colas, 189).

Whaling thus marks a particular moment within the growth of a capitalist imperial project, as the U.S began to supersede other nations as a leader in energy production and commerce. The exploration of commodity histories in relation to energy production is one of the aims of this chapter, exposing the violent categorisation and imperial legacies which haunt our contemporary modes of production from nineteenth century whaling to the commercial extraction of crude oil.

The following reading of *Moby-Dick* offers an insight into the origins of energy culture and its connection to imperial conquest. For Jennifer Wenzel, *Moby-Dick* can be read as a narrative that 'disseminates knowledge about commodities: a text that tells commodity stories – or commodities that tell their own stories – and thereby implicate consumers in the forms of violence that surround them' (Wenzel, *The Disposition of Nature*, 55). I thus move to an exploration of *Moby-Dick* as a commodity narrative, magnifying the histories of violence which are imbricated within the production of "natural" energy resources.

[32] The Economic Times explored the origins of Starbucks name in the following article: https://economictimes.indiatimes.com/magazines/panache/did-you-know-starbucks-got-its-name-from-moby-dick/articleshow/66357305.cms

Origins: Whaling Energy Culture in *Moby-Dick*

As a canonical work, *Moby-Dick* has inspired an eclectic range of readings moving from what Michael Jonik defines as an 'inhuman politics' (Jonik,1) specifically inspired by Spinoza's philosophy, to Sharon Cameron's exploration of Melville's Shakespearian influences, to the novel's depiction of energy production and colonial voyages and more. My own reading is influenced by this sense of fluidity, offering a multifaceted perspective: I intend to capture the history of whale oil as an energy resource, the seeds of a calculating capitalist project, the frontiers of the scientific gaze, while addressing the emergent environmental ethics which occur within the narrative. First, however, I begin with the whale as a commodity/extractive zone and the imperial legacies which are at the centre of nineteenth century whaling culture.

In order to map petrocultures' origins and the development of the resource politics in energy production, I argue that *Moby-Dick* provides an exemplary insight into the mechanisms and relations of energy culture, as well as the consequences of life being rendered lifeless once conceived as a natural resource. For Graeme Macdonald,

> *Moby-Dick* is arguably among one of the first oil novels. Vested in that notable nineteenth century resource industry—whaling—Melville's novel narrates a megalomaniacal hunt and harvesting of a natural resource all over the world. It stands as prototype representation of a process endemic to the global history of oil extraction and petrochemical commerce.
>
> (Macdonald, 'Oil and World Literature', 7).

Moby-Dick thus exists at a crossroad in our entrepreneurial, extractive history: the last gasp of a dying industry soon to be replaced by petroleum. In addition, the novel illuminates the convergence of Animal Studies and petroculture, as live animals are at the centre of this nineteenth century energy regime. As a 'commodity narrative' (Brodhead, 3), *Moby-Dick* explores the growth of capitalist venture which in the narrative is informed by the frontiers of both the economic and the scientific. It is these two areas of the economic and the scientific that are the focus of my first literary analysis; they serve as symbolic templates for reading the whale as an energy commodity.

In the opening chapter of *Moby-Dick*, Ishmael describes his desire to board a whaling ship as an 'everlasting itch for things remote' (Melville, 5). It is this desire for what is external to the self, what exists outside of the body, and beyond borders of human discovery, which characterises the unrelenting quest of *Moby-Dick*. There is a tension in the narrative between a colonial imperative to master versus a playful curiosity towards the nonhuman world. It can be argued that violent conquest and the colonial venture is characterised by this 'everlasting itch for things remote', the vast expanse of the seas perceived as territory to occupy, manage, and control, and most significantly to extract what they discover. In Philip Armstrong's reading of *Moby-Dick*, however, he suggests that under a literary Animal Studies lens the text invites the question of 'what is at stake ultimately in our ability to think beyond ourselves? (Armstrong, 93). For Armstrong, the novel's

crucial focus is agency, revealing the struggle between the construction of animality, the whale as a material presence, and its symbolic attributes. The points and questions raised by Armstrong suggest how Melville's narrative invites a quest into the unknown. The relentless search for the infamous sperm whale could be argued to be a colonial exploration of the undiscovered world with the impending demand to categorise, narrate, and conquer. Yet, as I will later explore, there is a strange intimacy generated between the characters, the whale, and the surrounding seas. However, in the early stages of the text, there is a focus on capturing the whale for its commercial utility as an energy product or examined under a scientific gaze. In certain cases, the whale's body becomes a frontier to be crossed, mapped out, and understood through the signifiers of commerce and rational enlightenment – Melville describes these discrete worlds of Man against nature only to unravel them towards the end of the narrative.

The text looks inside the whale's body, a form of literary dismemberment, envisioning its interiority, enacting a process of atomisation. Sharon Cameron addresses these specific corporeal elements of the text noting how the narration provokes the question of whether 'one could penetrate the body – go through the windows of that house, through the unsplinterable glass' (Cameron, 18). Cameron's reading alludes to the desire to access what is unknown, a desire which can be similarly characteristic of an imperial discourse and capitalist exploitation turning to far off seas and unmapped lands to accumulate wealth and riches.[33] In the case of *Moby-Dick*, it is the marine mammal itself that becomes the resource for profit and consumption. As Armstrong notes, 'Ishmael's descriptions pay less attention to the physiology of the whale of each species and more to its commercial utility' (Armstrong, 111). For the nineteenth century reader, the whale was mere commodity.

Nineteenth century whaling products were advertised in the spirit of the hunt, a truly violent affair, built upon the rhetoric of the American frontier. Whaling romanticised the act of killing for profit as an epic quest, encountering a sublime spectacle that ultimately led to the whale's demise.[34] Heidi Scott suggests that Melville's narrative can aligned with the commercial advertisements of nineteenth century whaling which depicted a violent excitement, and imbued mundane domestic products with the entrepreneurial spirit of the modern American. As Scott further notes, it is an advertisement and tradition that belongs to 'the age of frontier adventure, risk, and danger' (Scott, 12). Melville's monomaniacal character of Captain Ahab epitomises this lust for adventure, as he declares 'towards thee I roll, thou all-destroying but unconquering whale; to the last I grapple with thee; from the hell's heart I stab at thee' (Melville, 651). Ahab's lustful desire for revenge against the whale romanticises the act of killing for the purpose of profit, a commercial enterprise which advocated violence and death as part of the allure of the whaling product.

[33] Melville is cited by Zachary Michael Radford as exploring the growth of American imperialism and thus demonstrating the beginnings of globalisation. Radford refers to Immanuel Wallerstein's World Systems Analysis. Wallerstein suggests that 'the imperative for endless accumulation of capital generates a need for constant technological change, a constant expansion of frontiers – geographical, psychological, intellectual, and scientific' (Wallenstein, 2).

[34] Scott further indicates this as she suggests 'whale oil culture is deeply immersed in the adventure of its acquisition. As a commodity, whale oil was sold using the romantic danger of whaling as a marketing strategy that actively promoted its harrowing intrigue.' (Scott, 6).

Whaling's frontier imagery is connected to the cognitive dissonance that shapes modern petroleum consumption in the sense that there is a clear separation between human, animals, and nature. Both industries are indeed shaped by what ecofeminist Val Plumwood coins 'hyperseparatism' (Plumwood, 41) – systems of domination and segregation, 'the logic of othering that subjugates not only humans and sentient animals, but also everything else as exploitable' (Plumwood, 5). Through the logic of hyperseparatism, nature and other species become a place of profit. This clear binary logic that segregates the human from their wider ecology shapes the discourse of nineteenth century whaling, where the sea and its creatures act as a vast frontier. Melville constructs the image of the sea as the whaler's empire, as he declares 'for the sea is his; he owns it' (Melville, 64). At the heart of this imperial project and American expansionism is the interface between the human and nature. Such an opposition can often provide the justification for violence. The whale is thus often mythologised as a 'mortal monster' (Melville, 230), a threat to humanity to be exterminated, where man's 'duty and profit' (Melville, 219) come in direct relation. As John Miller argues, 'the polarity of human and animal is central to imperial mythologies' (Miller, 5). In this imperial discourse, the whale hunt is naturalised as inevitable evolution, a way of assimilating the whale into civilisation through turning it into commodity goods.

The discourse of imperialism surrounding whaling culture captures the tradition of Western Enlightenment that conceived nature in terms of its mere utility, where nonhuman life is perceived as a background to human intentionality and agency. Sylvia Wynter's formation of "Man" in the *Coloniality of Being*, as the 'Rational Self of Man' defined against all others and marked by a constructed superiority, offers insight into these operations of power. Wynter's notion of the 'Rational Self of Man' is a formulation based on certain ideas of humanness which she suggests occurred in the Renaissance and has morphed and evolved through various strands of scientific thought. Wynter describes this process as forming a dominant class, what she terms 'the now globally hegemonic ethnoclass world of "Man"(Wynter, 262). As Cara New Daggett highlights, Wynter's idea of "Man" is 'closely connected to Newtonian physics and Enlightenment sciences' (Daggett, 134). Daggett suggests that the new imperialist mindset was forged through a reliance on the importance of biological sciences. Writing at the time of the Renaissance, and influential on enlightenment thought, Rene Descartes, presents a philosophy rooted in the "Age of Reason," which is one of the core targets of Wynter's critique. Cartesian thought strips nature and nonhuman animals of intentional qualities and thus makes an ethical response to those who fall outside of this category of the rational ideal impossible. In Descartes, it is the prime task of the human to transcend nature, accessing the higher realm of reason, leaving behind bodily entanglements. Cartesian thought establishes discrete worlds of mind and body, a philosophy immersed in mathematics, an attempt to explain biological and physical phenomena in solely mechanistic terms, a focus on matter and motion.

In Descartes' *Meditations*, he speculates on the distinction between soul and body, understanding them as discrete entities. After concluding that he could not deny he had no body, he suggests:

> Accordingly this 'I' – that is, the soul by which I am what I am – is entirely distinct from the body, and indeed is easier to know than the body, and would not fail to be whatever it is, even if the body did not exist (Descartes, 127).

Descartes emphasis on the power of the mind, reason, and dualism has had profound influence on the formation and construction of the human. As Erica Harth suggests, Descartes' philosophy prioritised, 'dualism, mechanism, and objectivity' (Harth, 146). This focus on dualism, mechanism, and objectivity are also features characteristic of scientific endeavour, a way of accessing an objective reality, pursuing abstract thought detached from the chaos of a material and corporeal existence. This method of thought presents what Plumwood describes as 'moral dualism that treats humans as the only proper objects of moral consideration and defines 'the rest' as part of the sphere of expediency' (Plumwood, 69). Melville presents this moral dualism not only through the rhetoric of the American frontier and capitalist imperialism, but also through scientific rationalism. The cetological chapters provide an atomisation of the whale under a scientific gaze, a process Melville himself describes as having 'one's hands among the unspeakable foundations, ribs, and the very pelvis of the world' (Melville, 136), grasping at an understanding of something that refutes interpretation and comes to represent the very fabric of the world.

The whale takes the place of the world - as if by reaching into its guts one is delving into the entirety of the ecosystem that generated the whale and science thus becomes the tool to access it. As ecofeminist Vandana Shiva declares, 'Modern science is projected as a universal, value free system of knowledge, which by its method claims to arrive at objective conclusions about life, the universe and almost everything' (Shiva, 22). It is through this scientific paradigm that man attempts to control the whale by searching for an objective truth, a form of narration that captures the whale's existence. This method reduces the whale to its mechanics 'manipulating it as inert and fragmented matter' (Shiva, 23). Melville asks the question of how we should define the whale, a question that permeates the entirety of the narrative, as he declares 'a whale is a spouting fish with a horizontal tale' (Melville, 137). Released before Charles Darwin's *On the Origin of Species*, the misrecognition of Ishmael's account only points further to the impossibility of explaining and understanding the whale through the colonial scientific lens for the whale's life remains fundamentally 'an unwritten' one (Melville, 135). He reads the whale through his 'obvious externals' reducing it to what is seen through the human eye, which thus becomes a mode of reductionism – the 'assumption of the divisibility and manipulability' of nature (Shiva, 23). Scientific reductionism is the method of reducing 'complex eco-systems to a single component, and a single component to a single function' (Shiva, 25). By manipulating the whale into a single component and function, the process reflects the movement from scientific categorisation to commercial utility. The whale becomes the raw material for both scientific endeavour and capitalist ventures. As Shiva describes, 'in the reductionist paradigm, a forest is reduced to commercial wood' (Shiva, 25), just as the whale is atomised and dismembered into a manufactured product. Scientific rationalism becomes one of the ways Ishmael attempts to read the whale, as he declares 'I put that brow before you. Read it if you can' (Melville, 347). The imperial categorisation Western Science enforces upon the ocean's creatures is highlighted in Alexis Pauline Gumbs *Undrowned, Black Feminist Lessons from*

Marine Mammals. Approaching her research from a queer and black feminist perspective, Gumbs' describes how she had 'to do some work to disrupt the violent colonising languages of almost all the texts in which I have accessed information about marine mammals' (Gumbs, 7). In Gumbs' project, she focuses on the ways marine life can teach us about vulnerability, collaboration, and adaption. The crucial task for Gumbs 'is about undoing a definition of the human, which is so tangled in separation and domination' (Gumbs, 9). The scientific gaze that is partially employed in *Moby-Dick* confronts us with the notions of separation and domination, yet, as Melville often suggests, the whale cannot be reduced under our gaze – an animal alterity which will never be completely assimilated or entirely understood.

Perhaps, as Armstrong has suggested, the whale resists human signifying systems, it is outside the realm of our understanding for 'as yet, the sperm whale, scientific or poetic, lives not complete in any literature' (Melville, 341). It is to contend with this ability of thinking beyond ourselves, to simultaneously perceive the limitations of our perceptions while recognising a shared interdependency which a feminist animal studies embrace. A feminist animal studies does not atomise nonhuman animals as a mutable and segregated being, but rather recognises other creatures and ourselves as a part of a shared eco-system. This methodological approach firmly establishes what Val Plumwood terms as relational subjectivity, in the sense that a 'relational account of the self rejects an instrumental view of nature' (Plumwood, 1). By later introducing a feminist animal studies perspective, and exploring the nonhuman relations which arise in the novel, the rational scientific observer loses its position of detachment and is thus integrated within more than human worlds.

Under rationalist enlightenment and scientific method, however, nature is shown as both passive and mechanical. As Anna Tsing notes, 'Nature was a backdrop and a resource for the moral intentionality of man, which could tame and master nature' (Tsing, ix). In *Moby-Dick*, this process entails not merely mastering but also consuming and devouring. In the nameless perils of the whaling venture Ishmael imagines 'cruising in an empty ship' and retorts 'if you can get nothing better out of the world, get a good dinner out of it' (Melville, 447). As the whale becomes a dish in Chapter Sixty Five, we witness the violence unleashed upon the whale as both a commodity for instrumental and mechanical usage and to fulfil harpooner's appetites. For Anat Pick, eating can be a fundamentally violent act, 'since it ingests and assimilates the other into the self, and destroys it. Once the objects of the world have been thoroughly incorporated and digested, they are lost to the world and to the observer' (Pick, *Vegan Cinema*, 127). Perceiving the whale as a dish once again limits the whale's existence to human utility and as an energy resource to provide sustenance for human appetites. Philip Hoare notes how the whale provided a limitless source of production: 'the whale itself was manufactory, of strange substances and of human fortunes' (Hoare, 96). Like our current understanding of fossil fuels, whale oil produced a mythology of wealth and fortune, where each body part from their bones, teeth, and blubber, became a desired item to feed the demands of industrialisation and capitalist growth. Every 'sailor' became a 'butcher' (Melville, 303), a process described by Melville as the business of 'cutting in', severing the whale's corpse, turning flesh into commodity. Not one element of the whale is left untouched, down to the very jawbone, as witnessed in the narrative when the extraction of the

whale's jaw is justified 'for the purpose of extracting the ivory teeth, and furnishing a supply of that hard white whale bone with which fishermen fashion all sorts of curious articles, including canes, umbrella stocks, and handles to riding whips' (Melville, 332) The whale's body is shown as malleable commodity, transformed into umbrellas, riding whips, and a variety of domestic goods. Such transformations foregrounds the use of petroleum chemicals in our contemporary age of plastics. This form of rampant consumerism is poignantly epitomised in Melville's statement: "Cannibal? Who is not a cannibal" (Melville, 300). It is a process Plumwood would describe as devouring the other who sustains you, assimilating, digesting, and incorporating them within the self and into the system of global capitalism.

Melville also identifies a process that Adams later terms the absent referent.[35] The absent referent is what enables limitless consumption without an awareness of the dead animal that has formed the commodity or the meat which one consumes. It is characterised by detachment, a form of systematic amnesia, where what is wrenched from nature is slaughtered and manufactured into a commodity product. *Moby-Dick* forces the reader to acknowledge the life that existed before the animal became a commodity:

> Look at your knife-handle, there, my civilised enlightened gourmand dining off that roast beef, what is the handle made of? – what but the bones of the brother of the very ox you are eating ? And what do you pick your teeth with, after devouring that fat goose? With a feather of the same fowl. (Melville, 300)

Melville exposes the cognitive dissonance between consumption and production, pointing to how each commodity item is derived from the animal. It is a literary experiment in making what appears absent present, forcing the reader to acknowledge the origins of their commercial goods. Such detachment also defines the contemporary consumer of petroleum and its derivatives. Just as the nineteenth century Western citizen was all too familiar with whale-derived goods yet mostly severed from the violent consequences, so too is our consumption of petroleum detached from the violence of extraction and ecological damage. *Moby-Dick* presents the project of a global capitalism, defining nature as a place for profit, and forging the image of the modern consumer, detached and severed from the animal who once existed.

Phillip Hoare suggests that *Moby-Dick* is 'a story encoded with its own terrible beauty, one that saw into the future even as it looked into the past' (Hoare, 173). *Moby-Dick*'s discourse of commerce, the imagery of the frontier, and the scientific gaze, anticipates the rhetoric surrounding the discovery of oil in Pennsylvania in 1859. Like whale oil, fossil fuels propagated the story of fortune and wealth and similarly began to shape global commerce, transforming our infrastructure, and the ways we interact with nature.

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[35] Carol J. Adams definition of the absent referent: 'Behind every meal of meat is an absence: the death of the animal whose place the meat takes. The "absent referent" is that which separates the meateater from the animal and the animal from the end product. The function of the absent referent is to keep our "meat" separated from any idea that she or he was once an animal, to keep the "moo" or "cluck" or "baa" away from the meat, to keep something from being seen as having been someone.' (Adams, xxiv).

Crude Beginnings: The Age of Oil

Today, humans are living within an ecology of oil having moved away from whale-derived goods to a petroculture. After having brought the sperm whale to near extinction, the founding of the petroleum industry brought in a more accessible form of energy introducing a new way of living for the consumer.[36] But how and in what way do the ideologies which shape whaling culture inform the rhetoric surrounding the petroleum industry? By tracing the language of commerce in *Moby-Dick*, addressing the origins of resource imperialism, my comparison can offer a way of viewing petroculture as something inherited from a tradition of the colonial voyage, the American frontier, and conquest. As Jamie Jones suggests, 'if you think about whale oil as analog to petroleum – we're really only one energy source away from whale oil today' (Jones, 2016). This proximity invites us not to see commercial whaling as part of a barbaric history, that Graham Huggan describes as 'a painful reminder of a violent past' (Huggan, 1), but rather as something that informs our current use of energy. The origins of our petrocultures lay within the world of whaling explored by Melville's *Moby-Dick*; the novel outlines the crucial importance of the whaling industry in exporting cultural ideals and the ways resource extraction and colonial conquest are inextricably bound together. For Huggan, whaling was a service for Empire and by no means just a British one (Huggan, viii). It is therefore important to note how both whale oil and fossil fuels have served to enforce Western dominance, feeding the Global North's own economies and needs while extracting resources from far off locations. There are important parallels between these two distinct energy regimes. Drawing them together allows us to perceive the violence of our current petrocultures as a part of a historical continuum in our relationship to nonhuman animals. The lost industry of commercial whaling is perhaps not all that far away when we look to the beginnings of fossil fuel extraction in North America.

America's national identification with petroleum parallels these early narratives of whaling. For Ingrid Kelley, 'the United States continues to link its national identity to the use of fossil fuels' (Kelley, 16). Despite the fact whale oil was rarely used for the purpose of transportation, these two forms of energy production are intimately bound together shaping how we conceive and utilise energy. This is epitomised in literary representation in Upton Sinclair's epic tale of the American petroleum industry, *Oil!*, and its overt echo of Melville's *Moby-Dick*. Melville's infamous quote 'There she blows' (Melville, 568) in reference to the sight of the sperm whale is reiterated in Sinclair's account of an oil gusher, in which the oil workers hum 'There she comes' (Sinclair, 342) as the oil releases from the earth. In both passages, the whale and crude oil are gendered and objectified. This eroticisation of earth and its creatures as something to penetrate and use is evident in both discourses; the emotions attached to the hunt in whaling appear to foreground and foreshadow the rhetoric surrounding the process of oil extraction in historical and literary accounts.

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[36] As Heidi Scott suggests, whaling pushed some whale populations beyond replenishment rates. Recognising animal rights arguments and the ecosystem services provided by healthy whale populations, in 1986 the International Whaling Commission banned commercial whaling. (Scott, 4).

Like Melville, John McLaurin's *Sketches in Crude Oil* attempts to narrate what he perceives as one of grandest industries of the ages. McLaurin provides a surreal and melodramatic account of crude oil's history suggesting its presence within the Garden of Eden and as the substance that lubricated Noah's ark. He begins with the word itself: 'Petroleum' – a name he introduces 'to conjure with and weave romance around' (McLaurin, 1). Like Melville's world of whaling, McLaurin begins his account with the romanticised myth propagated by this crucial resource. For McLaurin, oil 'lays bare the deepest recesses of the past to bring forth treasure for the present' (McLaurin, 1). His hyperbolic descriptions of oil's utility from grand illuminant to source of transportation are akin to Melville's account of the whale's body as a bountiful commodity. The monomaniacal ecstasy of the search for wealth and fortune surrounds both industries as they lay claim to shaping the world of commerce and capital. An energy of discovery and conquest runs through both Melville's and McLaurin's texts, as the latter depicts the process of extraction as 'piercing through nature's internal laboratories' (McLaurin, 2). Like the deadly harpoon, the oil rig is similarly depicted as a violent tool, piercing through the body of the earth. The privileging of the human is also apparent in *Moby-Dick* as Ishmael declares 'time began with man' (Melville, 104). Likewise, McLaurin's anthropocentric perspective is demonstrated in the poem he recites where the poet declares oil is a 'grand gift to man'. Although McLaurin describes oil as nature's own brew, it is hailed as treasure for man to receive, 'to be blessed with petroleum's beneficent light' (McLaurin, 3). Like the romanticised image of the whale in *Moby-Dick*, McLaurin mythologises crude oil, describing it as 'a blessing for God's whole creation' (McLaurin, 2). This mythologising serves the purpose of profit by imagining both the whale and oil as an infinite resource, forever maintaining the appetites of a capitalist system without regard to its consequences or environmental implications. The illusion of plenty is captured in McLaurin's description of oil 'bubbling in fountains, floating on rivulets […] blazing on the plains' (McLaurin, V). His visceral imagery of oil envisions an unlimited resource awaiting extraction.

McLaurin's account also accentuates the theme of capitalist progress and the expansion of civilisation which is a key component of the American frontier with his detailed descriptions of the rise of oil rigs and the birth of the petroleum industry. In the process of collecting oil in Pennsylvania, he declares that 'Great minds never limit their designs in their plans' (McLaurin, V). In this description, man is seen as the conquering pioneer with a thirst for limitless production, turning the environment into one unlimited resource. Capitalist expansionism and the narrative of progress shape both whaling and the petroleum industry. Just like the sea which became the harpooner's colony, the land where petroleum resides became entirely transformed and dominated by the oil industry, as plots and plans continued to map further areas for extraction. For Anna Tsing, this narrative of progress 'is a story we know. It is the story of pioneers, progress, and the transformation of "empty" spaces into industrial resource fields' (Tsing, 18). It is this progression towards a "civilising" ideal and the growth of industry that becomes the motor for petro-capitalism. The notion of progress itself is a fetishism of capitalism which leads to the movement from transformation to ruin. As Tsing suggests, 'industrial transformation turned out to be a bubble of promise followed by lost livelihoods and damaged landscapes' (Tsing, 18). There is a celebratory tone in McLaurin's account as he suggests joining 'a universal hurrah for petroleum' (McLaurin, 2). Seen as treasure from the earth to improve and

progress the life of the human, McLaurin depicts oil as a resource that carves a narrative of prosperity and an upwards journey of progress. For McLaurin, 'looking forward is the proper kink' (McLaurin, 2). This trajectory of industrial progress is a key component in the growth of the petroleum industry, but as Ursula K. Le Guin warns, such a narrative is a trap and an illusion, announcing a 'one way future consisting only of growth' (Le Guin, 17). The idea of limitless progress without regard to the finite nature and vulnerability of both the whale and fossil fuels has resulted in ecological crisis, animal suffering, and extinction. As McLaurin suggests, 'progression is the unchanging watchword for the petroleum industry' (McLaurin, 495), an industry borne out of the idea of the rational human elevated above nature, a colonial master forever searching for the next frontier.

The construct of the human appears to shape not only our relations with other species – and what we determine is a meat product – but also energy politics and what is classified as an energy resource. Val Plumwood's conception of hyperseparatism feeds into our understanding of humanity, forging a moral dualism of bodies of value and those deemed disposable. This shapes our extractive cultures and how we interact with the nonhuman. Reducing different species and nature itself to its mere mechanics and commercial utility is characteristic of hyperseparatism. This process is epitomised by McLaurin's concluding paragraph: 'We must go forward if the acorn is to become an oak, the infant a mature man, the feeble industry a sturdy development' (McLaurin, 432). This trajectory is shaped by a capitalist narrative of progress, turning natural lifeforms into commodities. As McLaurin further suggests, 'not to advance is to go backward in religion, in nature and in trade' (McLaurin, 433). There is a clear idea of advancement that McLaurin suggests begins with the petroleum industry; reverting back to nature is seen as a regression, whereas the calculated materialism of petro-capitalism advances growth and prosperity. Like Melville's depiction of whaling as inspired by scientific reductionism and Cartesian thought, McLaurin describes the 'oil derrick as the badge of enlightenment' (McLaurin, 434). It is therefore similarly shaped by a rational ideal and enlightenment project, privileging the human above all else and bound to a capitalist narrative of nature. As McLaurin declares, 'Petroleum is the bright star that shines for all mankind' (McLaurin, 435).

McLaurin's text is focused upon the commercial utility and profitable enterprise of turning the environment into a resource field. As McLaurin suggests, 'whether petroleum be of mineral, vegetable, or animal origin matters little to the producer standpoint' (McLaurin, 4). Unlike *Moby Dick* where Melville presents the whale as escaping 'representational closure' (Jonik, 21), McLaurin represents fossil fuels, and the ecology they are a part of, within the one-dimensional narrative of capitalist progress. His account details the corporate relations and advancement of the petroleum industry where the substance itself becomes an entirely cultural entity shaped, refined, and narrated by human kind. In such a narrative, crude oil is defined for its consumptive purposes as McLaurin suggests: 'oil is the fountain of universal illumination […] a blessing to human kind' (McLaurin, 434).

The violent spectacle of the harpooned whale and the expansion of oil extraction sites are images forged within an imperial project and mission, where man is viewed as a civilising agent propelling the movement of industrialisation and international commerce. Both McLaurin's and Melville's work are formed in the era

Heidi Scott describes as the age of frontier, risk, and adventure and thus reveal how the beginnings of petroculture are constructed in such an image. It is within the notion of the frontier that the idea of the 'human' as an unbending force of capitalist progress becomes physically apparent. As Michael Watts notes, the frontier is constructed as 'zones of contact between "barbarism" and "civilisation" (Watts, 190). It is through these dualisms of barbarism and civilisation, the human and the animal, in which violence is legitimised, generating what Watt terms as 'violence producing enterprises' (Watts, 191).

Moby-Dick and *Sketches in Crude Oil* both map and explore commodity histories, energy resources which transformed capitalist growth. The nonhuman and the environment is categorised under an imperial regime transforming life into an inert product for consumption. Commercial whaling and crude oil presented not just an energy resource, but projected capitalist ideologies of entrepreneurialism. As Imre Szeman suggests, 'despite being a concrete thing, oil animates and enables all manner of abstract categories, including freedom, mobility, growth, entrepreneurship, and the future' (Szeman, "Entrepreneurship as the New Common Sense," 146). Pervading these abstract categories is the underlying violence of frontier capitalism, its inherent claim of expansion and oppression, an ever extending pipeline reshaping social and geographical borders and accumulating wealth from ever new horizons whether it be the sea or the land.

Vulnerable Ecologies: Collaborative Survival

In a recent study in *Biology Letters*, scientists and historians uncovered the collaborative behaviour of sperm whales in the nineteenth century through digitised log books of American whalers in the North pacific. They discovered a decline in successfully sighting and harpooning whales, a fall of fifty eight percent after the first few years of exploitation of the whales blubber. The researchers suggest the sperm whales quickly learned defensive behaviours in their social units, a collaborative exercise amongst nonhuman communities of marine life to collectively avoid oncoming whaling ships.[37] Gumbs' *Black Feminist Lessons from Marine Mammals* similarly attunes to this sense of collaboration and solidarity that emerges among marine species. Gumbs suggests, 'I can't help but notice how marine mammals are queer, fierce, protective of each other, complex, shaped by conflict, and struggling to survive the extractive and militarised context our species has imposed on the oceans' (Gumbs, 9). Gumbs embraces a practice of becoming vulnerable, something she attributes to learning from the ocean world and marine life, inviting us to be porous and fluid, open and vulnerable. How might collective vulnerability, its exposure and implications, lead to passages of solidarity and multispecies communities? Embracing a feminist animal studies perspective, I offer alternative readings of these texts which serves to situate ourselves in vulnerable co-existence and collaboration with the nonhuman. The previous literary readings explored the whale and the environment as commodity and an

[37] Research on whale social learning was published in 2021 researched by the following scientists and historians: Whitehead, Hal. Tim D. Smith and Luke Rendell in 'Adaptation of sperm whales to open-boat whalers: rapid social learning on a large scale?' Biology Letters. 10.198. 2021.

energy resource. In the following exposition, I attune to the strange and creaturely aspects of the two sources demonstrating how commodification is ruptured through an encounter with vulnerability.

For Jason W. Moore, ‘capitalism emerged since the fifteenth and sixteenth centuries as a way of reshaping the relation between humans and the rest of nature’ (Moore, 136). The sharp divisions between humans and the rest of nature, a system of domination and segregation, slowly become undone in Melville’s world of whaling as we witness an emergent creaturely and environmental ethics arise.

As a disruptive antidote to the commodification of land and animals in extractive regimes, I return to Weil’s crucial statement that ‘the vulnerability of precious things is beautiful because vulnerability is a marker of existence’ (Weil, 108). If we turn to the exposure of vulnerability in *Moby-Dick*, how might this transform our reading of the novel beyond its projection of capitalist progress? What moral and ethical alternatives become possible if vulnerability is deemed as a marker of existence? Pick’s creaturely poetics can also offer an alternative perspective, one which eradicates violent divisions and forms a communion between ourselves and nonhuman others. By embracing vulnerability as a shared condition, the environment and the whale are no longer viewed as fossil or blubber capital, but vulnerable and finite entities to be preserved and protected. Pick’s poetics seeks to trace a logic of flesh as a way of illuminating forgotten ties and bonds and can perhaps change the dynamics and relations of energy regimes.

Despite Melville’s exploration of the whale as commodity, there are indeed moments where he engages in a creaturely artistic practice, embracing a corporeal aesthetic which embeds the human characters within more than human worlds. *Moby-Dick*’s detailed descriptions of capture and use, destruction and incorporation are structured against scenes of fluidity between human and nonhuman flesh, alongside feelings of compassion and empathy for the whale. Captain Ahab himself, with his peg-leg made of whale bone, is a hybrid being made of human and nonhuman elements, a collaboration of some kind rather than a singular unified self. The discrete worlds of Man and nature become blurred in the very notion of his bodily form.

Sharon Cameron reads the novel as concerning a specifically corporeal question of human identity and thus engages with Pick’s notion of embodied corporeality as a way of defying species divisions, questioning the borders of interiority and exteriority. She argues that the text invites the concern of,

> What is the relation of my body to what lies inside of it, to that which I cannot see (call it essence or soul)? What is the relation of my body to that which lies outside of it (call it the world of other human bodies, or call it the natural world, the world of foreign bodies, those not kin to my own)? (Cameron, 5).

The competing discourses found in *Moby-Dick* from the poetic to the economic are ways Melville attempts to contend with such issues – grappling with what this nonhuman Other means – dissecting its body and mythologising its existence. It becomes a problem of encountering Otherness and alterity, which thus leads to an attempt to assimilate this Other into our world either through anthromorphisation or commodification. Ishmael hints at the inadequacy of these discourses, revealing them as mere arbitrary signifiers, as he concludes despite his dissection and exploration of the whale, he knows him not and never will.

Judith Butler's theorisation of grief allows us to understand the emotional connection between the crew and the dying whale, a spectacle that Ahab calls a 'wondroussness unknown before' (Melville, 496). The characters encounter an experience of mourning, grieving a life typically erased from the practice; they find they become haunted by the 'breaths of once living things, exhaled as air, but now water (Melville, 497). This image foregrounds an encounter with Otherness, breathing in and exhaling it, suggesting a sense of multiplicity and sharing a common flesh and breath. The chapter concludes with Ahab addressing his men and the dead whale: 'Born of the earth, yet suckled by the sea; though hill and valley mothered me, ye billows are my foster-brothers' (Melville, 497). Here, we witness what Pick describes as a 'creaturely fellowship' – an acknowledgement of our shared vulnerability with other species. Both Butler and Pick's conception of vulnerability are demonstrated in the narrative as the divisions between humanity and nature become intertwined. The hyperseparatism enforced by regimes of capital, imperialism, and scientific thought, become undone at different stages in the narrative and thus rupture the concrete world of the human.

Surrounded by the black waters, Ishmael feels 'strange forms in the water darting hither and thither' (Melville, 234). Ishmael reads the vast tides of the un-resting black sea as signs of its conscience: its 'great mundane soul in anguish and remorse for the long sin and suffering it has bred' (Melville, 234). Here, Ishmael anthropomorphises the sea imagining its remorse over the suffering it inflicts upon man. Nevertheless, he begins to have a feel for the movements of the nonhuman, listening to 'wearied nature' and becoming aware of its demands. Zoellner has suggested that 'Ishmael feels with the whale rather than against the whale' (Zoellner, 21). Ishmael's notion of a discrete humanity becomes unravelled in the face of what is unknown, the encounter with the nonhuman Other, capturing what is 'beyond mortal sight' (Melville, 271). Such a perspective revokes the calculus of market materialism and the cold rationalisation of scientific thought and instead invites a radical form of attention. This form of attention is resonant of Weilian thought.[38] Weil's notion of pure attention is an attempt to reveal the object in all its beauty, distance, and familiarity; it is a way of seeing rather than reading, cutting through arbitrary constructions in order to accept and receive the Other. Pick utilises this radical form of attention in order to provide a way of responding to nonhuman others. Through Pick's creaturely prism, one comes to conceive the world around us not for its mere utility, as a resource for energy consumption, but rather as something planetary, bound together through a shared vulnerability and forging multispecies collaborative survival.

Melville further emphasises the merger between self and Other, where exterior and interior become blurred, in the chapter *A Squeeze of the Hand*.[39] In the process of squeezing the blubber of the whale, Ishmael finds

[38] For Simone Weil, 'attention is what creates necessary connections. (Those which do not depend upon attention are not necessary) […] "Attention also consists of suspending our thought. . . . Our thought should be in relation to all particular and already formulated thoughts, as a man on a mountain who, as he looks forward, sees also below him, without actually looking at them, a great many forests and plains. Above all our thought should be empty, waiting, not seeking anything, but ready to receive in its naked truth the object that is to penetrate it" (Weil, *Waiting for God*, 111–12).

[39] This chapter marks one of the most discussed chapters in literary criticism of Moby Dick. Christopher Taylor in Limbs of Empire suggests the chapter connotes to how capitalism 'splits subjects, synecdochalizing them into a community of "hands." the workers' disembodied but mingling parts open a new form of collectivity, one that does not call for bodily regeneration or social reincorporation.' (Taylor, 43-44). For John S. Gentile, it is one of

himself oozing into the substance; he feels himself almost melting into it, where a strange sort of insanity comes over him. (Melville, 416) Such moments of defamiliarisation resonate with creaturely thought, a way of rethinking our relation to our external world, breaking away from habitual thought processes and challenging the borders of human identity. Ishmael goes in to detail about the effects of this experience: 'let us all squeeze ourselves into each other; let us squeeze ourselves universally into the very milk and sperm of kindness' (Melville, 416). In this erotic description, corporeal borders are shown as malleable; the body itself entering into a sense of fluidity that defies categorisation.

Philosophers Gilles Deleuze and Felix Guattari cite *Moby-Dick* as an exploration of their concept becoming-animal. In *A Thousand Plateaus*, they aim to escape what they define as the 'eminent term par excellence' (Deleuze & Guattari, 280) – the position of the White man occupying a place of superiority existing within a hierarchal system, where other humans and nonhuman beings are organised in accordance to their similarity and resemblance to this eminent term. To use their terminology, becoming animal thus allows for a line of flight from such hierarchical systems. Becoming-animal is not, however, a series of imitations but rather a way of having a feel for the animal's movements, an affective transformation, moving away from what they call molarity into a zone of indistinction. The resonant anti-humanism in their thought provides an alternative approach to view nonhuman animals and to rethink their position within the politics of energy consumption. Although there is no apparent ethical dimension to becoming-animal, it does provide a rupture from dogmatic systems of thought that inform the construct of the human. For the philosophers', *Moby-Dick* allows for what they term an unnatural participation forging an alliance with the outside which serves to unravel the borders of human identity. Ahab's fascination with Moby-Dick is also interpreted as a fascination for the outside, as they declare 'we do not become animal without a fascination for the pack, for the multiplicity. A fascination for the outside' (Deleuze & Guattari, 280). It is this obsession with the outside, what is beyond the self, and the interaction of the human and the nonhuman, which truly fascinates the central characters of the text. Ahab's monomaniacal search for Moby Dick strikes Deleuze and Guattari as a process of becoming, where there is an effectuation 'that throws the self into upheaval and makes it reel' (Deleuze and Guattari, 280). Within this interaction between human and nonhuman bodies, the discourse of utility and commerce is also thrown into upheaval: 'spinning the animate and inanimate, all round and round in one vortex' (Melville, 572). It is Ishmael's burgeoning curiosity concerning the whale and Ahab's fanatical obsession that initiates the alliance with the nonhuman. Such temptation for Deleuze and Guattari is 'accompanied by a rupture with central institutions that have established themselves or seek to become established' (Deleuze and Guattari, 288). This rupture from central institutions can be read as a break from the figure of the eminent term – Western man and the doctrine of rational enlightenment - which placed the man of reason above all other species and nature itself.

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the most erotic scenes in 19th century literature, as he suggests 'Ishmael's spermy rhapsody may be read as a particularly intense and unabashedly homoerotic experience of communitas.' (Gentile, 409). Kyla Shuler follows a similar reading noting that 'over the course of the novel, the harvesting of the whale body is often indistinguishable from sexual relations.' (Shuler, 10).

Deleuze and Guattari's analysis of *Moby-Dick* allows us to identify the creaturely and vulnerable elements within the text. At the start of the narrative, the sea and its marine inhabitants are depicted as a colony where the harpooner reigns. As the Ishmael story comes to an end, however, the whale finds its revenge by dragging the boat and its crew to the depths of the ocean. Ishmael, the only survivor, describes how 'all collapsed, and the great shroud of the sea rolled on as it rolled five thousand years ago.' (Melville, 572). It demonstrates, as Moore suggests, what happens 'when externalities strike back' (Moore, 19), a sign of capitalisms' inability to entirely consume and manipulate nature. It is perhaps a fatalistic warning of the severe consequences of commodifying our environment, revealing ourselves instead to be embedded within a vast and diverse eco-system, vulnerable to natural law: pain, injury, and suffering. To be vulnerable is simultaneously to be integrated and exposed. *Moby-Dick*'s depiction of an emergent empathy for the whale, the porous boundaries between the human and the nonhuman, presents a form of collaborative survival through a shared condition of vulnerability.

In contrast, McLaurin's work does not demonstrate this nuance engagement with the nonhuman world. The environment instead is cast as an unlimited resource for profit and entrepreneurialism. McLaurin's historical account is immersed within the relations that developed out of petroleum's discovery, from the growth of the Standard Oil Company, its commercial affairs, to the interpersonal politics of the infamous Rockefeller family.[40] The account looks solely to the environment's economic potential, addressing the ways crude oil as a commodity engineered and fuelled the growth of capitalist modernity. As Michael Ziser notes, McLaurin describes 'the ferocious and disorganised competition, and fraud that had marked the early [oil] industry in Pennsylvania' (Ziser, 84). Like Upton Sinclair's literary rendition of the petroleum industry, McLaurin's work explores the political and monetary affairs which this natural resource evoked. In such cases, crude oil is not just a resource but an abstract concept associated with wealth, capital, and the growth of industry. If, however, we return to petroleum's origins, a strange amalgam, millions of years of photosynthesis formed from plankton and animal bones, we soon discover its planetary beginnings. In Heather L. Sullivan's words, we need to begin to think of petroleum's vegetal origins (Sullivan, 155).[41] Fantasies of petroleum render it both a resource curse and a prize, an aesthetics and a culture, which perhaps obscures its planetary form that is 'derived from long and varied forms of botanical output that grows, dies, rots underground, and then re-emerges in new and fiery forms' (Sullivan, 154). This form of planetary thinking offers a multifaceted conception of crude oil beyond its anthropocentric usage. McLaurin, however, conceives of the environment and crude oil as mere commodity, presenting a sharp distinction between human society and nature. This clear separation has devastating effects and contributes to what Moore describes as the allegedly separate domains of 'Nature' and 'Society' (Moore, 1), a separation that was fundamental to the rise of capitalism (Moore, 79).

McLaurin's anthropocentric frame and commodification of crude oil points to a further question: what happens to the ethics of energy consumption if we question the very nature of the commodity? Dead for

[40] The Rockefeller Family is an American industrial, banking, and political family whose wealth originated with the birth of Standard Oil Company during the late 19th and early 20th century. (Chernow, 370).
[41] I further discuss the posthuman qualities of Petrocultures in the forthcoming *More Posthuman Glossary.*

thousands of years, an amalgam of past living organisms, fossil fuels show no sign of pain or injury, no recognisable face to acknowledge a sense of fellowship. Nevertheless, it is by relating whaling and oil extraction under a creaturely lens which puts the violence wrought upon the whale and the destruction inflicted upon the crust and depths of the earth into a continuum. The replacement of whale oil by fossil fuels is argued to have relieved us of one environmental dilemma, a movement which Ingrid Kelley suggests saved many species of whale.[42] However, to perceive this movement as entirely an ethical transition is a mistaken assumption. If we regard the environment as also a vulnerable entity, this demonstrates how both industries are inherently violent both to nonhuman life and the environment. Jamie Jones' question of 'what happens when industries die, but do not disappear?' specifically refers to the pervading presence of whaling within the beginning of crude oil extraction moving from one form of violence to another.

In order to break from the capitalist narrative of growth and progress that is inherent to the development of the petroleum industry, Pick's notion of the creaturely can provide a powerful form of resistance. Ross Barrett contends that, 'oil is inseparable from the history of advancement and development' (Barrett, 4). Understanding, however, the rhetoric of commodification that is applied to both the whale and fossil fuels in McLaurin's and Melville's texts allows us to view it as one discourse among many attempting to control and grapple with nonhuman life forms. A creaturely poetics rooted in an ethics of vulnerability is not about categorising or interpreting, but offers a way of feeling, a shared condition grounded in bodily vulnerability and finitude. This Weilian form of attention to the flesh and blood of other life forms is what Sharon Cameron understands as 'regard without motive' (Cameron, 115). It disrupts the discourses of capitalism, as well as moving away from the animal rights based approach of extending personhood to nonhuman species. As Pick suggests, 'instead of interrogating and expanding the possibilities of (non-human) subjectivity, I propose to explore the regions deemed animal (even vegetative) that lurk within the human itself' (Pick, *Creaturely Poetics*, 6). Such a perspective is distinct from the 'residual humanism' (Pick, *Creaturely Poetics*, 8) of rights-based philosophies which remain prominent in both animal ethics and environmentalist movements. Pick's gesture towards a creaturely fellowship is alternatively about making ourselves less human, and granting others – plant or animal – recognition and space to flourish in the world.

To turn to crude oil as a planetary formation requires a radical mode of attention as well as a historical genealogy, addressing its physical formation as 'organic matter that is primarily ocean and plant life and one-celled sea creatures that died and collected on the ocean floor. These oceanic deposits were broken down by the same type of anaerobic bacteria found in peat bogs, transforming it to a thick black substance called kerogen' (Kelley, 24). Acknowledging crude oil's natural, as well as cultural, status allows us to view crude oil momentarily outside the domain of capitalist rhetoric – something that is both a part of cultural production while consisting of natural elements and processes. To view it purely in dualistic terms as either a product of human political and cultural activity or on the other hand as a natural formation, is to neglect its impact

[42] Ingrid Kelley in her work *Energy in America: A Tour of our Fossil Fuel Culture and Beyond* has a sub-chapter entitled 'Saving the whales and the horses'. She suggests that if kerosene, a petrochemical for illumination, had not been developed there is little doubt that we would have lost several species of whales altogether. (Kelley, 44).

on both human and nonhuman society as an economic force, and alternatively its role as an earthly agent: the remnants and relics of plant algae and animal bones. In a similar process to the ways the animal and notions of animality have been socially and culturally constructed, so too has crude oil come to occupy a place in our cultural imaginary severed from its material and physical condition.[43]

For Ross Barrett, 'the most advanced human culture will recognise its natural status when it finally recognises oil' (Barrett, 5). Through a recognition of the planetary nature of crude oil comes an acknowledgement of the finitude and vulnerability that we ourselves share with what we classify as energy resources – all animal, vegetable, plant and mineral life. This recognition of our shared material existence is for Pick the 'communication of the extraordinary through the ordinary', a way of exposing the relations we have but may have forgotten – a corporeal and planetary plea against violence. To move Pick's creaturely poetics towards plant life and the environment, is to perceive the earth itself as vulnerable and finite. This is not an attempt to anthromorphise nonhuman life forms, but rather to view other species and the environment as not entirely separate from us, existing within a similar corporeal and material realm. Acknowledging the relationship between the harpooning of the whale and the extraction of crude oil, facilitates the recognition of these two forms of violence as bound together, where bodies – living and otherwise – are exposed as precarious and fragile. Viewing ourselves integrated within our wider ecology, rather than dominant and separate, presents vulnerable forms of co-existence and survival.

Fordism and Energy Transitions

Nicole Shukin describes how Henry Ford's first assembly line production in Michigan was modelled on and mimicked the 'vertical abattoirs of Cincinnati and Chicago, with deadly efficiency to deadly effect' (Shukin, 87). Ford's inspiration for modelling the car automotive assembly line on the slaughter house is, as Shukin suggests, 'rarely recalled or interrogated' (Shukin, 87). Fordist assembly line production, often viewed as symbolic of capitalist modernity, thus mimics the disassembling of the animal's body into commodity. Shukin suggests how:

> Ford, deeply impressed by a tour he took of a Chicago slaughterhouse, particularly the speed of the moving overhead chains and hooks that kept animal "material" flowing continuously past labourers consigned to stationary and hyper-repetitive picecework, devised a similar system of moving lines for Dearborn but with a crucial mimetic twist: his auto-mated speed lines sped the assembly of a machine body rather than the disassembly of an animal body (Shukin, 87).

This mimetic process offers insights into the connections between animal and capital, and how both became synonyms for the other, or conjoined as one singular category. The connections between the abattoir and the Fordist machine line production are analogous to the transitions in energy culture. The spectacle of violence

[43] In the *Picturing the Beast: Animals, Identity, and Representation*, Steve Baker explores how much of art, film performance and philosophy is informed through animal imagery and how those depictions interfere with our abilities to understand the true nature of animals.

and colonial voyage we explored in *Moby-Dick* may appear as absent or in some way hidden in contemporary modes of energy production. Just as the slaughterhouse is sequestered to the periphery, contained, strategic, and mechanised violence hidden from view, energy production is now carried out away from the consumer metropolis to offshore peripheries. As paradigmatic of capitalist modernity, the Fordist assembly line is not only representative of a new capitalist mode of production but can be aligned with the neo-colonial regimes of contemporary energy extraction.

The spectacle of violence found in McLaurin's historical account of the birth of the oil industry and in Melville's epic whaling narrative are absent from the representation and advertisement of modern forms of energy production. As Heidi Scott illuminates:

> The advertising of whale and petroleum oil have followed a similar trajectory across their discrete historical arcs. From advertising literature based on blind risk and wild adventure, both whale oil and petroleum evolved in popular discourse toward a calculated "responsible" rhetoric of technological expertise, quality, and control (Scott, 17).

Scott suggests this movement was invoked by the rise of an emergent culture of catastrophe, an awareness of limitations and finitude, with the fear of running out of energy resources. With the rise of an environmentalist movement and the recognition of the unsustainable nature of these resources, the overt spectacle of violence in energy production diminished.

Tracing the origins of contemporary petrocultures through whaling and nineteenth century oil extraction serves to highlight the violence inherent to energy production. The elisions of our contemporary modes of production come into view by tracing this movement from whale oil to fossil fuels. Furthermore, nineteenth century whaling culture points towards the centrality of the animal within energy discourse and how the construction of humanity feeds into its exploitative practices. As Scott provocatively notes, 'like the great whale grossly skinned at the ship's side, this ecosystem bears the stamp of ethical perversion that cannot be justified by economic gain' (Scott, 17).

From the violence of the frontier to off-shore and peripheral extraction sites, energy production appears to move to a different mode of production and ideology. This movement can be argued to be characterised by Rob Nixon's concept of slow violence: the process of anthropogenic damage delayed over time, moved to out of sight locations. Western commercial whaling is regarded as an inhumane practice, a history we abstain to be associated with, yet these economies of violence have not disappeared but instead have been replicated and inform our modern day petrocultures. In order to understand the systematic amnesia of modern energy production, and the apparent invisibility of crude oil, Carol J. Adam's concept of the absent referent and Rob Nixon's notion of slow violence serve to convey the systematic and structural violence of this evasion.

Nixon opens *Slow Violence and Environmentalism of the Poor* with an account of Lawrence Summers, the president of the World Bank. Summers proposes a scheme of dumping toxic waste and garbage from rich nations onto Africa. In doing so, Summers presents a physical manifestation of what Nixon terms slow violence, moving environmental damage to non-Western locations as a way to divert the attention of rich-

nations environmentalists while continuing to produce, consume, and dispose without any ethical ramifications. Unlike the display of violence found in *Moby-Dick* and the advertisements of nineteenth century whaling, modern forms of energy consumption appear to follow Summers logic, moving into what Nixon terms a violence which is 'spectacle deficient'(Nixon, 6). In this transition from an overt display of nonhuman and human suffering and environmental damage to more controlled and hidden procedures, we are faced with representational challenges, namely the difficulty of capturing the effects of crude oil when they are deliberately removed from view. Our dark past that involved the killing of millions of sperm whales manifests itself within the present moment through a hidden form of violence, where both the environment and nonhuman animals continually suffer due to a desire for unlimited energy.

The analysis of whaling offers an insight into the manufacturing and commercialisation of life – turning animal into capital. *Moby-Dick*'s nuanced depiction of the whale demonstrates, however, the competing attitudes from the demand for capitalist growth and profit to the rise of environmentalism and animal ethics. The beginning of an opposition to such overt spectacles of suffering resulted in this transition to hidden, mechanical, and systematic, forms of violence in energy regimes. Unlike the romanticised act of killing, which formed the central theme of the advertisement of whaling products, modern forms of energy production are based on mechanical forms of detachment and containment. Fordism and its promotion of the assembly line production offers a significant insight into the contained and mechanised acts of environmental destruction and animal suffering in modern energy consumption. Shukin's analysis of Fordism also presents an example of how the petroleum and automobile industry is entwined and connected to nonhuman exploitation.

In the following chapter, I turn to these neo-colonial, mechanised, and strategic modes of energy production by addressing the parallels between contemporary oil extraction and industrial factory farming. The need for energy as both a form of fuel for transportation and as a source of meat to energise our bodies leads to new and increasingly violent modes of production. What this chapter has explored, however, is possible paths of resistance to capitalist machinations. The introduction of a feminist animal studies, alongside a critique of imperial legacies, offers possible disruptions to the profiteering and entrepreneurial logics of the petroleum industry. Drawing on vulnerability as a mode of exposure and as an ethical and political call for resistance, my work serves to illuminate alternative life-worlds which challenge the hegemony of capitalist exploitation and extractive industries. Like Gumbs' guidebook of black feminist lessons from marine life, which 'listens to marine mammals specifically as a form of life that teaches us about vulnerability, collaboration, and adaption' (Gumbs, 7), my own work on vulnerability likewise attunes to different species and creatures, immersing us in lives that are not our own, while discovering affinities and fellowship to those who appear distinct, different, and yet familiar.

ENERGY PRESENT ONE

Chapter Three

Oil Extraction and Meat Production:

Magnifying the Peripheral

Colonialism was an extraction project.

Kathryn Yusoff, *A Billion Black Anthropocenes or None* (89)

I would add that we also need a history of capitalism written from the viewpoint of the animal world and of course the lands, the seas, and the forests.

Silvia Federici, *Beyond the Periphery of the Skin: Rethinking, Remaking, Reclaiming the Body in Contemporary Capitalism* (11).

The movement from nineteenth century whaling to modern energy regimes traces a transition in ideology from an overt project of colonisation and violence to occluded, technical, and corporate forms of exploitation. It is a transition which is illuminated by what David Harvey terms a new type of imperialism, 'capitalist imperialism' (Harvey, 26).[44] Capitalist imperialism is a hegemonic mode of exploitation which prioritises the economic, foregrounding trade and market relations. The material forms of violence in contemporary energy regimes are still shaped by colonial legacies, yet there is a movement from the formal political control of empire to a corporate economic coercion. These conditions of capitalist imperialism maintain a state of permanent unevenness, a world system of imperial cores and colonised peripheries, consumer centres and extraction zones.[45]

Modern energy production is informed by a politics of visibility and produces what Nixon refers to as representational challenges, in which deliberate corporate evasion, spatial distancing, and cognitive

[44] David Harvey defines a brand of imperialism as 'capitalist imperialism, as a contradictory fusion of the politics of state and empire (Imperialism as a distinctively political project on the part of actors whose power is based in the command of territory and a capacity to mobilise its human and natural resources towards political, economic, and military ends) and 'the molecular processes of capital accumulation in space and time (imperialism as a diffuse of political-economic process in space and time in which command over and use of capital takes primacy)' (Harvey, 26). Harvey connects this form of imperialism in particular to the growth of America's power suggesting America is in fact an empire.

[45] The dialectic of core and periphery is inspired by the WReC group's most recent intervention to this Marxist formula, which was originally conceived by Trotsky. The WReC group suggest in their collective work *Combined and Uneven Development: Towards a New Theory of World Literature* that the 'dialectics of core and periphery […] underpin all cultural production in the modern era' (WReC, 51).

dissonance shape both meat and oil culture. In this chapter, I will explore the peripheral space of oil extraction and meat production, addressing the marginalised subjects – human and nonhuman – who are affected by and implicated within the production process. Meat and crude oil are both energy commodities, one for fuel for the body the other used for transportation, as well as other commodity derivatives such as plastics, electricity generation, asphalt, and more. Their production occurs in offshore and rural peripheries, yet both are seemingly ubiquitous resources, everywhere in multiple forms and derivatives. To render visible these commodity processes, I bring together meat and oil culture by exploring two novels: Michel Faber's *Under the Skin* and Nnedi Okorafor's *Lagoon*. I argue that these texts provide a 'telescoping function' (WReC, 17) by magnifying the destruction and suffering which occurs at the periphery. The narratives are situated in (semi) peripheral regions and are characteristic of the irrealist register which often occurs in the extractive zone. For WReC member, Michael Niblett, the aesthetics of peripheralisation expresses forms of irrealism. Niblett goes on to suggest, an 'irrealist literary work might include elements of fantasy, the oneiric, the marvellous, or the surreal; it may well display an admixture of disjunctive registers or tonalities' (Niblett, 62). According to WReC, irrealist aesthetics respond to the pressures of combined and uneven development. The science fictional tropes and the strange alien encounters in the narratives demonstrate the irrealist forms which can emerge in the space of commodity production. Turning to different types of "extractive zones", the land itself and the body of the animal, Faber and Okorafor's narratives explore terrains of violent production while introducing voices and scenes of resistance. Following Macarena Gomez-Barris, who questions 'what cultural and intellectual production makes us see, hear, and intimate the land differently' (Gomez-Barris, xx), I turn to these cultural narratives which expose the conditions of extractive capital yet offer a challenge to its present hegemony.

Before my literary analysis, I will foreground the relationship between liberal humanism, colonialism, and capitalism while addressing the systematic erasures they produce. I will explore how the boundary of the human is an artificial product of constant negotiation, one often informed by colonial rhetoric and practices. Following Kay Anderson, I suggest how 'humanity is not an essence, but a shifting mode of being' (Anderson, 2) and I argue that this shift between the human and the inhuman is intrinsically bound to the project of colonial extraction. The affinity between humanism and colonialism will also be aligned with the wider economic project of capitalist imperialism, addressing how empire and capital are related through projects of extraction. By liberal humanism, I refer to an understanding of the human subject as espoused by the enlightenment project and political philosophers such as John Locke, who, as Julietta Singh suggests, foregrounds the modern subject within the capitalist economy, mastery, and property ownership (Singh, 13). I go on to further argue that the sovereignty of the 'human', the reign of colonial extraction, and capitalist ideology results in what Yusoff terms 'deadly erasures' (Yusoff, 9), a subjugation 'of nature, the non-Western world, ecologies, and the planet' (Yusoff, 54). Turning to these systematic and structural erasures, I explore the ways Rob Nixon's concept of slow violence and Carol J. Adams' notion of the absent referent are theoretical tools which point towards the absence of nonhuman suffering and environmental destruction. Finally, these systematic erasures will then be placed within the context of the WReC group's interpretation of the Marxist formula of core and periphery, in which a crisis of representation and visibility occurs at a

geographical level. The periphery, however, will refer not only to the material space of a colonised zone and a location of capitalist underdevelopment, but also the animal body as a peripheral subject.

To address and explore these forgotten histories and peripheral spaces, I open my literary analysis with Nnedi Okorafor's *Lagoon* which is set within the petroleum landscape of Lagos, Nigeria. My intention is to magnify the peripheral scenes of offshore oil extraction, the interaction of petroculture and the nonhuman, and the colonial legacies which manifest within the text through energy imperialism and alien invasion. The novel itself traces the adventures of the biologist Adaora, and two other characters, amongst the chaos of an alien invasion in Lagos. As the city is upturned, Okorafor introduces a non-anthropocentric world of spider narrators, swordfish attacking oil pipelines, and shapeshifting aliens. This world illuminates the collision of the nonhuman and petroculture, exposing the lives impacted and affected by regimes of extraction.

Moving onto Michel Faber's *Under the Skin* I address the space of the factory farm, drawing the text into dialogue with the petroculture of Okorafor's *Lagoon*. In Faber's novel, the colonial interloper is the alien industry of Vess Corporation and their representative Isserley. Faber's strange and interesting reversal, however, is that this alien species, who appears characteristically in animal form, with arched backs and fur, define themselves as 'human', and what we recognise to be human life is redefined as vodsels, a delicacy this alien life consumes. The novel follows the character of Isserley and traces her complex relation to her role in the meat industry.

Both of these narratives explore commodity production and their environmental consequences through the genre of science fiction, generating an irrealist literary style. Ursula K. Heise writes that 'science fiction is one of the genres that have most persistently and most daringly engaged in environmental questions and their challenge to our vision of the future' (Heise, 1097). My chosen narratives not only confirm Heise's statement, but also offer an encounter with animal alterity, an alien life form not yet known or understood. As Sherryl Vint suggests, both SF and animal studies 'are concerned with the construction of alterity and what it means for subjects to be positioned as outsiders' (Vint, 1). Faber and Okorafor illustrate the commodity flows of meat and oil within the economies of science fiction to think from this outsider position, inviting a possible encounter with an animal and alien Otherness which poses disruptions to the mechanical modes of capitalist production. Science fiction that is produced in the extractive zone captures the irrealist aesthetics of the periphery, exposing the contradictory forces of capital through alien invasion, shapeshifting creatures, and nonhuman encounters. Although here I do not explore the features of science fiction in detail, I pay attention to the irrealist form which plays out in the narratives through science fictional tropes.

In the final stages of this chapter, I return to my feminist animal studies methodology addressing the ways in which an ethics of vulnerability might provide an alternative to the colonial extractivism of energy and meat production. I trace the moments in which vulnerability is exposed in the two texts and draw on Anat Pick's conception of the creaturely and Judith Butler's definition of vulnerability to explore them. Butler and Pick both point to a recognition of corporeal vulnerability that is at once 'perilous and enabling' (Butler, "The Ethics of Cohabitation," 1). The encounters with an alien and animal alterity in the texts provide invitations for both violence and care. My central question is whether an exposure to vulnerability can

provide a method and a mode of resistance to energy imperialism, a way to create ruptures in the capitalist system of production.

Liberal Humanism, Colonialism, and Capital's Deadly Erasures

The human subject who possesses reason and agency has often been a hegemonic model that serves to forge a distinction between 'civilisation' and 'barbarism', forming a realm of subjugation and erasure. Humanism has thus been an instrumental tool for colonial ideologies and capitalist expansion. Posthumanist thinkers such as Rosi Braidotti provide a critique of enlightenment humanism and unearth its colonial origins noting that the man of reason is,

> A hegemonic cultural model […] instrumental to the colonial ideology of European expansion: "white Man's burden" as a tool of imperialist governance assumed that Europe is not just a geopolitical location but also a universal attribute of the human mind that can lend its quality to any suitable objects, provided they comply with the required discipline (Braidotti, 23).

I similarly present a critique of the sovereign subject of humanism exploring its connections to both colonialism and the capitalist projects drawing on anti-racist, eco-critical, and Marxist thought.

In Kathryn Yusoff's crucial intervention into the debate surrounding the origins of the Anthropocene, she suggests that 'modern liberalism is forged through colonial violence' (Yusoff, 2). Such a statement indicates that liberal humanism, with its ideals of freedom and progress, has a counterpart of dehumanisation and violence. Yusoff's argument in *A Billion Black Anthropocenes or None* traces the history of colonialism and slavery within the geological formation and coining of the Anthropocene. Without a recognition of geology's racial inscription, she suggests the coining of the Anthropocene is a dangerous and 'deadly erasure, a rebirth without responsibility' (Yusoff, 8). Yusoff's analysis of how life becomes extractable matter under colonial regimes of extraction and production provides a useful insight into the complex relationship between humanist discourse, colonialism and the capitalist project. As Yusoff goes onto note,

> Geology is a category and praxis of dispossession. It has determined the geographies and genealogies of colonial extraction in a double sense: first in terms of settler colonialism and the thirst for land and minerals, and second as a category of the inhuman that transformed persons into things (Yusoff, 68).

The categorical distinction between human and inhuman is an important axis that determines life – humans, nonhuman animals, and land—as extractable matter. Yusoff suggests that it 'facilitated the division between subjects as humans and subjects priced as flesh' (Yusoff, 9). Here, Yusoff's focus is on slavery and the reliance on black lives as the source of the labour necessary for colonial projects of extraction. I would argue that her questions around the role of material agency, 'outside the cozy structures of humanism' (Yusoff, 9), also have an acute relevance for a non-anthropocentric politics, and can be used to address the inadequacy and violence which emerges from the human and nonhuman binary.

The human and the nonhuman divide is highlighted by Yusoff as a key component underpinning colonial regimes, and she notes that 'both enslaved land and ecologies become subject to encoding as inhuman property as a tactic of Empire and European world building' (Yusoff, 68). Colonialism is thus a project of material and discursive dehumanisation, one which turns enslaved people, colonised subjects, and land into property and matter, excluded from the privileged category of the human. This negotiation to establish the borders between what is human and what is not reveals how the human itself becomes a fragile concept, appointed according to existing power structures and complicit in colonial ideologies. Dehumanisation occurs then in the name of humanism, a reigning power structure which denies certain lives their existence, rendered extractable tools and property. As Yusoff suggests, just 'as land is made into tabula rasa, so too do Indigenes and Africans become rendered as a writ or ledger of flesh scribed in colonial grammars' (Yusoff, 33). The colonial project reshapes lives, bodies, and ecologies, into these grammars transmuting life into inert resources for capitalist trade and commerce.

For theorists such as Franz Fanon, this process of dehumanisation is central to colonialism. The "Man of Reason" along with the many different conceptions of man: 'scientific, religious, political – have always, as Fanon constantly reminds us, entailed the dehumanisation of certain categories of individuals, with genocidal results' (Alessandrini, 80). Fanon's remedy for those who have been denied subjectivity is however to proclaim a renewed humanism 'predicated upon a formal repudiation of the degraded European form' (Lazarus, 189). Although Fanon provides a critique of the traditional model of the human subject and its connection to colonial regimes, he reasserts the need for a category itself to restore and reclaim agency.

Inspired by the work of Fanon, and many other critical race theorists and philosophers, Sylvia Wynter also critiques the sovereign subject of humanism and traces its history and connection to colonialism. For Wynter, the local concept of Man/Human has an imperial universality. As she notes, 'the idea of Man at a particular moment of world history, the European Renaissance, was also the foundational step for building racism as we know it today' (Wynter, 118). In order to think and live decolonial practice, Wynter's work suggests it is necessary to unsettle and undo 'Western conceptions of what it means to be human' (McKittrick, 2). By unveiling the coloniality of human identity, the process reveals the often unacknowledged violence of humanism, exposing its exclusions and hierarchical structures.

Humanism, however, not only provides the justification for colonial settler rights and racist violence, but it is simultaneously linked to 'material practices of extraction' (Yusoff, 2). Central to humanism and its exclusions is what Yusoff calls the 'afterlives of geologies […] the indigenous dispossession of land and sovereignty in the invasion of Americas through the ongoing petropolitics of settler colonialism' (Yusoff, 3). The afterlives of geology are regarded as inhuman matter, the exposable externalities to the capitalist imperial project. Humanism and colonialism are thus connected to the regime by which capital transforms life into commodity. Colonialism and capitalism are both projects of dispossession and dehumanisation rendering colonised subjects and land into the grammars of capital. The political project of colonialism, one of exclusion, domination, and hierarchy, is historically embedded in the material and economic project of capitalism.

Satyaki Roy evaluates this relationship within Marxist literature referring to figures such as Luxemburg, Hilferding, Bukharin, and Lenin to draw out the relation between the colonial project and the capitalist enterprise. Roy goes onto describe the many definitions of imperialism:

> Imperialism as modes of reproducing unequal exchange; imperialism as territorial expansion for cheap resources, markets or avenues to invest where the rates of profit are relatively higher; imperialism as the political superstructure of monopoly capital and expanding finance, and also as an outcome of a terminal phase of capitalist cycle; and so on. (Roy, 15).

In this amalgam of definitions it is evident that the combined force of capitalism and imperialism is the central mode of power and coercion which enables the project of extraction. As Marx himself points out, 'during its first stages of development, industrial capital seeks to secure a market and markets by force, by the colonial system' (Marx, 501). As Marx suggests, there is a forced expansion of capitalism and Western markets through colonisation. Rosa Luxemburg similarly conceives imperialism as intrinsic to capitalism, suggesting that advanced capitalist centres rely on a colonised periphery to extract raw minerals and resources.[46]

Within the context of contemporary energy production, while no Western corporation rules directly through colonial power, the legacies of colonialism exist through these same regimes of capital and economic imperatives. For Ellen Meiksin Wood, there is a lack of transparency within capitalist imperialism, ensuring that 'it is much harder than it was in earlier colonial empires to detect the transfer of wealth from weaker to stronger nations' (Wood, 4). Wood suggests that compulsion and obedience is not imposed through a ruling master, but rather by the demands of the market. By turning to the market flows of energy within both oil and meat culture, we can magnify this capitalist imperial operation and therefore expose its violence.

In the case of nineteenth century whaling, we witnessed the overt spectacle of a violent imperialist enterprise. Contemporary modes of extraction and production, however, including those of oil and meat, present a different form of coercion which moves through 'the daily practices of production, trade, commerce, capital flows, money transfers, and labour migration' (Harvey, 27). There appears to be what Nixon terms a 'spectacle deficiency' (Nixon, 15) to these contemporary forms of trade and oppression. As Wood further notes, 'coercion in capitalist societies, then, is exercised not only personally and directly by means of superior force but also indirectly and impersonally by the compulsions of the market.' (Wood, 11) Nevertheless, despite the façade presented by declarations of the growth of democracy, progression, and modernisation, this form of empire is as violent as any other.

Capitalist imperialism moves through a physical and metaphorical erasure, moving production to semi-peripheral and peripheral locations, prioritising the economic and thus transmuting life – human and nonhuman- into commodity. Like the clear and violent divide between the human and animal, capitalism foregrounds hierarchical dichotomies which shape subjectivity and turn persons, as well as other species into

[46] This is explored in depth within Rosa Luxemburg's *Accumulation of Capital.*

'things.' To explore these 'deadly erasures' (Yusoff, 8) is to recapture the forgotten histories of bodies and geologic matter utilised by and absorbed into an anthropocentric, as well as a white male dominated world. Such erasures recall Shukin's *Animal Capital*, which describes the historical amnesia of the origins of the Ford assembly line, noting how it was modelled on the disassembly of animal bodies in the slaughter houses of Chicago. This amnesia is perhaps symbolic of the contemporary power relations found in energy production, which present a façade of technological expertise, a controlled and distant form of management – systematic erasures enabling a limitless consumption and a forestalling of ethical considerations, turning bodies into resources, to inert and passive matter.

Returning to Adams' concept of the absent referent, it is clear how the process of turning bodies into commodities is illustrated by this term. In the opening of the 1990's edition, she dedicates the text to the anonymous animals slaughtered by the meat industry. As outlined in the first chapter, the central concern of Adams' text are absences, the ways in which the meat on our dinner plates bears little relation to the animal who once lived and remains absent from the process of consumption. Adams' acknowledgement of this severance between consumption and the production process gestures to a critique of capitalism itself, the limitless consumption of which is enabled through absences and erasures. Like Shukin, Adams describes how the Ford assembly production line mirrored the disassembly of animal bodies in Chicago slaughter house. Adams goes onto describe that 'one of the basic things that must happen on the disassembly line of a slaughterhouse is that the animal must be treated as an inert object, not as a living, breathing being.' (Adams, 53). In such cases, it could be argued that it is humanism and its hierarchical relations which permits such a division – an ethical and affective blindness to what appears before you.

However, what if we were to extend Adams' notion of the absent referent to think about how the oil industry likewise moves through systematic and structural effacement and elision, therefore bringing meat and oil culture into dialogue? A key component of Adams' absent referent is the need to address the ways in which language shapes animals into a product. How is crude oil similarly transformed by a language of commerce which detaches it from a previous history in which it was once apart? Oil is often cast as the invisible actor within military conflicts and invasions, while the effects of extraction leave little trace within the cultural and social imagination. If Adams' project is to make what is absent present, how can we embark on a project of exposure to make oil and its effects visible, whilst also situating fossil fuel extraction in dialogue with meat production? To do so, the feminist vegetarianism Adams advocates could have an impact on energy relations as well as the individual consumption of meat products.

Significantly, Adams opens Chapter Five, 'Dismembered Texts and Dismembered Animals', with a quote from Simone Weil:

> Documents originate among the powerful ones, the conquerors. History, therefore, is nothing but a compilation of the depositions made by assassins with respect to their victims and themselves. (Weil, *The Need For Roots*, 219)

Weil's words recalls Yusoff's project of situating the Anthropocene within the history of slavery, plantations, and colonialism. As Yusoff goes on to note, 'the birth of a geologic subject in the Anthropocene made without examination of this history is a deadly erasure, rebirth without responsibility' (Yusoff, 8). Addressing the history of extraction and current consumption likewise must address the lives upon which it depends – the nonhuman bodies, the inorganic matter, the creatures both living and dead which form the lifeblood of energy systems both as food and fuel.

Yusoff suggests that extractable matter must be passive, awaiting activation through the mastery of white men. (Yusoff, 3). Like Adams, she reiterates how living beings are turned into extractable objects performing a new and different function co-existent with, and controlled by economic and market imperatives. This coexistence is made possible through a clear and didactic assertion of humanism, a colonial white ruler, and the erosion of the histories and lives which have been forced into the process of production and extraction. In order to challenge what Adams' coins 'patriarchal consumption' (Adams, 186) which is powered by Yusoff's notion of 'humanism as erasure' (Yusoff, 57), I explore not the master narrative, but the semi-peripheral and peripheral stories to be found within spaces of extraction and production.

To turn to the periphery and its relation to extraction is partly an attempt to visualise and narrate Nixon's notion of slow violence. Like Adams, Nixon is concerned with absences. He draws our attention to the fact that 'politically and emotionally, different kinds of disasters possess an unequal heft' (Nixon, 3). The slow emerging catastrophes of ocean acidification, deforestation, and the dumping of toxic waste, for example, rarely receive the attention of the calamities of burning buildings, war zones, and 'terror' attacks. Although both Adams and Nixon are dealing with different forms of oppression and destruction, they both address the challenge of visibility, the difficulty of representing what is often obscured from view. Positioning them in dialogue, however, connects both environmental and animal ethics, which at times can be in tension with one another. In Nixon's introduction to slow violence, he cites Rachel Carson's *Silent Spring* as inspiration for his concept – the idea of "death by indirection."[47] *Silent Spring* is also a useful text to understand the indirect violence and suffering of the nonhuman as well as environmental damage. In the case of both animal suffering and environmental catastrophe, there is a sense of anonymity – a structural form of violence where accountability is difficult to locate. This also points us to an absence, one enabled by the capitalist system which moves through erasures, eliding different lives and their histories while removing responsibility into anonymous focal points. The movement of slow violence functions through the influence of Western powers and their economic and colonial dominance. In relation to petro-capitalism, Nixon notes that 'Western multinationals exerted a disproportionate influence over the terms of extraction with their third world state partners, inhibiting democratic dispensations from developing while exploiting environmental, health, and labour climate far more lax than the legislative controls corporations were subject to back home' (Nixon,

[47] Rachel Carson's *Silent Spring* is the story of how technological progress, alongside the widespread use of toxic chemicals in the countryside, resulted in the destruction of ecologies and wildlife.

71). In such cases, we witness the effects of the division between imperial cores and colonised peripheries, the progress and development of some nations through its extraction from others.

The WReC group's development of the Marxist dialectic of core and periphery provides another useful theoretical tool to expose the ruptures which appear within the flows of oil and meat from production to consumer. To address the exploitation of a world that is 'one and unequal' (Moretti, 149), we must expose the peripheral and semi-peripheral spaces which are subjected to the regimes of violent extraction. The perspective of core and periphery (and the semi-periphery) therefore allows us to turn the effects of capital and colonialism outside the imperial and urban centres. The capitalist narrative of progress and continuous development disguises the global state of permanent unevenness which shape trade relations. I unmask this illusion by exploring the conditions of unevenness at the periphery as revealed by Okorfar's and Faber's literary texts with their focus on meat production and oil extraction. Drawing on WReC's conception of an irrealist register, I explore aspects of the fantastic, the alien, and the supernatural qualities which emerge from these peripheral fictions. As Michael Lowey questions, 'by creating an imaginary world, composed of fantastic, supernatural, nightmarish, or simply nonexistent forms, can it not critically illuminate aspects of reality, in a way that sharply distinguishes itself from the realist tradition?' (Lowey, 205). *Under the Skin* and *Lagoon* enter extractive zones through images of the surreal, fantastic, and the alien. Yet, both narratives sharply capture the uneven conditions of extractive capital. Both locations of these literary works, Scotland and Nigeria, have been subject to petro-capitalism and oil imperialism, in that other nations and multinational companies have benefitted from their mineral wealth. Turning to these peripheral and semi-peripheral locations and their unlikely literary protagonists allows for a different side of the conditions of underdevelopment and exploitation to be narrated, a story of extractive capital from the nonhuman peripheries.

Poetics of the Offshore and Colonial Legacies in *Lagoon*

Nnedi Okorafor's *Lagoon* explores the ramifications of an alien invasion in the city of Lagos, Nigeria. The narrative presents connections between the alien interlopers, the legacies of colonialism, and the present regimes of extraction which dominate the Nigerian landscape. *Lagoon* thus produces an imaginary of the offshore revealing 'sights of the unseen' (Nixon, 15), conjuring images of abandoned oil rigs, burst pipelines, and mass road kill. She provides the essential 'telescoping' (WReC, 17) function, magnifying the peripheral space and subjects within the petroleum landscape. The focal point of my analysis of *Lagoon* will thus be underpinned by Nixon's notion of 'sights of the unseen' (Nixon, 15). In his work, Nixon suggests that,

> Writer-activists can help us apprehend threats imaginatively that remain imperceptible to the senses, either because they are geographically remote, too vast or too minute in scale, or are played out across a time span that exceeds the instance of observation or even the physiological life of the human observer (Nixon, 15).

Okorafor provides this attentiveness to the remote space and the minute scale: from the offshore oil site to pipelines bursting into the habitats of marine life. Through an irrealist register, *Lagoon* traces the cascading violence of extractive industries while attending to the creatures who are entrapped within its infrastructure. Extractive violence is captured through various irrealist forms from nonhuman narrators, gothic monsters, and alien invasions. Okorafor provides a vision of the human and nonhuman lives who exist within the marginal spaces of production and extraction. My analysis thus offers a perspective and magnification of who and what resides within the margins and peripheries. My literary readings focus on different episodes in the narrative which reveal the collision between nonhuman life, petroculture, and its infrastructure. I also further address the connections between contemporary regimes of extraction and their connection to the legacies of colonialism, illuminating the ambivalent role an alien invasion holds within the Nigerian context.

Removed from Western economic and consumer centres, Okorafor explores the consequences of an alien invasion at the periphery, an extraction and production zone, in the city of Lagos. Nigeria's history is entrenched in the legacies of colonial and capitalist violence. Rich with natural resources, Nigeria has been a location for Western exploitation of neo-colonial and capitalist enterprise. In relation to the Marxist theory of combined and uneven development, Nigeria in many ways has been 'sacrificed for the development of others, such as the countryside for the city […] the colony for the metropole, or even one city for another' (Harootunian, xv). Despite the country's independence in 1960, the force of NGO's and capitalist enterprises, enforced austerity of National Debt from the World Bank, and the extraction of valuable natural resources, has resulted in a reassertion and dominance of Western industries and corporations. In this process of extraction and development, the WReC group note that,

> Capitalist development does not smooth away but rather produces unevenness […] the face of modernity is not worn exclusively by the futuristic skyline of the Pudong District in Shanghai or the Shard and Gherkin buildings in London; just as emblematic of modernity as these are the favelas in Rocinha and Jacarezinho in Rio and the slums of Dharavi in Bombay and Makoko in Lagos […] These constitute the necessary flipside of the mirroring opacities of postmodern topos like the Portman Bonaventura Hotel (WReC, 13).

It is amidst these uneven conditions, the peripheralised space of maldevelopment of modernity that Okorafor sets the narrative. Okorafor explores the implications of an alien invasion outside the Western and economic metropolis, where the question that arises is who, beyond its borders, will notice? A location where, in many ways, the science fiction apocalypse and alien invasion has already taken place.

What Jennifer Wenzel terms the 'petro-promise' (Wenzel, 212), 'the illusion of a completely changed life, life without work, life for the free' (Kapuscinski, 34), is presented to the people of Nigeria with the discovery of commercial oil deposits on the eve of Nigeria's independence (Wenzel, 211). The reality, however, is of a different nature as the discovery of oil resulted in wealth for a minority, a process of underdevelopment, and poverty for the majority of the region. As Michael Watts states, 'most Nigerians are poorer today than they were in the late colonial period' (Watts, 44). Wenzel describes this process as one in which

‘development begins and turns backwards’ (Wenzel, 213). Okorafor’s narrative points to these polar extremes of urban capitalist development alongside exploitation and poverty through the alien invasion, which offers the promise of technological innovation and wealth yet the utopian outcome is never quite realised. The alien invasion in many ways is resonant of a history entrenched within colonialism and neo-colonial control.

Okorafor’s science fiction text, however, subverts the dominance of white Western hegemony through her development of Africanfuturism. Previously Okorafor defined her work as Afrofuturism, a growing cultural and aesthetic movement which focuses on the intersection of African diaspora, technoculture, and sci-fi. Okorafor claims her literary work can be placed in what she terms as either Africanfuturism or Africanjujuism which is distinct from Afrofuturism by being directly rooted in African culture, mythology, and history. Instead she suggests Africanfuturism does not privilege or centre the West.[48] In moving beyond Western centrism, to foreground African history and culture, Okorafor magnifies what is constructed as peripheral space and experience. By doing so, Okorafor also challenges the colonial and neo-colonial imaginaries of Western SF, where outer-space has often been a site for a literary landscape of colonial conquest, perpetuating a vision of imperialism into interstellar regions to expand empires and envision future colonies.[49] Her subversion of colonial and neo-colonial tropes of SF allows for a new imaginary of what could be, outside of capitalist and oil imperialism, one which is connected and bound to Nigeria’s history under colonialism and its ongoing legacies in relation to the dominance of multinational oil companies.

The alien invasion itself presents ambivalent figures in which critics such as Michael Paye have interpreted the aliens as hybrids of Nigerian folklore culture advocating a new ontology and ethical approach to energy resources.[50] The very act of invasion, however, can be understood as a violent act and resonant of the different forms of imperial and neo-imperial powers including oil companies such as BP which exploited resources in Nigeria. This is not to say the aliens are clear allegorical figures of Western powers and the dominance of the oil industry, but rather to suggest that the fictionalised event of an alien invasion exists within a continuum with the legacies of colonialism in Nigeria.

Lagoon is pervaded by scenes of ruin not simply in the wake and chaos of an alien invasion, but through the environmental devastation caused by the oil industry. Kola, the young daughter of Adaora, addresses the alien they have named Ayodele and states: ‘My mother says the waters are all dirty and dead because of the oil companies’ (Okorafor, 68). Journalist and writer Peter Maass likewise notes that ‘the oil in Nigeria has

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[48] Nnedi Okorafor’s blog on Africanfuturism: http://nnedi.blogspot.com/2019/10/africanfuturism-defined.html

[49] John Rieder’s *Colonialism and The Emergence of Science Fiction* traces the colonial ideologies which emerge in science fiction suggesting how the notion of the ‘exotic other’ in colonial accounts establishes the basic texture for much of SF. Sherly Vint’s *Animal Alterity, Science Fiction and the Question of the Animal* also discusses this relationship of colonialism and science fiction.

[50] Michael Paye’s article “Beyond a Capitalist Atlantic: Fish, Fuel, and the Collapse of Cheap Nature in Ireland, Newfoundland, and Nigeria” argues that the novel ends ‘in victorious recognition of cooperation after chaos, as the aliens promise a post-carbon and, implicitly, post-capitalist future, with Nigeria taking the lead.’ (Paye, 27). As will be developed during the course of the chapter, I suggest how the alien’s techno-utopianism is not so much a break with capitalist mode of production, but rather another branch and reinvention.

not stopped leaking' (Maass, 65). Most of Nigeria's oil was found in the Niger Delta where significant extraction took place during the 1960s. Maass notes how the local people received little wealth from the mineral resources found on their land. This controversy over mineral rights, according to Maass, 'accelerated a process of national break down' (Maass, 65). He describes the extraction sites in Nigeria as a 'landscape of ruin' (Maass, 65). The continuous flow of oil bursting from the extraction pipes goes relatively unrecorded in Nigeria, where it is a hazard seen as inevitable collateral damage, a form of slow violence which rarely reaches the television screen.

While researching for his book *Crude World*, Maass travelled through 'Nigeria, meeting oil executives, oil warlords and immiserated fishermen whose livelihood has been destroyed; it was a journey into the carbon hell on the other side of our gas pumps' (Maass, 65). It is this journey in which we embark on through reading *Lagoon*, taking us to the production side of the petroleum pipeline. However, Okorafor's fictional account of Nigeria reveals not simply the devastation evoked from oil culture but also the vibrancy of Lagos, which is bursting with its unusual sea creatures, folklores, and mythology.

Okorafor opens the narrative from the nonhuman peripheries of our world system beginning with the perspective of a swordfish and its collision with an oil pipeline. Okorafor was inspired by the news story of a swordfish attacking the Angola pipeline, described by journalist Christopher Helman as an 'orchestrated retribution by Poseidon's creatures for BP's 2010 Deepwater Horizon disaster' (Helman, 2014). Okorafor recreates this episode but inside the swordfish's subjectivity. Frustrated with an anthropocentric world, the swordfish plummets towards the pipeline in order to vanquish its malignant presence within the ocean. As the pipeline bursts, and oozes with 'black blood' (Okorafor, 4), the swordfish radiates with joy at having succeeded at attacking the black snake which intrudes upon their habitat. The swordfish imagines the oil pipeline as an animate agent, a monstrous oppressor cutting through the ocean bed. Okorafor's use of a nonhuman narrator opens up possibilities of thinking and feeling beyond the human. There is an emphasis on the swordfish's interiority, her experience of emotion, the anger evoked from her polluted waters from the continuous oil mining within the seabed. Okorafor opens the text with this rare and underreported news story in order to shift our perspectives from the immediate and explosive violence which proliferates across media headlines. This aims to draw our attention to the minute scales and events geographically remote: the lives impacted by oil imperialism, the human and the nonhuman lives who are not centred in the media or are denied cultural focus. By entering the swordfish's subjectivity, we immediately encounter another way of feeling and seeing, introducing a non-anthropocentric framework within petrocultures. This opening allows for this alternate perspective of petro-modernity, its consequences and effects on different life forms: extractive capitalism narrated from the nonhuman.

Okorafor also takes us to the unexplored and derelict zones of the offshore oil site. In the chapter titled 'Offshore', the character Agu is taken to an offshore oilfield. Within the narrative, there had been a report that thousands of gallons of crude oil was spilling into the sea, and the production facilities abandoned due to the chaos of the invasion. Out on the boat heading towards the offshore oil rig, Agu observes:

> The rig was a spidery structure made of concrete and rusty steel. Anchored firmly to the seabed by steel beams, it was a decades-old monster, a hulking unnatural contraption of production facilities, drilling rigs and crew quarters […] it was usually a place of noise and activity. Now it was deserted and quiet (Okorafor, 95).

The material and geographical distance associated with oil production is eradicated within this passage, as Okorofar magnifies the offshore oil site, its unnatural force and weight entrenched within the seabed. She emphasises its unnatural quality, recreating it as a monstrous entity, rupturing a natural landscape. There is a personification of the rig as a 'decades-old monster' festering and polluting the space of the offshore location. If, as many petro-critics have noted, oil and its production is uniquely occluded, *Lagoon* forces us to recognise its presence. Sheena Wilson notes this absence and evasion of oil within our visionary field suggesting that 'not only does its exchange value engender an enormous corporate project of hiding, an explicit machinery of deception and spin, its pervasiveness, its presence everywhere, perhaps singularly christens its position as "hidden in plain sight" (Wilson, "Sight, Site, Cite", 4). What Okorafor exposes is that oil production is starkly visible for certain people, those on the other side of the gas pump, where it can organise and dictate their existence. For oil to feel invisible is, in some sense, a privilege, in the sense that one is detached and severed from the production process. The spectral absence of oil, to which Wilson refers, echoes the work of Adams in relation to meat production, which argues that animals are made literally absent from meat eating because they are dead. In the act of what Adams refers to as flesh eating flesh, the animal no longer exists on both an abstract and material level. In the same ways oil and its many derivatives are not associated with the environmental consequences of production, meat production is similarly shaped by a cognitive dissonance, an enforced fragmentation which dictates the roles of the consumer and the resource. Okofaror's narrative explores the effects of oil in this way, making the absent referent present.

One of the ways in which Okorafor highlights the peripheral effects of oil culture is through the predatory road called 'the bone collector' (Okorafor, 119). Our first introduction to the bone collector is through the perspective of a seven limbed spider. Although the road is yet to become a conscious entity, absorbing human and nonhuman life into its gut, the spider takes a leap surging across the road in order to avoid the oncoming traffic. We witness the outcome of his venture across the road with a 'crunch' (Okorafor, 120). 'The crushed body of the large seven-limbed tarantula sinks into the road's sun warmed surface' (Okorafor, 120). The central character Adaora drives across the small stretch of road unaware entirely of the crushed spider's body flattened into the cement. In this moment, Okorafor illuminates the death of the supposedly insignificant, a peripheral life and a marginal incident which takes centre stage. She names the highway the bone collector because of the many remains of human bodies, broken vehicles, and the animal life it has collected over its history; a strange archive of merged remains of machine, human, and animal. In the later stages of the novel, the road itself becomes a monstrous entity, eating anything within its wake. The horrors and effects of the oil industry become magnified in this surreal depiction of a mass road kill, where the road itself becomes a carnivore consuming the flesh and bones of anything driving or passing along the highway.

In the chapter the 'Road Monster', the narrative follows a Nigerian family fleeing the chaos of the alien invasion and the rising sea waters. As they abandon their home and head for the road, they encounter the strange monstrous entity which is the bone collector. The father of the family reflects that 'these roads are full of ghosts' (Okorafor, 204). The emphasis on the apparitions which haunt the Nigerian petro-infrastructure serves to envision the slow violence of oil culture; not only from the landscape polluted by oil spills which never stops leaking, but from the many lives taken by a world dominated by the automobile. The road itself becomes a carnivorous machine consuming all within its reach. The terrified family hear its rumbling cry: 'OOOMM' the road said' (Okorafor, 207). This monstrous and alien creature is not the unfamiliar beings arrived from outer-space, but rather one of human creation: the horror of petroculture is crudely awakened, the road violently consuming its own creators. In this Frankenstein style horror story and use of irrealist aesthetics, the family smell the pervading element of blood and hot tar on the breath of the monstrous road, the voice of the road bellowing towards the family. However, an alien arrives to protect the family from this monstrous road. The road sinisterly announces, 'I have always collected bones, I am the road' (Okorafor, 208). The vibration of its voice reverberates across their bodies, making them feel 'like nothing but meat, like it could shake the meat from my bones, the bones it wanted' (Okorafor, 208). This experience of becoming meat strangely reverses the human and the inhuman, the feeling of now becoming edible as a challenge to human mastery.

This experience resonates with eco-feminist Val Plumwood's account of becoming prey, which I introduced in the first chapter. In this account, Plumwood emphasises human vulnerability, the feeling of utter helplessness when subjected to another's appetite. She suggests that, 'the illusion of invulnerability is typical of the mind of a coloniser' (Plumwood, 34). Vulnerability, the experience of becoming prey, of our bodies being edible is a way of undermining this coloniser logic. Okorafor illuminates the predator inherent within colonisation and oil culture through this image of a monstrous road, while also revealing the animality within the human itself as mere flesh and bone. The image further echoes the exploitative practices of the oil industry, which have now become manifest within this all-consuming road. The alien woman, however, sacrifices herself to the monstrous highway; she screams to the road, 'collect my bones and then never collect again' (Okorafor, 208). The road's appetite seems satisfied with this final body, leading the father of the family to conclude that the aliens are indeed agents of change.

Like Michael Paye, critic Gemma Field has also interpreted the aliens as a force for ethical change, a movement away from colonial and neo-colonial influence to alternatively embrace the origins of Nigerian Folklore to which the aliens often allude.[51] The sacrifice the alien makes to save the people of Lagos from the horrors of the predatory road certainly lends itself to such interpretation. My reading, however, does not follow this interpretation. As previously mentioned, the force of invasion cannot be seen as an entirely

[51] Gemma Field in her article 'We have come to refuel your future': Asphalt Afrofuturism and African Futurities, suggests the alien 'Ayodele's association with indigenous mythology and cosmology suggests that these alien "invaders" are not the stock figures of monstrous, extraterrestrial conquerors. Rather, they are potential collaborators in a project of recovery.'

neutral act in the context of Nigerian history. Instead of being a one-dimensional force for good, I suggest that the aliens' role is far more ambiguous. Johanna Pudnt likewise identifies the aliens ambiguity, arguing that their arrival can be interpreted as affirming either a 'technocratic neo-colonialism or an anti-colonial awakening' (Pudnt, 177). Charles O'Connell also suggests that 'despite the aliens not presenting themselves as colonisers, the enforced imposition and technology remains a neoimperial hallmark of neoliberal developmentalism (O'Connell, 299). The aliens' imposition from the outside and their enforcement of a technocratic solution to energy undermines their position as solely utopian figures.

Oil capitalism and energy production in *Lagoon* is characterised by its colonial imagery and Okorafor's gradual unpacking of the humanist project with which it is associated. It is unclear, however, whether the alien invasion interrupts the capitalist production process or whether it instigates another form of capitalist 'innovation' – their arrival being a form of 'disaster capitalism' pushing the nation into chaos and proposing a form of alien techno-utopianism as new approach to energy consumption.[52] The alien Ayodele insists that her and her people 'are change' (Okorafor, 39). For Michael Paye, this change is a 'short term crisis combined with a hybridisation of Nigerian mythologies, indigenous belief, with new technologies and ways of seeing' (Paye, 24). The critical response to *Lagoon* overwhelmingly reflects Paye's position where the aliens are situated as a force for ethical technological innovation, a transition from fossil fuel energy and extraction.

There are references within the narrative, however, which complicate such an interpretation of these alien life forms. When the president of Nigeria meets with the rest of Ayodele's alien people, Adaora reflects that 'humanoid figures […] reminded her of something out of star wars […] all the creatures she saw now were whitish-blue skinned, with huge black eyes and long long arms, legs and neck. They even moved with the same fluid motions as they had in the movies' (Okorafor, 251). *The Star Wars* analogy refers to the film *Attack of the Clones*, where the aliens to which she is referring are called the Kaminoans', ultra-capitalist figures who clone and produce armies to those with sufficient funds. In *Star Wars*, they are neither framed as a source of evil or a moral good. Instead they are situated as profit-seeking entrepreneurs in the industry of war. The Kaminoans specialise in alien cloning technology; like the aliens in *Lagoon,* they have inhuman technological abilities. The aliens therefore are illustrative of a techno-utopian outlook and advancement. Imre Szeman has highlighted such flaws in the techno-utopian perspective:

> The notion of technological evolution lies at the heart not only of technoutopian solutions to the disaster of oil but of modern imaginings of science more generally. Technology is figured as just around the corner, as always just on the verge of arriving. Innovation can be hurried along (through increased grants, for instance), but only slightly: technological solutions arrive just in time and never fail to come. (Szeman, "System Failure," 814).

[52] Disaster Capitalism is a term introduced by Naomi Klein's book *The Shock Doctrine and The Rise of Disaster Capitalism.* She exposes the global profiters who are cashing in on chaos including events such as Iraq War, hurricanes and tsunamis.

Techno-utopian discourse is demonstrated through the alien figures of *Lagoon*, a discourse which is often similarly projected by government officials that the future will look more or less the same, but with the development of innovative technology to move away from the problems of the present. The President of Nigeria in the text declares that the alien visitors 'intend to stay. And I am happy about it. They have new technology, they have fresh ideas' (Okorafor, 277). Is this really a break from a capitalist mode of production? Or is it instead merely another branch of capitalist development in the form of alien technological expertise? The techno-utopianism the aliens advocate does not challenge the systematic and structural inequalities oil capitalism perpetuates. As Szeman ironically notes, 'all of our worst fears about the chaos that will ensue when oil runs out are resolved through scientific innovations that are in perfect synchrony with the operations of the capitalist economy: problem solved, without the need for radical ruptures or alterations in political and social life' (Szeman, "System Failure," 813). The conclusion that the aliens will introduce radical new technology to save them from multinational oil companies who exploit Nigeria's mineral resources resonates with Szeman critique of techno-utopianism. Through embracing a techno-utopianism, there is no global, social, and structural change within the inequalities which currently shape Nigeria. The techno-utopian world-view aims to simply relieve the issue of oil running dry and instead turning to a new source of energy, which may continue to perpetuate global and national corruption, as well as maintaining an existing extractive logic.

Okorafor's focus on both apparent peripheral spaces and peripheral lives produces a way of capturing the slow violence evoked throughout Lagos and records the impact and influence of multinational oil companies. Throughout the text, oil culture is the landscape and the backdrop to chaos of an alien invasion. By magnifying what can often be 'hidden in plain sight' (Szeman, 4), Okorafor presents to the reader the story of oil extraction from the lives in which it impacts both human and animal. The encounter with an alien Other who comes from the outside cannot be entirely separated from the history of colonialism within Nigeria. Their projection of techno-utopianism is perhaps not a way of reorganising power relations, but can serve to maintain the systematic and structural inequalities at the heart of petro-capitalism. Their position in the narrative is not one of complete neutrality, but can be interpreted in some ways as a neo-colonial power and resonant of extractive industries.

Hidden Enclosures: Peripheral Spaces and Subjects in *Under the Skin*

Under the Skin enables us to turn to both a semi-peripheral location, Scotland, with its history of being subjected to oil imperialism, and to the peripheral bodies, the nonhuman lives which are categorised as meat. Through the eyes of an alien, we are awakened to the hidden enclosures of meat production. Faber presents the colonial interloper and extractive project through the business of Vess Industries, which is presumably a corporation from another planet. Robert Mckay suggests, 'in some ways [vess industries] is a dystopian allegory of a completely modernised, post-industrial, capitalist world' (Mckay, 2). Like in *Lagoon*, the alien invasion similarly presents the legacies of colonialism but in this case the resource to be extracted and

produced is ‘human’ flesh. In this section, using both Adams notion of making what is absent present and Nixon’s concept of the ‘unseen.’(Nixon, 15), I intend to demonstrate the parallels between meat and oil culture and reveal the politics of visibility which shapes these regimes of production.

Like crude oil, meat is a seemingly ubiquitous resource, the animal’s flesh and bone forming various commodities. Margo DeMello declares that ‘worldwide meat consumption has quadrupled over the last five decades to reach an all-time high of 20 billion farmed mammals per year, an increase of 60 percent since 1961’ (DeMello, 70). This growth of the livestock industry and the meatification of diets poses environmental problems which parallel those created by the fossil fuel industry. The continuous expansion of peripheral production zones where animals are slaughtered also creates a severe material gulf. This gulf creates a rupture between the human and other species, where ethical transition is forestalled and inhibited. Capitalist mass meat production is shaped by such cognitive dissonance and relies on a detachment between production and consumption. This detachment is further enforced through an ideology of who is classified as ‘human’, and who is left to a sphere of disposability or a commodity item for profit.

Faber sets the narrative in Scotland which holds particular significance in the context of oil culture as, like Nigeria, it is a place of extraction subjected to private influence which determines who owns and receives the benefits from their resource mineral wealth. Commercially viable oil fields were found in the North Sea in 1977, where Prime Minister James Callaghan declared that ‘God has given Britain her best opportunity for one hundred years in the shape of North Sea Oil’ (Callaghan, 2). However, as in the case with Nigeria, it was the private multinational oil companies including BP and Shell who profited from the extraction enterprise. As Christopher Harvie states, ‘an energetic and unapologetic international capitalism, rooted in two less stable regions – Texas and the Middle East – had taken an ageing central stage. A Scotland whose political culture was both semi-collectivist and post-imperial found itself being “colonised” (Harvie, 6). Although Faber does not explicitly deal with this context of oil politics and colonisation, the alien corporation arriving in Scotland to extract and farm a resource holds a particular resonance within this history. In some ways, Vess industries can be viewed as an allegory of the multinational oil companies which came to centre stage within the discovery of Scotland’s oil. In Harvie’s account of the North Sea oil, he suggests there is a deliberate occlusion associated with the offshore oil derrick. He argues that despite the oil derrick being an obvious symbol of ‘industry […] off shore oil was discreet, and geographically withdrawn from the main population centre’ (Harvie, 259). Rather than being a symbol of communal industrialisation such as the coal mines, the oil derrick is an isolated zone.

In a similar vein, Faber opens his text within a derelict and isolated space with the central character, Isserley, cruising down the highways to search for the desired commodity. On the empty A9 road there are scattered dead bodies, scenes of road kill: ‘furry carcasses of unidentifiable forest creatures littered the asphalt, fresh every morning, each of them a frozen moment in time when some living thing had mistaken the road for its natural habitat’ (Faber, 2). Like Okorafor’s spectral highway, with the broken remains of human and animal bodies crushed into the cement, Faber too exposes us to unidentifiable deaths from oil culture.

The dominance of the automobile is foregrounded from the very beginning with Isserley's position in the driver's seat searching for the ideal specimen for the meat business enterprise. She scouts the landscape sizing up the different hitchhikers she encounters. As she drives past the first hitchhiker, 'she gives herself time to size him up. She was looking for big muscles: a hunk on legs. Puny, scrawny specimens were no use to her' (Faber, 1). The erotic overtones of Faber's language suggests she is on the hunt for a sexual partner; it is later revealed that her motivation is of a sinister nature, an aim to secure their bodies for a meat processing plant. The dissection and atomisation of the male human body into its parts for meat consumption echoes Adams' critique of the subjugation of women and animals. Adams stresses the abstract interchange between women and animals, where both are objectified, eroticised, and viewed as items to physically or metaphorically consume. Faber's reversal, however, is that it is the male who becomes objectified and dissected into parts. As in *Lagoon*, the human is once again revealed as an edible commodity, stripped of its "human identity" and exposed as mere flesh. This revelatory politics shapes much of Faber's narrative where he points towards habitual processes and uncovers the horrors beneath them, exposing the production process which is often forced into peripheral worlds.

The process of invisibility and systematic erasure is central to the meat industry as it is in the oil industry. Despite the absence of live animals from our everyday experience within modernity, their dead bodies proliferate in the form of different products. Like oil and its many derivatives such as plastic, the animal body is everywhere within our consumer goods. As Sherryl Vint notes, 'the use of animals in contemporary society is increasingly invisible: they are hidden away in laboratories and factory farms; slaughtered at mass disassembly plants and transformed into sanitised packages of meat; visible only in mediated forms on Animal Planet or National Geographic television, but purged from city geographies' (Vint, 1). In turning to these peripheral spaces and subjects, Faber forces the reader into the space of the factory farm through the aliens' project of Vess Industries. As the novel develops, we eventually come to the underground pens where the 'vodsels' are kept for fattening. In this subterranean environment, both Isserley and the son of the owner of Vess Industries witness the horrors which are happening down below. Despite Isserley's position as a Vess industry worker, attaining and capturing the bodies for meat processing, she has never entered the dungeon-like pens where the slaughter occurs. Like the modern consumers own detachment from the death of animal and the meat we find upon our plates, Faber reveals the cognitive dissonance at the heart of meat consumption.

As Isserley moves deeper into the depths of the earth towards the slaughter pens, the scene can be said to allude to a process of oil extraction, digging deeper to pierce the earth's crust in order to gain the desired commodity. She feels a 'humid ambience of recycled breath' (Faber, 169) as if stuck down an oil well or mining for coal. Isserley is then finally confronted with the products of her labour: the vodsels' fattened and tongue-less, barely indistinguishable from one another, 'their fat little heads identical, blinking stupidly in the sudden light' (Faber, 169). The uncanny resemblance between the scene of oil extraction and the slaughter pens suggests that these industrial practices are in some way connected as the corporeal boundaries of the earth become torn and severed just like the human flesh which is awaiting manufacture in the text. It

is also a stark reminder of the live and dead organisms which form our fuel for both food and transportation. Inside the pens both Isserley and the reader cannot avert their gaze from the horror before them: the stench of bodies fattened, with tongues burnt out, huddled together in an undistinguishable mesh. In this moment, we are drawn to what Nixon describes as a different form of witnessing, 'of sights of the unseen' (Nixon, 15). It is a way of addressing the violence which is often discounted when living beings are turned into objects to be consumed or tools to be utilised. As Amlis Vess states, his father often 'describes [the vodsels] as vegetables on legs' (Faber, 167). By becoming inanimate, the 'vodsel' becomes inert and passive without resistance allowing for an unchallenged human authority over their existence. Faber's reversal of the human/animal binary remains a poignant reminder that such power relations are indeed arbitrary and foregrounded through processes of naturalisation and social construction.

Amlis Vess is shocked that the vodsels appear to have a language. He witnesses one vodsel scuttle along the ground of the pen attempting to communicate with both himself and Isserley. With the strands of hay within the slaughter pen, the vodsel conjurers the word 'MERCY' (Faber, 171). Isserley racks her brain for a translation but soon discovers the word is untranslatable in her own tongue. Language is inadequate to communicate across species lines, the words are empty conveying little from one being to the other. The vision of animal suffering, however, remains and it is a sight of violence which is rarely brought into view. Such an act is one of activism, addressing and exposing what happens in peripheral and secluded spaces. According to Nixon, fiction can be a way of making the unapparent appear (Nixon, 15). Faber embarks on such a task, unveiling human exceptionalism and confronting the reader with both the edibility of the human itself, as well as the unseen conditions of the factory farm. In the secluded corners of Inverness, Faber exposes us to the different forms of violence that are unleashed on those classified as non-human. It is to those externalised environments, those which are treated as 'out there', beyond sight and recognition to which both Faber and Okorafor turn. These externalised sites and peripheral landscapes are treated as what Nixon describes as 'a separate non-renewable resource' (Nixon, 17). But as the WReC group reiterate in their interpretation of combined and uneven development, the maldevelopment of the periphery is essential to the growth of the imperial core. These spaces of extraction and consumer centres are therefore not entirely separate entities, they are bound and connected where one feeds off and oppresses the other, creating a co-dependency and maintaining systems of inequality. By turning to 'sights of the unseen' (Nixon, 15), Faber and Okorafor provide a magnification of the periphery following the flow of commodities from their birth and their origin.

The human becomes a site of contestation in both *Lagoon* and *Under the Skin* where the characters are confronted with their own animality as well as the alterity of others. In the case of Faber's Isserley, she must reiterate her 'humanity' in order to continue her work for Vess Industries. In so doing, she is able to enforce clear demarcations between herself and her 'food'. As she informs Amlis Vess, 'I hate to tell you this, but I really doubt there's much similarity between the way you and I live and breathe, let alone me and […] my breakfast' (Faber, 164). Her need for distinction is also constantly stressed by an emphasis on cleanliness. In her work Isserley has to lure and collect lost and forgotten hitchhikers from the motorway; once in the

passenger seat they are injected with a drug which leaves them unconscious. Once this is done, she disguises them and drives back to the Vess industries processing plant for the body to be processed for meat production. In this role, she must interact and engage with those she classifies as animals. She expresses a disgust when one 'vodsel' happens to touch her as if his body contained a contagion. He touches her arm in gentle compassion and she attempts to forget about the moment instantly. Her arm hardens at his touch and following this resolves to wash and put fresh clothes on. However, the surgery which has been conducted on her body in order for her to be deceptively recognised as a 'vodsel', contradicts her reinforcement of 'human' borders. These surgical modifications are in the interest of Vess Industries for her to carry out her role; it is a job which allowed her to escape from the impoverished estates of her own planet but a position which nevertheless challenges her notion of what it means to be human. Her essential need therefore to reassert categorical borders is of utmost importance for the preservation of her human identity. As Adams crucially notes in *The Sexual Politics of Meat*, one must view the animal before them not as a living being but inert and passive. For Isserley to carry out her work, she must do the same, but she must also have an understanding that she herself is human. This narrative of the 'human', becomes a defence mechanism, and simultaneously a way of preventing communication and connection across species divisions.

For Isserley to maintain a coherent understanding of her humanity, she must consistently dehumanise the vodsels. This serves to perpetuate the power relations of this alien capitalist system. This process of dehumanisation is central to the flow of commerce and the continuation of meat production. The privileged classes from her alien planet only encounter the 'vodsels' as sanitised bloodless meat products, rarely ever apprehending what was once the living being which is now on their dinner plates. This sense of detachment and erosion of human animal encounters reflects our own capitalist system. As Sherryl Vint suggests in her analysis of John Berger's work, 'capitalism has irredeemably isolated man, who can no longer share an exchange of mutual looks with other species, whom he has marginalised or destroyed' (Vint, 10). Through the perspective of Isserley, Faber produces what Nixon describes as a 'different form of witnessing' (Nixon, 15). Her perspective as an alien species looking on to what we understand as human life serves to defamiliarize the notions of humanity and animality revealing them as arbitrary borders. Isserley is also on the frontline of the production process, where her interaction with other life forms is driven by the external imperative of capitalist consumption.[53] Unlike the modern consumer, Isserley is not severed from encounters with nonhuman animals but must capture them as part of her position at Vess Indutries.

After Amlis Vess discovers the 'vodsels' have a language of their own, Isserley reflects on this and the suffering they've endured. She rejects this fleeting empathetic thought and says to herself,

> Just look at these creatures! Their brute bulk, their stink, their look idiocy, the way the shit oozed up between their fat toes. Had she been so badly butchered, brought so close to an animal state physically,

[53] Sherrly Vint suggests 'our contemporary sense of the human animal boundary is one that arose only in the Early Modern Period in conjunction with other important cultural changes, such as the shift towards a capitalist economy that increasingly regards the world as a resource.' (Vint, 26).

> that she was losing hold of her humanity and actually identifying with animals? If she wasn't careful, she would end up living among them, cackling and mooing in meaningless abandon like the cavorting oddities on television (Faber, 172).

In this description, Isserley emphasises the "vodsel's" corporeality, the bodily defecation, the absence of intelligence and reason. The same logic commonly used to exclude nonhuman animals from moral communities is articulated here. Their look of 'idiocy' stresses their lack of reasoning capabilities which is often attributed in political and moral philosophy as the defining characteristic that distinguishes the human from other animals.[54] But as Plumwood articulates, reason has also been a tool of oppression in a system of dualisms which maintain unequal power relations of gender, race, class, and species. This type of logic is also driven by a colonial and capitalist ideology. As explored in *Moby Dick*, there are parallels which can be drawn between 'triumphing over a dangerous animal and subduing unwilling natives' (Rivto, 254) for both acts are driven by a violent imperial enterprise. There is a key difference, however, in the type of production and violence for which Vess industries is responsible. This form of violence is characteristic of capitalist imperialism with its cold managerial detachment, but which is nonetheless driven by a colonial ideology. Unlike the romanticised hunt which we witnessed in the overt colonial project of nineteenth century whaling, this form of violence and production is, as Heidi Scott suggests, one of 'calculated "responsible" rhetoric of technological expertise, quality, and control' (Scott, 15). Through its privileging of the economic and profit based incentives, capitalist imperialism turns beings into aggregates and commodities. Capitalist imperialism thus feeds into conceptions of humanity through establishing clear and didactic roles of the consumer and the resource. Such binary logic feeds into what Plumwood notes as the hierarchical dualism which serves to privilege the human – primarily the white man – and everything which falls outside of this category is placed in a position of inferiority and submission.

The magnification of the hidden enclosures of the meat processing plant in *Under the Skin* and the exposure to the impacts of petroculture in *Lagoon* have opened us to Nixon's 'sights of the unseen.' There is an exploration of the origins of commodities and the peripheral worlds of production in the two texts, which has also allowed for the capitalist story of underdevelopment to become magnified. However, in order to break from a capitalist imperial ideology and to alternatively embrace new ways of being and living in the environment, it is not a projection of humanist ideals which is the solution but instead their retraction. Like Anat Pick, in the final section of the chapter, I call for a radical 'contraction of humanity rather than its benevolent extension to nonhumans' (Pick, *Creaturely Poetics*, 414). What if we were to embrace a type of animality connected and bound to other species and the world itself? In such an approach, moving away from the human is a positive project, and thus can be a way of rejecting its colonial and extractavist logic. I now go on to explore the breakdown of the humanist and colonial project and address the implications of an encounter with an alien/animal alterity and vulnerable corporeality within the two texts.

[54] From the Ancients Greeks including Aristotle to later philosophical work by Descartes, human nature is defined as possessing enlightened 'reason.' As Aristotle suggests, 'Reason and thought is the ultimate end of our nature (100).

Exposure and Resistance: An Ethics of Vulnerability in *Lagoon* and *Under the Skin*

An attentiveness to vulnerability is central to feminist practice and animal studies; it provides the theoretical foundations of Pick and Butler's research on ethical responses to suffering. The scholarship of Josephine Donavan and Carol J. Adams focuses on an ethics of care informed by feminist practice and animal ethics.[55] Likewise, ecofeminist figures such as Plumwood promote a relational subject outside of the dualisms which segregate the human from their wider ecology. The feminist animal studies perspective I foreground offers these forms of fellowship and integration with other creatures through an ethics of vulnerability. As explored in the first chapter, Judith Butler's later work brings ethics to the fore through an emphasis on precarity and vulnerability. In both *Precarious Life* and *Frames of War*, Butler explores an ethics and politics of precarity inspired by Emmanuel Levinas where the vulnerability of the self and the Other is central to the encounter with alterity. What Pick, Butler, and Levinas all recognise, however, is 'that the threat of violence hangs over the encounter with alterity' (Pick, 'Vulnerability,' 416). Recognition or a shared vulnerability does not necessarily lead to Donna Haraway's notion of a kinship, but rather can be an encounter pervaded by both fear and violence.[56] Nevertheless, such an encounter with vulnerability is a mode of exposure where, as Pick suggests, there 'is a threat of violence or the possibility of care' (Pick, 'Vulnerability,'414). Drawing upon these feminist and animal studies scholars, and their exploration of vulnerability, thus opens up a challenge to human mastery and exceptionalism. The question, however, is whether such exposure to nonhuman vulnerability can disrupt the flow of 'life' becoming commodity, the capitalist market relations which turn different species and the environment into objects of consumption. It leads to a further question, one which asks if vulnerability can provide a mode of resistance to extractive projects.

Taking vulnerability as mode of exposure as our cue, I now explore the moments in the two texts where exposure to a helpless vulnerability across species lines and to the earth itself creates a transition in action. These moments are not necessarily a guarantee for ethical change, but, as Butler and Pick emphasise in their work, it can possibly be the opportunity for violence. The encounters with alien and nonhuman life forms in the texts can, in certain cases, become a wounding, a recognition of one's own flesh and penetrable borders which can lead simultaneously to an invitation of recognition or a violent self-preservation. What is most interesting, however, is how a wound which remains metaphorically open, as well as an exposure to the vulnerability of different life-forms, can often question and challenge human mastery and colonial logic. In order to present a decolonial vision, a world beyond capitalist forms of production, the two narratives expose

[55] Josephine Donavan and Carol J. Adams' edited collection *The Feminist Care Tradition in Animal Ethics: A Reader* emphasises the masculine bias of utilitarianism and rights based approach animal ethics. The essays in the collection argue for an ethical attentiveness and sympathy towards non-human animals.
[56] Donna Haraway's theoretical terrain focuses primarily on 'becoming with' and multispecies relations of joy and playfulness which shapes human and non-human interactions. This notion of kinship is foregrounded in one of her most recent works *Staying with the Trouble: Making Kin in the Chluthulecene*.

a corporeal vulnerability leading to other ways of feeling and seeing the world beyond the 'domain of the human' (Pick, *Creaturely Poetics*, 2).

Okorafor's text is an encounter with alterity and vulnerability of the Other, involving an amalgam of sea life, nonhuman species, and alien life forms. In *Animal Alterity: Science Fiction and the Question of the Animal*, Sherryl Vint suggest one of science fiction's 'most promising' themes is the 'aspiration that humans might interact with an intelligence other than our own and be transformed by it' (Vint, 4). Simultaneously, this interaction with an animal/alien Other can be an opportunity of violence, one which illuminates not only transversal relations with the nonhuman but also relations of exploitation and oppression. Okorafor presents these two poles in her narrative exploring acts and events of violence while pointing towards an opportunity of ethical recognition across species lines.

The discovery of corporeal vulnerability in Okorafor's *Lagoon* comes with the revelation that the alien Ayodele can experience pain. As previously noted by Plumwood, invulnerability is the coloniser's logic, an exposure to vulnerability, however, is perhaps its undoing. In the chapter 'Greetings', Ayodele announces her arrival to the people of Lagos. She declares, 'we are guests who wish to become citizens…here. We chose here. I am the first to come and greet you' (Okorafor, 111). This greeting, however, is unwelcome – Ayodele is perceived as a threat as an officer yells 'Shoot it! […] kill it! Kill it!' (Okorafor, 136). Ayodele is identified as an 'it' separate from a moral community, a phantom which must be expelled. As Butler notes, 'the human is not a universal condition, it is a category, and we decide who counts as part of it and who doesn't' (Butler, "The Ethics of Cohabitation," 20). In this case, Ayodele and her people are considered a threat as they deviate from the normative frame of the human. If, as Butler contends, violence, mourning, and loss, can be the basis for a political community, how does the violence wrought upon Ayodele change the course of action in the narrative?

Ayodele's body is brutally attacked by the soldiers: 'they shot her in the thighs, chest, and face, everywhere.' (Okorafor, 136). Adaora describes 'her fragile, greying body […] hopping and jerking on the ground' (Okorafor, 136). The emphasis on her fragility exposes the vulnerability of the alien body as akin to our own, a likeness within a shared condition of suffering. Adaora contemplates that 'Maybe Ayodele responded so strongly because they made her experience pain […] the way she was screaming and thrashing, she was not just in pain, she was shocked to be in it' (Okorafor, 140). This discovery of vulnerability of another and the subjection to violence is a reminder of a co-dependency, where one can be affected and hurt by others. After this experience and shock of being made vulnerable and in pain, Ayodele uses her shapeshifting abilities to transform herself into a monkey. It is particularly significant that she chooses to take the form of a nonhuman animal after such an experience. The movement suggests how vulnerability can connect us to other species. Invulnerability is unravelled in such an experience where, like to Plumwood's account of 'becoming prey', there is reorganisation of hierarchical relations.

This cohabitation of alien life forms, human beings, and animals in *Lagoon* illuminates the violence wrought upon those who deviate from the normative understanding of the 'human.' As Butler argues,

> It seems to me that even in situations of antagonistic and unchosen modes of cohabitation, certain ethical obligations emerge. First, since we do not choose with whom to cohabit the earth, we have to honor those obligations to preserve the lives of those we may not love, those we may never love, do not know, and did not choose (Butler, "The Ethics of Cohabitation,"150).

These ethical obligations may not always emerge, as there are those who may respond to difference with modes of exploitation and violence. In *Lagoon* we witness the response to alterity as both an invitation for 'violence or the possibility of care' (Pick, 'Vulnerability,'414). Encounters with nonhumans can illuminate a recognition of difference and oppositions, which simultaneously may lead to a shoring up of borders, a violent self-preservation, or alternatively an openness and a hospitality to the Other.

Okorafor concludes the narrative from the perspective of a spider; the spider announces 'I am the unseen' (Okorafor, 291). The spider has been there for centuries spinning their web and tapestry of the tales of Lagos. The spider declares it 'feels the press of other stories' (Okorafor, 292), where it opens its web to the peripheral narratives and lives, incorporating them within a wider web of events and experiences. Okorafor's open us up to the 'unseen' (Okorafor, 291), those who are edited out of what is considered normatively human, exposing a corporeal vulnerability which moves across species lines towards the alien and the Other.

The science fiction trope of an alien invasion not only resonates with colonial legacies and history, but also allows one to frame our relationship to nonhumans. Okorafor's text presents alien shape-shifters, insects, marine life, and other species, binding the reader and the characters to them in usual ways. There is a strange and beautiful bond formed through vulnerability, and a way of 'reconnecting with our embodied being, what might thought as our animal nature' (Vint, 9). Vint notes a resonance between Animal Studies and Science Fiction, the ways they both present an encounter with the strange and unfamiliar:

> Both take seriously the question of what it means to communicate with a being who's embodied, communicative, emotional, and cultural life – perhaps even physical environment – is radically different from our own (Vint, 1).

Science fiction allows for the event of an ethical, or perhaps violent, interaction with an Other's vulnerability who is radically different from ourselves. The genres terrain of foreign lands, alien bodies, and strange encounters enables a process where the human becomes challenged from their position of mastery.

Michel Faber's *Under the Skin* invades the human through the logic of vulnerability as well as by acts of violence which expose the construction of the human as fragile, existing within a wider set of relations and ecology. Isserley's human exceptionalism becomes undone in the face of violence and a confrontation with the other. For Sheryl Vint, SF confronts us with 'the gaze of 'absolute alterity', an Other who looks back at us from its own point of view and often one whom we must acknowledge as having power comparable if not identical to our own' (Vint, 11). It is this experience of becoming confronted with a power and violence,

which effects Isserley's cold and managerial form of detachment towards the vodsels as nothing but 'mere' animals.

The unravelling of Isserley's human exceptionalism comes at severe cost when she endures an incident of sexual violence from a hitchhiker she collects from the road. As he forces her to obey his commands, she desperately attempts to search for the right word as plea for the perpetrator to stop. Her mind returns to the incident with Amlis Vess and the vodsel who writes mercy upon the ground to prevent his slaughter. She had never said the word before, and pleads 'Murky' (Faber, 186). The words fail to communicate her suffering and her fear. Repeating the vodsel's words, she becomes aligned with the animal, an absolute and bare vulnerability to a force beyond her control.

This incident breaks down her cold detachment to the vodsels and instead it is replaced by a need for a bitter revenge. Isserley takes her revenge by heading down once again to the slaughter pens back at the meat processing plant at Albach Farm. She comes to watch the slaughter of one of the vodsels to witness their pain and suffering. As the workers slit one of the vodsel arteries, she involuntarily screams 'Yes!' (Faber, 219) satisfied by the violence happening before her. The workers are stunned by her emotional response where one of them turns to Isserley and states: 'I'm sorry, Isserley […] but I don't think it's a good idea for you to be here […] we are doing a job here […] feelings don't enter it' (Faber, 219). Isserley's trauma leads to a rupture of the managerial approach of capitalist imperialism. She is removed from the premises because in the act of slaughter, killing animal life is merely a job – one of cold detachment where the being before you is already an object. Isserley's experience of vulnerability is a severe recognition that one is not entirely independent and in control; the human's assumption of invulnerability is informed by this logic of colonisation which unravels in the face of a violent attack.

Through this exposure of corporeal vulnerability, Isserley is not only provoked into a desire for revenge but also into acts of care. In the final stages of the novel, she picks up a hitchhiker but not for the purposes of Vess Industries. The hitchhiker she picks up is on his way to his pregnant partner and in desperate search for a lift. She has no intention of taking him to Albach Farm for the slaughter, but rather just as an act of hospitality. The conversation between the two of them veers into the afterlife and what becomes of their bodies once they have left them; the hitcher retorts 'Who knows, eh? Ah might come back as a wumman, or a wee beastie!' (Faber, 292). This response reiterates the central theme of crossing species division, of opening oneself up to another, of embracing an alien animality.

In the end, Isserley imagines her own body an array of 'atoms' mingling 'with the oxygen and nitrogen in the air' (Faber, 296). She envisions her death where 'her invisible remains would combine, over time, with all the wonders under the sun. When it snowed, she would be part of it, falling softy to earth, rising up again with the snows evaporation' (Faber, 296). Her imagined death captures her as becoming one with the earth. With a trembling hand she declares 'here I come' (Faber, 296) towards her demise. The human in the text is no longer a monolithic and violent force, but becomes merged with the elements of the earth. Isserley's exposure to vulnerability creates a rupture within the successive flow of meat resources; she turns away from

her role and her position at Vess industries to instead merge and combine with the wider ecology of the planet. This rupture, however, is a mere inconvenience for this capitalist system. They will replace Isserley with another worker and the production will be maintained with business continuing on as usual.

Exposure to corporeal vulnerability ignites individual transitions within the two narratives leading to both acts of violence and ones of care. Its challenge to human mastery becomes evident as the characters endure an unbearable vulnerability which reveals a sense of co-dependency, a reliance on the other before them whether it be human, animal, or alien. As Pick suggests, 'universal and shared, vulnerability blurs species distinctions because humans and nonhumans alike are subject to natural law, to injury, and to death' (Pick, *Creaturely Poetics*, 411). This revelation of the human's fleshy borders and bodies which become edible unravels the humanist project that is driven by a colonial extractivism. Pick's notion of creatureliness, which is 'the state of being exposed to natural necessity and the ravages of power' (Pick, *Creaturely Poetics*, 414), is revealed to the characters in varying ways through invasion, assault, love, and care. In the face of the continuation of mass meat production and energy regimes, however, the creaturely, and an ethics of vulnerability, demonstrate certain limitations within the texts. The affective change that is manifested through an exposure to vulnerability of the self and the Other serves to ignite individual transitions amongst the characters, but the capitalist system of production remains in flow. In *Lagoon* a techno-utopianism emerges and is embraced, but presumably the capitalist system of exploitation within energy regimes remains. Likewise, Isserley herself may have escaped the exploitative labour of the meat industry yet Vess Industries' meat plantation project continues to grow. The ruptures and breaks created in the texts are thus reorganised back into the continuous machine of energy and meat production, as capitalism continually renews itself, evoking disasters and moving through systematic erasures – occluding the history and the lives of those who fall outside the category of the human. Nevertheless, acts of resistance, however small and minute, are found in these narratives as they challenge the present violence of energy production, discovering ways to resist its exploitation. Okorafor and Faber explore how violence and care can occur in tandem, where hopelessness and resistance emerge alongside one another.

From the processes of production to its extractive consequences, the next chapter explores scenes of oil spills, road kills, and contaminated waters in literary and visual culture. Combining the structural analysis of this chapter, which focused on colonial and capitalist power, I now turn to individual affects and emotional response to environmental ruin and nonhuman death. By presenting an interwoven analysis of affect and material structures, this thesis presents a multi-layered perspective of the impacts of extractive industries and energy regimes. Like Macarena Gomez-Barris' analysis of the "extractive zone", I focus not on mere survival and destruction in these spaces but 'the creation of emergent alternatives' (Gomez-Barris, 4).

ENERGY PRESENT TWO

Chapter Four

Energy Infrastructure

Oil Spills and Roadkill in Peripheral Literatures and Visual Cultures

'I come to feel that which I cannot know'

Sara Ahmed, *The Cultural Politics of Emotion* (30)

'Distress and despair arise from beginning to grasp the cascading scales through which the ruining of so many living and non-living things is underway.'

Out of the Woods Collective, *Hope Against Hope: Writings on Ecological Crisis* (30)

In their writings, the Out of the Woods Collective argue that grief and mourning can be an immobilising component when grasping the cascading scales of the destruction of climate change. As they suggest, 'The realisation that people, creatures, and entire ecosystems have died, and will continue to die does not immediately lead to determination, but melancholia' (OTW, 2). This chapter draws on such experiences of melancholia, grief, despondency, pain, and disgust in response to nonhuman death and environmental destruction which is a consequence of energy infrastructure and automobility. I suggest, however, how these affects can lead to political and ethical calls for resistance against nonhuman suffering and ecological crisis. For the Out of the Woods Collective, ecological damage and the death of other species is about attuning our senses to the microscopic, as well as the grand scales of destruction. As they argue, 'to really grapple with the scale of destruction involves attending to the slower, less eye catching processes: the pollution and erosion of the soil; the feeling of forests that bind them together; the extinctions of creatures that feed on and were fed by the Earth' (OTW, 2).[57]

[57] Like Ursula K. Heise in her work on extinction, I ask questions about the transformative power of grief and mourning. Heise asks 'is it possible to acknowledge the realities of large-scale species extinction and yet to move beyond mourning, melancholia, and nostalgia to a more affirmative vision of our biological future? Is it possible to move beyond the story templates of elegy and tragedy and yet to express continuing concern that

In this chapter, I address what is considered 'the less eye catching processes', turning to incidents of roadkill, oil spills, and contaminated waters in literature and visual culture exploring the aftermath of extractive zones and energy infrastructure. By turning to literary and cultural work from peripheral spaces and extractive zones, I engage with what Benita Parry terms 'aesthetic forms generated beyond capitalist cores' (Parry, 27). The combination of the mundane and the irreal, the mystical and the everyday, characterises my chosen sources revealing the polarising conditions of capitalism at the periphery. As Michael Lowey notes in his study of irrealist texts,

> If the dominant ideology of bourgeois society, from the Industrial Revolution onwards, celebrated the virtues of economic progress, of technology, mechanization, and automation, and of the unlimited expansion of industrial production and consumption, these artists voiced a radically dissident attitude (Lowey, 200).

My chosen sources likewise offer voices of dissent to capitalist ideology, exposing the material conditions and urgent responses to extractive practices.

The theoretical approach of this chapter is informed by the combined feminist animal studies perspective that I have been developing throughout the thesis. I thus draw on feminist and Animal Studies scholars with particular reference to Judith Butler, Sara Ahmed, Sianne Ngai, and Anat Pick. I open the chapter with this theoretical exploration of affect and the nonhuman life, examining how acts of mourning, reactions of disgust, and, what Ahmed terms the sociality of pain, can invite a response to environmental ruin and the death of different species. I argue that these affective registers open up the possibility of recognition and point towards Anat Pick's Creaturely Poetics. Pick's emphasis on the communicative pressures of vulnerability, of 'tracing the logic of flesh in examples across image and text' (Pick, *Creaturely Poetics*, 6), provides an important nexus in my understanding of affect and its ethical and political potential in the chosen sources. Reading grief, disgust, and pain under Pick's creaturely prism poses a mode of non-anthropocentric feeling, an encounter with the 'flesh and blood vulnerability of beings' (Pick, *Creaturely Poetics*, 3).

Having set out my theorisation on affect, I analyse Steve Baker's exhibition *Roadside* focusing particularly on the role of Butler's notion of grievability in relation to the images of roadkill, while also analysing sensations of disgust in response to the rotting animal body. I further address how affect is structured and mediated in the images, and explore the ways in which collecting images of animal remains is a work of memorialisation, gesturing towards a non-anthropocentric or creaturely mourning. Moving to another form of violence and ruin, I turn to the oil spills and flares captured in Helon Habila's novel *Oil on Water*. I introduce the Nigerian literary context and its legacy of environmental writing, while contextualising the colonial and neo-colonial extraction history. My specific focus in Habila's text is the devastation of the Niger Delta landscape. I argue that feelings of pain, disgust, and despair in response to this devastation underpin a movement towards environmental and political action against violent energy regimes. Following this focus

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nonhuman species not be harmed more than strictly necessary?' (Heise, 13). This chapter concerns similar questions around the generative potential of mourning the unmourned.

on environmental resistance, I analyse Rita Wong and Cindy Mochizuki's *Perpetual* opening with Wong's experience of the Indigenous protest healing walks in the Tar Sands. By addressing the diverse affective responses of grief, despair, and hope in the face of violent and neo-colonial energy practices within *Perpetual*, I argue that such affective encounters are central to forming a creaturely relation to energy, a recognition and fellowship with other life forms which moves away from violent practices of extraction.

Theorising Affect Beyond the Human

To affect and to be affected is to be engaged within an encounter, which can perhaps lead to an invitation to action or, to its antithesis, a refusal or suspension of action. For Gregory J. Seigworth and Melissa Gregg, 'affect is in many ways synonymous with *force* or *forces of encounter*' (Seigworth & Gregg, 2). I intend to explore a series of visual and textual 'encounters' wading our way through animal remains and oil spills. I focus specifically on the forces of grief, disgust, and pain within these encounters, drawing together the experience of address and refusal, highlighting a dichotomy between violence and care. I illuminate the varied responses to death and ruin from mourning the unmoruned, turning away in revulsion and disgust, or to discovering a shared sense of vulnerability and pain.

Grief is often regarded as a solitary experience and situated primarily within the domain of the human, and where the bodies that are grieved tend to fall into this category. Mourning, however, can be a collective practice, one of sociality rather than something privatising, and can also include nonhuman communities and the earth itself. I want to suggest then, in line with Butler's argument in *Precarious Lives*, that grief can be political, furnishing recognition of the lives and deaths that go unnoticed.

In Freud's *Mourning and Melancholia*, he asks 'what is the work that mourning performs?' (Freud, 204). I also ask this question but in its relation to nonhuman life forms, the response to environmental disasters and nonhuman death considering the implications of mourning subjects that are often deemed ungrievable. In Freud's description of the work of mourning he suggests,

> Serious mourning, the reaction to the loss of a loved one, contains the same powerful mood, the loss of interest in the outside world – except as it recalls the deceased – the loss of ability to choose any new love object – which would mean replacing the mourned one – and turning away from any task that is not related to the memory of the deceased (Freud, 204).

There is a sense of insularity in Freud's description, an act of turning away from the world, rejecting other social bonds and interdependency for a solitary existence, a life shaped by an attachment that is now severed. Like Butler, however, I look to the 'relational obligations' (Butler, *The Force of Non-Violence*, 64) that can emerge from the act of mourning, the sense of worldliness which can arise from caring, loving, and mourning another. Mourning in this context thus becomes a method of fashioning a political community, highlighting sociality and fellowship with those who are within and beyond our sensory field.

What does it mean to live in a world in which grief is distributed equally, the idea of what Butler terms 'equal grievability' (Butler, *Force of Non-Violence*, 61)? Would the violence wrought through extractive regimes move from the periphery to the centre stage? What resides in the margins, excluded from the realm of existence, therefore becomes an important space of attention. In the face of increasing violence against nonhuman life forms, it is vital to ask whether this someone or something ever counted, if in fact it was ever considered living, would its life register as a loss, a life worthy of mourning? For Butler, the exclusionary mechanisms of grief and mourning are bound within the logic and construction of the human: 'the field of the human is constituted through basic exclusions, haunted by those figures that do not count in its tally' (Butler, *The Force of Non-Violence*, 59). As explored in the previous chapter, the human is not a neutral category but is rather connected to colonial imperatives and regimes, haunted by legacies of power, and immersed in histories of violence. The label of the human, in some cases, entails a degree of protection that a life is worth saving and a death worth mourning. What of those who do not belong or who are cast out of this category, are they too considered worthy of grief and attention? Is it instead possible to conceive of a non-anthropocentric mourning? Like James Stanescu's revision of Butler's work in his article *Species Trouble,* I too propose an non-anthropocentric relation to mourning where the 'human' is not the guiding model of who and what is considered grievable. The disavowal, deflection, and repression of grief is central to the experience of mourning nonhuman life forms – how do we openly mourn those never considered a life in the first place, and in doing so turn our grief into social and environmental movements for the future?

Butler suggests that certain lives become recognised as worthy of attention, care, and mourning through the organisation and structuring of what she terms the 'frame' that is dictated around schemes of recognisability. The interpretative schemas of recognisability foreground what lives and what events are worthy of regard and attention. As Butler asks, how can these frames of recognisability 'help us understand why it is that we might feel horror in the face of certain losses but indifference or even righteousness in light of others' (Butler, *Frames of War*, 42). The frame is thus an essential mediation of affective responses, designating who and what is recognised as a grievable subject. The "being" of life itself, as Butler argues, is constituted through selective means (Butler, *Frames of War*, 1). To rupture the exclusionary mechanisms of the frame, what is left outside of its borders, I instead introduce a form of reframing through literary and visual media which gather the leftovers and remnants of violent practices. My intention is to highlight how the three chosen sources provide this essential reframing, moving from the margins to the centre, foregrounding nonhuman death and the devastating effects of oil culture.

Grief has the potential to forge connections across species lines, while exposing which lives are framed as grieviable subjects. Sensations of disgust, however, can also point towards proximity and connection beyond the domain of the human. Disgust, for Sara Ahmed, is a 'contact zone' (Ahmed, *The Cultural Politics of Emotion*, 87) forcing a proximity to what can often be ignored or rejected. Introducing Sianne Ngai's reading of the political potential of disgust, alongside Ahmed's analysis of disgust, I demonstrate how disgust can lead to different avenues of fellowship with nonhuman life forms. As Danielle Sands has argued, 'empathy and disgust share unexpected similarities: while perceived as humanising or even civilising, they both draw

upon 'the common animality' shared by humans and other species' (Sands, 173). My analysis of disgust facilitates this common animality and proximity to nonhuman life forms.

Crucial to the affective experience of disgust is the element of paradox, both a bodily intrusion and an expulsion, a fascination alongside repulsion. In Winfried Menninghaus' work, *Disgust: Theory and History of a Strong Sensation*, he suggests that disgust engenders both 'intolerable contact and a union' (Menninghaus, 2). Disgust becomes at once an invitation for the possibility of attention, a moment to linger, to encounter, or alternatively a refusal of recognition and a physical rejection. By exploring disgust and the responses it provokes, I ask what ethical demands does disgust call for in our interaction with nonhuman life. In Elenora Joensuu's *Politics of Disgust*, she asks similar questions around the relationality and ethical dimensions of the disgust encounter. She invites the questions: 'what others have you encountered in your experiences of disgust? If you were to re-examine a previous disgust encounter, what others—real or imagined—does the encounter evoke? Who is your disgust in relation with?' (Joensuu, 118). This re-examination of disgust to centre on questions of the interaction with another invites what Joensuu describes as 'the possibility of connecting to experiences beyond our own' (Joensuu, 121). Disgust thus becomes a gateway to an encounter, perhaps even an empathetic engagement with another. Its dual nature, however, of both recognition and dismissal provokes important questions around how we interact with the nonhuman subjects that intrude into our sensory field.

The sense of rejection that occurs within disgust brings us to Pick's discussion of exposure and deflection. Pick quotes Cora Diamond when referring to this complex duality; Diamond suggests that deflection 'happens when we are moved from the appreciation, or attempt at appreciation, of a difficulty of reality to a philosophical moral problem in the vicinity' (Diamond, 57). In the encounter with another's experience – whether it be human or animal – there is both an invitation to a creaturely fellowship or the process of deflection when exposed to bodily vulnerability. We find the same dual dimensions with disgust, as an exposure or a bodily intrusion poses the possibility of either recognition or deflection. In my analysis of disgust, I consider the implications of refusing to deflect but rather to remain with the sensation which generates disgust.

Sianne Ngai's project in *Ugly Feelings* is one of recuperating disgust's animality, generating what she describes as a bestiary of affects: 'in other words, it is one filled with rat and possums rather than lions, its categories feeling generally being, well, weaker and nastier' (Ngai, 7). By introducing Ngai's non-cathartic and often amoral affects, we focus not only on the altruistic emotions and affects but also on moments and sensations which can lead to deflection and repression, the experience of disgust and aversion. Ngai aims to 'to recuperate several of these negative affects for their critical productivity' (Ngai, 3). Through exploring disgust, an affect which can cause one to avert one's gaze, I suggest that like Ngai 'the poetics of disgust draws us closer to the domain of political theory' (Ngai, 354) but also that of ethics. As Joensuu suggests, 'expanding our understanding of disgust is therefore an ethical question and demand' (Joensuu, 9). Disgust points towards possible movements of action and resistance in the domains of politics and ethics, a way of attuning to the injustices and violence against nonhumans and the environment.

Like mourning, disgust is a response which can be deeply political and structured according to anthropocentrism. The symbolic charge of animal imagery can often be fused with disgust. However, rather than simply averting one's gaze from disgust, it is worth maintaining and working with this feeling, exploring its dimensions, of why one responds in such a bodily way. As with the uneven distribution of grief, what can disgust similarly inform us about the ways power functions, how nonhuman life is regarded and framed? Ngai argues that 'disgust does not so much as solve the dilemma of social powerlessness as diagnose it powerfully' (Ngai, 353). As Ngai suggests, exploring the sensation of disgust does not necessarily lead to an ethical solution yet it can remain a powerful tool of diagnosis. For my purposes, analysing disgust enables a way of magnifying the response and possible rejection of nonhuman life – when one refuses to acknowledge or register suffering.

Allowing a moment of reflection on the disgust encounter reveals how it is not simply 'gut feeling', instinctual and ingrained, but something which is mediated and structured according to normative frames. For Ahmed, 'if disgust is about gut feelings, then our relation to our guts is not direct, but is mediated by ideas that already implicated in the very impressions we make of others and the way those impressions surface as bodies' (Ahmed, *The Cultural Politics of Emotion*, 83). Ahmed's aim is to suggest how disgust is in some sense already constructed, the reaction is not unmediated or purely instinctual but rather dictated by certain histories and associations. In the case of the rotting animal corpse in Steve Baker's work it is already framed as something that evokes the response of disgust. As Menninghaus suggests,

> The decaying corpse is therefore not only one among many other foul smelling and disfigured objects of disgust. Rather, it is the emblem of the menace that, in the case of disgust, meets with such a decisive defence, as measured by its extremely potent register on the scale of unpleasureable affects. Every book about disgust is not least a book about the rotting corpse (Menninghaus, 1).

The supposedly gut response of disgust is mediated through a specific framing which is made to repel and recoil. As an emblem of the disgust encounter, "the rotting corpse" holds a particular symbolic charge beyond its physical impact. Ahmed refers to Butler's notion of performativity in relation to disgust, noting how the reiteration of the speech act: 'That is disgusting!' serves to generate a set of specific effects. What this illuminates is how the affective encounter is not an entirely instinctual phenomenon, but is rather a complex interaction which is filtered and negotiated according to established norms and histories. In my later analysis of the visual and literary sources, it is important to note that the affects encountered from grief to disgust aim to create a certain response within the viewer or reader. However, the sources' reframing of the periphery serve to form different trajectories of affect within domains that are typically absent of feeling, allowing connections to form with nonhuman life.

Both grief and disgust are affects which involve contact and proximity, but how, in Ahmed's words, do 'I come to feel that which I cannot know?' (Ahmed, *The Cultural Politics of Emotion*, 30). Grief and disgust are forceful encounters which bring us closer to that which I cannot know: the suffering or death of another. This brings us to the final affect that I will now explore which is pain, and specifically Ahmed's concept of 'the contingency of pain' (Ahmed, *The Cultural Politics of Emotion*, 27). The contingency of pain refers to

becoming a witness of another's pain, of becoming 'open to being affected by that which one cannot know or feel' (Ahmed, *The Cultural Politics of Emotion*, 30).

Although Ahmed's concept of the 'sociality/contingency of pain' refers to human experience, the event of being drawn into a time and space one has not inhabited before, connecting to the pain of another, has important implications for conveying nonhuman suffering and environmental injustice. The act of being 'moved by what does not belong to me' (Ahmed, *The Cultural Politics of Emotion*, 31) brings us closer to a creaturely recognition of other life forms. For Ahmed,

> The impossibility of feeling the pain of others does not mean that the pain is simply theirs, or that their pain has nothing to do with me. I want to suggest here, cautiously, and tentatively, that an ethics of responding to pain involves being open to being affected by that which one cannot know or feel. (Ahmed, *The Cultural Politics of Emotion*, 30)

What Ahmed suggests is that it is not so much about feeling the pain of another, but an experience of bearing witness, being open to be affected by another's pain. Ahmed uses the example of her mother's endurance of multiple sclerosis and where her mother's pleas were not always a call for action or help but rather to 'bear witness, to recognise her pain' (Ahmed, *The Cultural Politics of Emotion*, 29). The act of bearing witness has an ethical demand which declares 'I must act about that which I cannot know' (Ahmed, *The Cultural Politics of Emotion,* 31). As we turn to the textual and visual sources, they present encounters with often unknown suffering and destruction. They ask us to bear witness to the pain which maybe in sight but is not fully attended to or perceived. It results in both the widening of attention and an act of exposure which are crucial experiences in the path to a creaturely fellowship.

In the following engagement with the visual and textual affects found in the work of Steve Baker, Helon Habila, Rita Wong and Cindy Mochizuki, I argue that the experiences of grief, disgust, and pain, provide a powerful antidote to anthropocentrism by enabling a mode of address to nonhuman suffering and devastation. Pick's question in the conclusion of *Creaturely Poetics*: 'What are the limits of attention?' (Pick, *Creaturely Poetics*, 193) provides the foundational arc within my reading of these affects, exploring how to affect or being affected is about being open to different forms of attention.

Roadkill Encounters with Steve Baker on Norfolk Country Lanes

Steve Baker's photographic exhibition, *Roadside*, was displayed in Germany, Australia, and the U.K, and discussed in detail in the journal *Tierstudin* by Julia Schlosser. The photographs record the animal bodies killed by collisions with automobiles, presenting traces of bodily remains and combining them with images of the surrounding landscape and artworks. For Elspeth H. Brown and Thy Phu, 'photography excites a spectrum of feelings: faced with a violent image, you may respond with both horror and pity' (Brown and Phu, 1). This spectrum of feelings is ignited by the spectator's interaction with Baker's photographs. Paying particular attention to grief, disgust, and the contingency of pain, I argue that Baker's artistic practice

introduces a non-anthropocentric mourning and a sense of creaturely recognition by reframing roadkill as something which should be attended to and addressed. In my analysis of Baker's photography, I focus on Butler's notion of the 'frame' and how this serves as a powerful tool of delineation. By recognising what gets left out of the frame, or how the frame is extended or disrupted, we begin to recognise how photography mediates and structures certain responses, and why in Butler's terms, this leads to certain lives being mourned over others. Like Jane C. Desmond, I look to 'what it may take to move these roadkilled bodies from the status of unmourned to mourned' (Desmond, 141). In contrast, however, I focus not solely on the transformation of roadkill becoming a mourned subject but why we also may feel revulsion and disgust. By drawing connections between grief, disgust, and pain, I demonstrate the contradictory processes of rejection and address, a movement towards fellowship or to simply feign recognition.

Describing his artistic work at the roadside, Baker emphasises the experience and "seriousness of looking". It is this act of observation, an enactment of an address that is visualised in Baker's montage of images – a process that aligns with Susan Sontag's theorisation of photography in which 'photographs do not explain, they acknowledge' (Sontag, 111). One consistent framing technique that Baker employs is the presence of his bike intruding into the frame. He describes this decision as a 'make-shift framing device making each image as an actual encounter with a particular creatures lost life' (Baker, *Roadside*). What Baker is doing is creating a new visual code to perceive road kill, unravelling the very term itself by presenting it not as a side-lined or neglected image but a forward and highly visible encounter. As Sontag suggests, 'Photographs enlarge our notions of what is worth looking at and what we have the right to observe' (Sontag, 3). For Sontag, the project of collecting photographs is to collect the world (Sontag, 3); Baker's project, however, is to collect the world which has been left behind. In such a project, Baker engages with a creaturely practice concerned not primarily with the rights of animals but 'about the conditions that affect the modes of our attentiveness to them' (Pick, *Creaturely Poetics*, 193). Like Pick, Baker's work engages with limits of attention, opening and widening our senses to perceive the vulnerability of the nonhuman. As Pick suggests, creatureliness is also an artistic practice: 'creaturely vulnerability sets into motion different modes of artistic expression and, crucially, an alternative poetics and critical practice rooted in what I have described as the contraction of humanism and an exploration of affliction' (Pick, 'Vulnerability,' 414). It is through Baker's reframing of roadkill which enables different forms of attention, exposing subjects of affliction, while engaging the spectator in the revelation of their own vulnerability and animality.

Dobbs' Lane, 22/9/09

Figure 1 Steve Baker, Dobbs' Lane, 22/9/09, Courtesy of the Artist

The first image I would like to examine, shown above, draws us into this spectral absence of the creature who was once a living being. It is difficult to discern the taxonomy of the species, there is fur and blood splayed across the roadside, elements of bone just about visible. This ghostly stain of the dead captures a life

which in Butler's terms would have never been considered living, a life that in many cases fails to be captured as grievable. Baker's image alternatively draws the viewer to the traces of violence and suffering endured, magnifying the deaths which go unnoticed. John Berger suggests that 'unlike any other visual image, a photograph is not a rendering or an imitation or an interpretation of its subject, but actually a trace of it' (Berger, 54). Baker thus opens us to the traces of animal remains and lives who are at the mercy of a world dominated by the automobile, an ever-expanding infrastructure orientated around oil culture. Baker centres the subject of his work on the death of the nonhuman providing a new and alternative frame to what is typically edited out. As Pick suggests, 'the editorializing that removes animals from the epistemic, legal, and emotional frameworks that would make their lives matter ensures that violence continues and animals go ungrieved' (Pick, 'Vulnerability,' 415). Baker's photography works against this editorial removal and forces our gaze to the violence wrought upon nonhuman life.

The Dobbs Lane image is paired with an indistinguishable piece of art work which Baker describes as a drapery from the medieval period. Baker's pairing of each image of roadkill with another image of either the surrounding landscape, church art work, or different fragments of the environment serve to anchor each photographed corpse to a place and time. The photos of each dead animal illuminate and register the stranger with whom we have never became acquainted. In his work *About Looking*, John Berger makes a clear distinction between the private and the public photograph. Baker's image is clearly categorised as the latter, and therefore the image is, as Berger suggests, a 'memory of the unknowable and total stranger' (Berger, 56). Baker attempts to trace a sense of familiarity amidst this unknowability through the compilation of images with captions, date, and montage – a work of memorialisation, and an act of mourning the unmourned. This act of anchoring and exposure of animal bodily vulnerability draws us again to Pick's argument for a creaturely poetics. Pick argues that 'vulnerability, then, does much more than argue for animal rights or the reduction of suffering. It brings another world into view in which animal are not food. As the frame shifts and perception transforms, different moral arguments are possible' (Pick, 'Vulnerability', 415). The shift in Baker's work is the movement from perceiving 'roadkill' as a natural inevitability of petro-infrastructure to a death which is worth mourning and attending to.

Baker's artistic practice also follows Berger's ambitions for a form of photography which embarks on alternative practices outside capitalist consumer images, a photography practice which can imagine alternative futures. Thus, if Baker's work is one of imagining alternative futures, it is one where the death of the nonhuman is not considered simply as collateral damage. Berger further outlines,

> Photographs are relics of the past, traces of what has happened. If the living take that past upon themselves, if the past becomes an integral part of the process of people making their own history, then all photographs would require a living context, they would continue to exist in time, instead of being arresting moment (Berger, 41).

Baker is therefore not simply tracing moments of the past, but initiating and enacting a lived encounter with the dead. As observers, we are confronted with a frozen image that imprints in our memory, and we are no longer able to turn away or forget. The task of creating a political and social photography for Berger is not

just to record the rest of the world, but to act as a recorder for those involved in the events photographed (Berger, 62). To be the recorder for those involved is to offer a mode of address to the beings depicted in the image. Baker illustrates this through the interruption of the bike in each frame as tracing his own encounter with the animal corpse. There is no clear subject or object in each montage, instead it is a record of an address, an encounter between different elements. Baker highlights the power of memory and mourning as he recalls in an interview stating the words of Angela Singer: 'The animal, having no grave site, no bodily burial, becomes its own memorial.' (Singer; Baker, 2011). Baker's montage of images thus offer this memorialising function creating a photography project which bursts out different forms of affect and reaches the observer to unravel the naturalised conception of roadkill as collateral damage. In the words of Berger, 'a radical system has to be constructed around the photograph so that it may be seen in terms which are simultaneously personal, political, economic, dramatic, everyday and historic' (Berger, 67). These profound combinations of opposites find themselves in Baker's exhibition, as he opens and defamiliarises the strange from the mundane to the extraordinary, exposing the observer to the unique and forgotten traces of animal remains. If, 'the camera is a fluid way of encountering that other reality' (Uelsmann, 200), Baker's photographic records serve as a portal to the nonhuman worlds – the lives and the deaths – which rarely intrude into our everyday reality. This artistic experiment explores peripheral spaces and bodies exposing the polarising conditions and response to petro-modernity.

The question of why we respond in certain ways to different events, visual stimuli and media has ethical dimensions and consequences. As Butler notes, 'ethics is less a calculation than something that follows from being addressed and addressable in sustainable ways' (Butler, *Frames of War*, 181). Influenced by Emmanuel Levinas, Butler frames ethics as a mode of address and response, an ethics is foregrounded and made possible through an interaction and engagement with an Other.[58] Baker's project in *Roadside* is to create a mode of address, one in which we are open to respond to the death of the nonhuman. The response to the suffering and vulnerability of another, as both Butler and Levinas conclude in their work, is not necessarily an ethical one, but can be wrought with violence and rejection. As Pick further notes, 'neither Levinas nor Butler envisages the self-other encounter as naturally harmonious. On the contrary, the threat of violence hangs over the encounter with alterity' (Pick, 'Vulnerability', 416). The encounter with the animal's death is shaped by this dual movement, where both care and recognition can emerge or alternatively a process of deflection and further violence. This complex duality we find in the affective dimensions of disgust. Baker's work induces such polarities as the act of memorialisation and experience of grief is accompanied with sensations of revulsion and disgust.

[58] Butler in *The Force of Non-Violence* further suggests that 'conflict is part of every social bond' (Butler, 39).

Woodbastwick Road, 24/6/09

Figure 2 Steve Baker, Woodbastwick Road, 24/06/09, Courtesy of the Artist

The montage image titled Woodbastick Road, shown above, moves us not necessarily to mourn the loss of life, but to a sensation of revulsion at the animal body atomised and splattered across the road. The blood is fresh, maggots spewing out of its body, the insides completely exposed and revealed. Each limb is discernible

but crushed from the weight of a tyre that had smashed the animal into the ground, splattering the insides of the creatures body across the cemented tarmac. The facial features are blurred amongst the blood and rot. What is displayed here is a grotesque display of the severe consequences of automobility, a horrifying and revolting image which is rarely captured. Disgust is often a blockage to an ethical response, it can be amoral, but in this case staying with the feeling of disgust becomes a way of envisioning of how we are affected by and respond to nonhuman life. Such a process of reframing envisions what Joensuu describes as 'when the disgust encounter is reframed as a meeting of subjects' (Joensuu, 113). Disgust is therefore primarily to do with contact and exposure, coming into proximity with another.

To borrow Ngai's term, these 'ugly feelings' (Ngai, 345) reflect how one disassociates from the suffering and cruelty oil culture inflicts. Disgust can result in averting of one's gaze, but to stay with and not turn away has powerful implications for understanding visceral and bodily affects and the ways in which they are structured according to hegemonic norms. Disgust, here, thus acts as a gateway to understanding how affect is directed and manipulated; if we explore these sensations of repulsion, we do not aimlessly devour an image with our eyes but become alert to what is before us. Mourning is not the only political tool and affective marker to instigate a recognition of nonhuman life and death. Exploring experiences of disgust invites a new terrain of interaction, recognising why we might avert our gaze in revulsion or why we may instead linger in fascination. In Ahmed's words, 'disgust is clearly dependent on contact' (Ahmed, *The Cultural Politics of Emotion*, 85); and it is through these contact zones in which a creaturely fellowship may reveal itself as at once 'ridiculous, ungainly, carnivalesque even – but solid and unquestioning' (Pick, *Creaturely Poetics*, 188). In Baker's work, disgust open us to bodies exposed over time to vulnerability and brute force, to rot and decay, subjected to pain and death.

A further question generated by Baker's photography is the role of the observer: their political agency, to acknowledge, address, and to resist the violent mechanism of oil culture. As T. J Demos notes, in their exploration of visual culture and the Anthropocene, 'whatever we do, we cannot sit back passively and witness our own destruction as a source of visual pleasure or a neutral observer' (Demos, 81). Does Baker's work induce an active engagement, or do we simply become a neutral observer? My exploration of disgust suggests otherwise to such a position of neutrality – the grotesque and poignant images are politically symbolic, registering and memorialising the deaths, the mutated and atomised bodies displayed in full rather than briefly acknowledged within our peripheral vision.

In his discussion of agony and photography, Berger claims,

> Confrontation with a photographed moment of agony can mask a far more extensive and urgent confrontation. Usually the wars which we are shown are being fought directly or indirectly in "our" name. What we are shown horrifies us. The next step should for us to confront our own lack of political freedom. In the political systems as they exist, we have no legal opportunity of effectively influencing the conduct of wars waged in our name. To realise this and to act accordingly is the only effective way of responding to what the photograph shows. (Berger, 44).

Like Butler, Berger discusses photography in the context of war, analysing scenes of violence and suffering, exploring how these frames are manipulated and controlled to release certain desired affects. Baker captures a similar and everyday violence of the violence that is waged against nonhuman life, but invites alternative affects that are not entirely bound or controlled. Berger's analysis in the above passage, however, points towards the limitations of the observer's response politically and socially to a photograph of violence and death. However, the act of address in Baker's work, the power of a gaze which is not shaped by power and oppression, but of recognition, ignites a non-anthropocentric ethics, a way of mourning the lives which go unmourned. This in itself shapes a political movement to ethical action beyond the realm of the human, to not only mourn the loss and death of the nonhuman, but to register these creatures as a "life" from the beginning.

Buxton Road, near Aylsham, 17/11/09

Figure 3 Steve Baker, Buxton Road, Near Aylsham, 17/11/09, Courtesy of the Artist

Baker's pairing of images of animal corpses with objects and landscapes of the surrounding environment invites the observer to situate and place the lost life within a historical lived context. In the montage image titled Buxton Road, dated 17/11/09, the juxtaposition of frames includes an image of what could perhaps be a tail of the corpse of an animal. Once again, the taxonomy is unclear but what strikes the observer is the image it is paired with of the track marks of a tyre pressed into the ground. There is an attempt to recapture the event that led to this creature's death, searching for the traces of violence, illuminating the remnants of what could be coined a crime scene. Baker's artistic practice thus unravels the notion that "roadkill" is a

natural inevitability, the violence is left open and uncovered, and it is not buried or discarded but brought to the centre stage. Baker's photography forms, what Butler terms an 'intervention into the sphere of appearance' (Butler, *Force of Non-Violence*, 202). The images convey "the seriousness of looking" effectively intervening in the consensus around what is worthy of attention and recognition. In such a project of widening our sensory field, different trajectories of affect are formed, one which connects the observer and creates a mode of address to this nonhuman Other.

Figure 4 Steve Baker, Roadside VII, Courtesy of the Artist

The next image I wish to address is the ghostly apparition of what appears to be a dead bird, the wings spread and flattened across the tarmac, a strange spectre, haunting stains of what was a living creature. This image featured above, numbered VII on Baker's website, once more accentuates the encounter with Baker's bike which is used as a framing device resting parallel to the corpse. On closer inspection, one recognises the outline of the bird's face, its beak slightly protruding out from the ground – the wings, face, and limbs are spread across the road. This atomised body is merged with the mud and soil, barely distinguishable from the ground itself. Without the employment of 'looking,' of addressing and pausing one's attentive capacities to these animal remains this image would perhaps be lost; Baker renders visible a life and death on the precipice of disappearance – the stains of its body just about visible to both Baker and the observer. The act of address

this image calls for resonates with Ahmed's recollection of bearing witness to her mother's pain. As Ahmed suggests, 'sometimes there would be nothing for me to do' (Ahmed, *The Cultural Politics of Emotion*, 29), the only action she could take would be to bear witness, to recognise her mother's pain. Baker's photographs are also pleas to bear witness to the violence and suffering endured by the nonhuman, inviting the question of 'What about the pain of others? Or how am I affected by pain when I faced with another's pain?' (Ahmed, *The Cultural Politics of Emotion*, 29). The contingency of pain: coming 'to feel that which I cannot know' (Ahmed, *The Cultural Politics of Emotion*, 30), underlies Baker's images – a work in which the ordinary encounter with roadkill becomes an extraordinary plea to bear witness, to feel beyond the human.

The encounter with Baker's roadkill images is an encounter with vulnerability moving us to a spectrum of feelings from grief, disgust, and a shared sense of pain. An exposure to animal vulnerability reveals the power relations inherent within energy infrastructure, as a space that is organised and orientated around the human. Baker reveals who is left and abandoned at the roadside, forcing us to encounter the left overs and animal remains which we leave in our wake. Outside the sealed enclosure of the automobile, Baker's photography orientates the spectator towards the vulnerability of nonhuman life. By anchoring nonhuman deaths, placing them within our field of vision, Baker foregrounds a non-anthropocentric form of mourning and fellowship with other creatures. Baker's project is therefore one that can be aligned with the ambitions of a creaturely poetics, a work of attunement, regarding the expansion and limits of attention. The creaturely is thus concerned with the exposure and attention to vulnerability, as Pick notes 'most importantly, perhaps, vulnerability is the tug of reality, an attunement to "the difficulty of staying turned . . . toward flesh and blood" (Diamond 2008, 77)' (Pick, 'Vulnerability', 422). Baker's photographs tug at the unbearable reality of the violence wrought upon the nonhuman. Exploring Baker's collection of animal remains gathers the remnants and forgotten lives impacted by petroculture, opening us to the disastrous yet normalised aftermath and consequence of automobility.

Oil Spills From the Niger Delta in Helon Habila's *Oil on Water*

Exploring the collateral damage, nonhuman death, and landscapes of capitalist ruin, we now move far away from Norfolk country lanes to the edges and devastated villages of the Niger Delta, a landscape awash with black oil in Helon Habila's literary account of the neo-colonial presence of the oil industry in Port Harcourt, Nigeria. Combining the incidents of road kill on Norfolk lanes with that of oil spills from across the globe demonstrates the all-encompassing but varying consequences of petromodernity. Like my analysis of Baker's photography, affect, disgust, and experiences of grief beyond the human come to the fore in my exploration of *Oil on Water*. Returning to a central question in Butler's oeuvre of grief, in my analysis of Habila's work I ask 'Whose life appears as a life, and whose loss would register as a loss? How does that demographic imaginary function in ethics, in policy, and in politics?' (Butler, *The Force of Non-Violence*, 63). This statement in some ways is the topic of Habila's *Oil on Water*: the narrative follows two journalists, Rufus and Zaq, as they search for the abducted wife of a British oil engineer by rebel militants. This narrative journey of abduction, however, is not central to my reading, but instead the description of the oil-soaked

landscape, ravaged by flares and continuous extraction, floating dead fish on the waters, and the silenced and dead fauna, are my focus. Like Baker's rupture of what Butler terms the frames of recognisability, Habila too bursts the controlled frame around what is looked at and what is buried and forgotten by providing a reframing, turning our attention to the Niger Delta. As I move through Habila's descriptions of pipelines bursting through rivers and villages of the Niger Delta, I point towards the role of grief, disgust, and pain as simultaneously creating a mode of address, furnishing a political community, and gesturing towards a creaturely ethics.

Habila's novel emerges from a rich literary tradition in Nigeria of environmentalism and activism. The figure of Ken Saro-Wiwa who was persecuted and killed for his environmental struggles for Ogoni people is representative of the coalition between literary form and environmental activism. In her work, Fiona Moolla considers how 'the intersection of the art and activism of Ogoniland's Ken Saro-Wiwa, executed in 1995 at the behest of dictator Sani Abacha, is generally considered in the context of postcolonial resistance to predatory oil exploitation' (Moolla, 3). Ken Saro-Wiwa's death in the face of struggle against multi-national oil companies in the Nigerian region points to the sense of urgency the poetic and literary form hold in the fight against extraction. The Nigerian poet Nnmino Bassey's work, 'we thought it was oil, but it was blood' (Bassey, 2) is emblematic of a violent struggle, demonstrating 'how poetry, indeed literature, can push the boundary towards activism' (Egyaa, 5). From Ben Okri, Nnmino Bassey, Saro-Wiwa, and Ogaga Ifowodo, Nigerian literary history is immersed in a battle to salvage the Niger Delta landscape from further extraction. As Sule E. Egya notes 'the Delta region, till today, remains the most sordid example of de-naturing of Nigerian landscape, where the effects are vivid and unashamedly left unclean – oil spills, gas flares, abandoned large equipment, polluted waters, etc.' (Egya, 5). Habila's novel magnifies this landscape, drawing our attention to all different forms of life which are impacted by extraction regimes. Habila's narrative thus emerges from a literary tradition that is focused upon a drive for change, a sense of urgency and desperation to attend the crisis unfolding, attending to a history of colonisation and the neo-colonial landscape of extraction. The push towards literature to become a form of activism is evident in the novel's affective trajectories of grief, disgust, and pain which force the reader to look and address oppression and environmental devastation.

In the opening passage of the novel, we learn that the central character's family has experienced, 'an explosion in the barn with oil drums' (Habila, 3). Although not explicitly related to the oil industry, Rufus comments: 'No, it was not a pipeline accident, as I told the white man, as I wrote in my published piece. But it might easily have been one, like in the countless other villages' (Habila, 3). It appears, like the perceived mundanity of encountering roadkill in my previous analysis, that oil spills and pipeline accidents are a normalised and habituated experience for the residents. Oil spills are thus seen as a form of collateral damage, a naturalised inevitability for a region in the grasp of the oil industry. But, like Baker, Habila challenges such notions and the frequent normalisation of violence through a magnification of crude oil's devastating effects. In both cases, Baker and Habila form what Imre Szeman describes as "the impact of energy on literary [and visual] form at the periphery" (Szeman, "Conjectures on World Literature," 281). Baker and Habila embark

on a project of rendering visible what can be often viewed as the marginal/peripheral impacts of oil culture, or, as Maximillian Feldner has described it 'the dark underside of the oil business' (Feldner, 518). The dark underside is thus also a project of coming to feel that which I cannot know that is articulated by Ahmed, a process of acting upon what we have not experienced but which needs to be addressed and understood.

Like Baker's images of grotesque, mutilated, and rotting bodies struck by oncoming automobiles, there is also a sense of corporeality to Habila's descriptions of the oil ravaged landscape. As Feldner has noted, Habila's 'haunting depiction of the Niger Delta's environmental destruction is heightened through rhetorical devices such as the personification of the landscape as a sick and dying person' (Feldner, 516). Not only is the land personified, but crude oil itself appears as a violent actor. In Michael Niblett's discussion on the literary representations of crude oil and sugar-cane he argues that,

> Oil, too, has known personification in literary representation. Indeed, its power to transform societies and energize global infrastructures means it has often appeared as more than an historical personage […] oil is frequently presented as an all-powerful demon or god (Niblett, 273).

Habila's personification of both the land and crude oil illustrates the aesthetics of periphery, exposing the horrors of commodity extractivism through an irrealist literary style.

Nonhuman death and a dying ecosystem haunt Habila's text making nonhuman grief a prevalent feeling. The sense of spectrality we found in Baker's work, the haunting aspects of animal remains, we also find in Habila's work. In the following description, Habila develops both an irrealist aesthetics and an affective sense of grief,

> The next village was almost a replica of the last: the same empty squat dwellings, the same ripe and flagrant stench, the barrenness, the oil slick, and the same indefinable sadness in the air, as if a community of ghosts were suspended above the punctured zinc roofs, unwilling to depart, yet powerless to return (Habila, 9).

The striking image of a community of ghosts, suspended, unwilling to depart, yet powerless to return, captures a community that is trapped physically yet on the precipice of disappearance; they are, in every sense, ghostly. Just like the body of the bird in Baker's image VII, haunting remains are present yet it is a life or lives which are lost. Simultaneously, Habila combines images of ghostly apparitions with a rotting and diseased body to describe the landscape, 'the patch of grass growing by the water was suffocated by a film of oil, each blade covered with blotches like the liver spots on a smoker's hands' (Habila, 9). The allusion here to a smokers hands covered with liver spots renders the earth a corporeal entity, gradually decaying and diseased through contamination and polluting substances. The frequent reference to the 'oil-fecund earth' (Habila, 34), 'the oil-scorched earth' (Habila, 75), imagines oil as a suffocating and all-encompassing substance – where, in some ways, the commodity itself becomes representative of neo-colonial oppression that pervades the region. Habila here demonstrates irrealist aesthetics by capturing the landscape as haunted by ghosts and oil itself as a demonic oppressor. For Michael Lowey, 'Irrealist works of art can take various forms: gothic novels, fairy tales, fantastic stories, oneiric narratives, utopian or

dystopian novels, surrealist art, and many others' (Lowey, 194). For Habila, the oil-encounter is one which defies categories of realism and enters into the fantastical and surreal.

Through gothic and irrealist imagery, Habila captures the corrupting force of Western oil companies as a plague that has struck the body of Nigeria, a parasite feeding off its resources and nutrients and leaving the body empty and barren. As WReC member Stephen Shapiro argues, 'irrealism […] appears in weak or peripheral states that have been shunted into structured underdevelopment in the world-system' (Shapiro, 244). Nigeria's history under colonial rule and the present modes of extraction are displayed in literary form through these irrealist aesthetics; Habila thus represents the horrors of extractive industries by an engagement with an irrealist register.

As explored in the previous chapter in reference to Nnedi Okorafor's *Lagoon*, Nigeria's history is immersed in the legacies of colonial violence. Habila captures these histories and biographies of violence not only through a devastated ecosystem and irrealist aesthetics, but also in the complex figures of the rebel militants. The leading rebel militant, called the Professor, articulates the controversies over land ownership and how the Nigerian people have been dispossessed and marginalised. He urges Rufus the journalist to tell the oil industry figure heads: 'how we are hounded daily in our land. Where do they want us to go, tell me where? Tell them, we are going nowhere. This land belongs to us. That is the truth, remember that. You can go' (Habila, 210). This is a provocative and urgent reminder of histories of the coalescence between land dispossession through colonialism and the ongoing neo-colonial forces of extractivist industries. As the Professor insists, 'tell them about the flares you see at night, and the oil on the water' (Habila, 210). This imperative to tell them, to show them, whoever this 'them' might be, demonstrates how *Oil on Water* is, like Baker's project, a work in which rendering visible, widening one's sensory field, and magnifying the 'peripheral' impacts of oil culture is central to the narrative's motivations. Both Baker and Habila embark on this project of attention, exploring the expansions and limits of attention, asking the reader or spectator to bear witness to violence and the unbearable vulnerability it exposes.

In this project of rendering visible, Habila provides a dystopian, almost sci-fi, depiction of the Niger Delta – the invading alien life form, however, is in this case the colonising force of the oil industry. As Habila describes,

> It looked like a setting for a sci-fi movie: the meagre landscape was covered in pipelines flying in all directions, sprouting the evil-smelling, oil-fecund earth. The pipes criss-crossed and interconnected endlessly all over the eerie field. We walked inland, ducking or hopping over the giant pipes, our shoes and trousers turning black with oil (Habila, 34).

In such a description, sci-fi, and the notion of speculative fiction in particular, is envisioned as something which is not distant or far in the future, on another planet or existing within a different time-zone; the apocalypse has instead already arrived. The pipes criss-crossing endlessly suggests a labyrinthine structure, oil culture thus appearing as an inescapable oppressor, the black oil entirely all-consuming, covering their clothes and bodies, which are entrenched within the soil and water. Oil is described as producing an

inescapable stench, as if it is a rotting body, a corpse left to decay in the open. Habila permeates the entire sensory field with oil, 'the foul smell that clung to our hair, and itch on our grime-smeared faces'(Habila, 10). To return to what Ngai describes as 'ugly feelings', from my analysis of the passages from *Oil on Water*, we are reminded of the affective power of disgust. Like the visceral affects provoked from Baker's grotesque images of animal corpses, there is within Habila's literary imagery an evocative experience of disgust and repulsion. If, as many aesthetic critics have noted, disgust's origins lie within the role of eating and what is indigestible, the fear of contamination and disease, Habila's representation of the landscape of the Niger Delta is indeed rotten and decayed, the ecosystem devastated and unable to sustain its communities of human and non-human life.[59]

For Amanda K. Greene, in her work on *Mourning with Disgust* in Auchzwitz memoirs, she suggests , that 'disgust offers an alternative, affective way of encountering the pain of others that still challenges the more soothing logic of mourning and meaning-making' (Greene, 483). Disgust evoked by the 'oil fecund earth' in *Oil on Water* is therefore symbolic of an earth which has become the abject yet suffering body, ravaged and looted, and left to rot. Habila renders visible the suffering of the Nigerian community through disgust. Greene further describes the affective potentiality of disgust: 'its invasive physicality collapses distance even as it instates it, and undoes aesthetics even as it is artistically rendered. While the casual utterance of disgust may be a shield, its visceral representation and real affective force do not cover up traumatic events but instead stick to them and to the bodies of viewers that cannot remain disinterested' (Greene, 483). Like Ngai, Greene demonstrates the critical productivity of disgust relating not just to the domain of politics, but that of ethics too, of conveying another's pain and suffering. As Greene suggests, by disgusts eradication of distance one is forced to recognise trauma and to not deflect or turn away. The reference to a diseased and abject body recurs throughout the novel. When Rufus contemplates the fate of the white woman he questions,

> What could fate possibly want with her on these oil-polluted waters? The forsaken villages, the gas flares, the stumps of pipes from exhausted wells with their heads capped and left jutting out of the oil-scorched earth, and the ever-present pipelines, criss-crossing the landscape, sometimes like diseased veins on the back of an old shrivelled hand, and sometimes in squiggles like ominous writing on the wall (Habila, 175).

Imagining the pipelines as diseased veins on the back of a shrivelled hand once again captures a moment and response of disgust, the pipelines labyrinthine structure depicted as suffocating and oppressive, thus rendering visible the pain of the earth. Disgust, for Greene, penetrates the body; it is a bodily rejection, a gag, a repulsion, and in this sense a bodily intrusion. The imagery of disgust perhaps conveys a wider signification of an invasion, not only of the body, but of the earth and land of Nigeria, the intrusive violence of colonialism and the despotic monopoly of Western extraction regimes. Disgust conveys a physical and psychical pain, a process of decline and decay. It is, as Aurel Kolnai describes, a 'phenomenon of decomposition' (Kolnai, 486). Habila, however, allows one to stay with the experience of disgust. Such an

[59] William Ian Miller in his work *Anatomy of Disgust*, suggests psychological interest in disgust originates in Darwin who centres it on the rejection of food.

experience, as Greene highlights, is 'to be forced to linger in disgust is to be trapped in proximity with, and physically invaded by, ghosts banished from the symbolic machine' (Greene, 486). This sense of proximity, of being trapped among the ghosts, is to linger among the remains of oil culture, facing the consequences of violent extraction. It is clear that both Baker and Habila's project explores this politics of visibility, of attuning ourselves to an attentive capacity, a way of experiencing disgust without averting one's gaze. In Winfried Menninghaus' detailed exploration of disgust, he suggests 'the fundamental schema of disgust is the experience of a nearness that is not wanted. An intrusive presence, a smell or taste is spontaneously assessed as contamination and forcibly distanced' (Menninghaus, 1). In Baker's and Habila's work, we are forced to reconcile and embrace this experience, attuning to what is usually expelled from both the body and from our field of vision. This ability to refuse to deflect recalls Pick's analysis of the creaturely, in which the encounter with vulnerability can lead to either exposure, a creaturely fellowship or a process of deflection. Becoming open to the communicative pressures of vulnerability, however, leads to a process of attunement to nonhuman life. It is, as Pick suggests, 'a rawness of nerves', it has become a wound (Pick, *Creaturely Poetics*, 9). Disgust, in this sense, is like a wound, revealing similar corporeal boundaries, yet moving our attention towards the pain and suffering of another.

By introducing forgotten and neglected terrains, the decaying landscape, the rotting animal corpses, the oil that floats on water, Habila challenges the distribution of 'grievability.' As Butler argues, 'in the same way that we talk about the unequal distribution of goods or resources, I believe that we can also speak about the radically unequal distribution of grief' (Butler, *The Force of Non-Violence*, 75). We have explored the ways in which disgust brings a different kind of suffering to light, a way of visualising a nonhuman alterity, the corporeal elements of the earth itself as a diseased and polluted body. But how and in what way does Habila also introduce a way of attending to the deaths of non-human life forms, furnishing a capacity for a non-anthropocentric mourning? For Butler, 'grievability governs the way in which living creatures are managed, and it proves to be an integral dimension of biopolitics and of ways of thinking about equality among the living' (Butler, *The Force of Non-Violence,* 56). As we now explore Habila's attention to the nonhuman lives and deaths or those who are cast out of the category of the human, it is important to think of grievability as a biopolitical regime and the ways in which Habila addresses this.

Habila's novel is attentive to the absence of nonhuman life in what was once a thriving eco-system. As they board a boat, floating across 'the black expressionless water' (Habila, 10), Rufus, the narrator, observes that 'there were no birds or fishes or other sea creatures – we were alone' (Habila, 10). In this description of floating across the Niger Delta, we become aware of the nonhuman deaths which, although not physically apparent, are visible through a declaration of their absence. As they follow a bend in the river, however, they begin to see 'dead birds draped over tree branches, their outstretched wings black and slick with oil; dead fishes bobbed white-bellied between the tree roots' (Habila, 9). Like Baker's visceral encounter with Norfolk roadkill, the characters of the novel are similarly confronted with the aftermath of oil culture, the devastating effects of extraction – scenes which are in many cases rarely brought to view. Butler's question 'whose life appears as a life, and whose loss would register as a loss?' (Butler, *The Force of Non-Violence*, 85), is also

provoked by Habila's imagery of absence and death. The Niger Delta becomes an open morgue in Habila's writing where 'strange objects would float past us: a piece of cloth, a rolling log, a dead fowl, a bloated dog belly up with black birds perching on it, their expressionless eyes blinking rapidly, their sharp beaks savagely cutting into the soft decaying flesh' (Habila, 34). The countless corpses floating across the black expressionless water, the oil described at one stage 'like a hangman's noose round the neck of whatever life form lay underneath' (Habila, 215) captures the dark and gothic underside of oil culture. The frequent allusion to the earth as a corporeal entity accentuates that the earth too is subject to injury. Exposing the damage that occurs across the Niger Delta opens up a realm of affects, disgust and repulsion at the oil soaked waters, despair and loss at the deaths of different life forms, and amidst this ruin, a demand for justice. By invoking various affective registers from disgust to grief, Habila not only records and attends to ecological ruin and nonhuman death but calls for a mode of resistance. Butler's concluding remarks in *The Force of Non-Violence* gesture towards such a demand for hope through attuning to affects, as she declares,

> So, whether we are caught up in rage or love – rageful love, militant pacificism, aggressive non-violence, radical persistence – let us hope that we live that bind in ways that let us live with the living, mindful of the dead, demonstrating persistence in the midst of grief and rage, the rocky and vexed trajectory of collective action in the shadow of fatality (Butler, T*he Force of Non-Violence,* 204).

By moving through the wreckage, collateral damage, of the extraction regimes across the Niger Delta, Habila provokes a series of affective responses which induce a mourning that does not lead to despondency or despair but an anger for change, for recognition, a movement for justice for the lives that fall out of the frame of significance. Exploring the range of textual affects, of bodily intensities produced from literary and visual material, allows one to not reject or turn away but rather to become immersed in the feeling, to be in tune with the suffering of another whether that be human, animal, or plant. Baker and Habila invite what Nixon terms 'sights of the unseen' (Nixon, 17), but also provoke different affective trajectories that can change the structures around what life is considered as a life, and whose loss would register as a loss.

Habila's novel also echoes Ahmed's notion of the 'contingency of pain', drawing us into the suffering of another place and time, allowing the reader to become connected to that which they cannot know. For Ahmed, 'Our question becomes not so much what *is* pain, but what *does* pain do' (Ahmed, *The Cultural Politics of Emotion*, 27). Likewise, Habila's novel conveys pain not so much to explain the experience but rather to ask what pain can do. Habila's narrator, Rufus, contemplates the fate of the wife of the oil engineer who has been abducted by militants: he wonders 'maybe fate wanted to show her first hand the carcasses of the fish and crabs and water birds that floated on the deserted beaches of these tiny towns and villages and islands every morning, killed by the oil her husband was helping to produce' (Habila, 175). The passage contemplates the suffering and death of nonhuman life forms, the wreckage of the exploits of oil engineers and Western corporations. There is an emphasis on the term 'show' in the passage, of looking towards something which is often edited out of the frame. By becoming a witness to this pain, however, Habila provokes questions around what the witnessing of such suffering can do. To return to Ahmed's reflection on

her mother's illness, she notes 'through witnessing, I would give her pain a life outside the fragile borders and much loved body' (Ahmed, *The Cultural Politics of Emotion*, 30). Although the circumstances and context are drastically different, Habila too asks one to bear witness to the devastation and pain occurring within the Niger Delta so the events begin to have a life beyond its borders, a movement towards recognition and resistance.

Grief, disgust, and pain provided an entryway into feeling beyond the realm of human in Habila's text, opening up our attentive capacities to events and suffering that is often framed as peripheral. This project of attention displaces 'man as the centre of the universe' (Pick, *Creaturely Poetics*, 183) and instead places emphasis on what Pick terms as the creature, a temporal, corporeal and finite being. Habila illuminates the corporeality of earth itself subject to pain and violence, and therefore exposing the nonhuman suffering which aims to deliver us beyond anthropocentrism to a shared sense of finitude and vulnerability with other creatures and nonhuman life forms.

Contaminated Waters and Indigenous Resistance in Rita Wong's and Cindy Mochizuki's *Perpetual*

Discovering hope in scenes of ruin, awakening one's attention to the lives discarded in the face of extraction and an ever-expanding infrastructure, reveals how generating different modes of address can be a radical act. Literature and visual culture garner our critical attention, widening our senses, furnishing a capacity to see what another sees, to feel someone else's experience of suffering. The shared sense of finitude and vulnerability which a creaturely poetics encourages serves to widen the frame on how we perceive human and nonhuman life. The reconfiguration of the human as a creature among many, material and temporal, creates an expansive frame in which we attend, care, and mourn the lives who are often edited out of moral and ethical frameworks.

Rita Wong's and Cindy Mochizuki's graphic novel *Perpetual* is attentive to the ways extraction regimes impact a variety of communities, how we are all entangled in oil culture in varying ways with differing consequences. Like Baker and Habila, Wong and Mochizuki are also engaged in a project of reframing and expansion, a work focused on turning our attention to the remains and debris of energy infrastructure. The graphic novel is thus engaged in creaturely expression, an artistic endeavour that asks about the limits of attention.

Exploring the contaminated and polluted waters of Indigenous communities in Canada and the damage of extraction in the tar sands, Wong and Mochizuki reveal both the severe consequences of petromodernity and suggest modes of resistance to it. Revealing the power of water as a source that connects us all, Wong poetically articulates the need to register and to feel beyond our sensory field: 'keep breathing deeply – this helps us to be mindful and present, and attentive to how are related to creatures and places we may not see' (Wong, 15). This practice of attunement and attentiveness facilitates a creaturely fellowship.

As I now explore the debris and remains of oil culture across the pacific, the Athabasca River, and the underwater streams of Vancouver, Wong's insistence on being attentive to what we may not see is an important aspect of my analysis, a way of understanding an interdependency that is not always evident. To recall Ahmed's ethical demand, that 'I must act about that which I cannot know' (Ahmed, *The Cultural Politics of Emotion,* 31), *Perpetual* similarly calls for us to come to feel and act upon that which does not belong to us.

Like in my previous analysis of Baker and Habila's work, the political potential of affect is central to my reading, but there is a focus on hope and change, the ways in which theorising recognition and mourning leads to a praxis of resistance.

First, before I turn to my reading of *Perpetual*, I want to focus on Rita Wong's activist work and reflections on the healing walks she carried out in the tar sands led by an Indigenous community. In doing so, I draw on Wong's own affective trajectory in relation to the land and how her experience leads to the creative work of resistance. Like Habila, Wong notes how colonialism is not a thing of the past, but rather its legacies continue in 'virulent, violent forms, in both the slow poisoning of water and the fast killing of women' (Wong, 103). This becomes all the more pertinent in the healing walks across the tar sands as she describes,

> Each time, seeing the devastation to the land triggers a sick feeling in my stomach. On my own, I think I would have shrunk down into despair or numbed myself because I felt incapable of addressing the huge, overwhelming scale of the destruction. Yet, on this walk, the sick feeling co-exists with a quietly hopeful one, invoked by the efforts of my co-walkers, as well as the many people we know who cannot make the long journey to Fort McMurray, the epicentre of tar sands extraction in northern Alberta, but who ask us to carry their wishes and prayers for the healing of the land with us (Wong, 133).

This triggering experience, of seeing the land in a state of destruction, is met with a series of ambivalent feelings – the overwhelming despair at being powerless to change what has already been done, alongside an experience of hope invoked by collaboration and a community coming together to care for the land. Further on in her commentary, we find a resemblance to Habila's literary rendition of the oil-soaked landscapes of the Niger Delta, as crude oil becomes an all-consuming and suffocating substance:

> If you had come, you would have smelled the sulfur and tar, the toxic pollution that lingers the next day on skin and hair. You would have heard the propane powered cannons that pop to scare off the ducks from landing in the enormous pools of poisonous water. It smelled like I was farting tar, inhaling it, ingesting it and eventually excreting it, while immersed in the gaseous fumes that hovered over the tar sands basin (Wong, 134).

Once again, we find the corporeal metaphors of a diseased body, a sense of disgust, of a repellent substance contaminating and suffocating the body of the earth and its inhabitants. Coexistent with this theme of decay and disease is the central need to heal, following Indigenous knowledges of protecting and thus healing the land. Within this experience of the healing walk, Wong suggests that 'the will to heal is humble and

tenacious, inviting creative responses, ideas and more actions' (Wong, 137). Like *Oil on Water* and *Roadside*, *Perpetual* is an affective call for justice, a record of environmental devastation, and impels creativity as a mode of resistance and a passage to healing.

Wong's poetry begins by asserting 'water as poetics & praxis' (Wong, 5), a way of imagining an interconnectedness through the lens of water, 'part of [the] hydrological cycle' (Wong, 5), 'this planet's crucial circulatory system' (Wong, 5). As Wong goes onto describe, 'your brain is roughly 85 % water, your body approximately 70%' (Wong, 5). In this opening passage, the human body is not isolated or atomised, but made up of different elements, part of a hydrological system, embedded within passages and storages of water. Like Butler's scholarship on precarity, Wong illuminates an interconnectedness but through the lens of water. By doing so, she also provides a 'critique of anthropocentric individualism' (Butler, *The Force of Non-Violence*, 73), and as Hannah Boast has noted presents 'non-anthropocentric modes of relating to water' (Boast, 1). In this vein, I'd like to push Wong's poetics further to suggest how it can possibly furnish both a creaturely mourning and thus a new relation to energy beyond extractivist and colonial logic. Mourning becomes a political tool of recognition in the graphic novel, a mourning which attends to ruin and death yet aims to strive and care for the living. As in Wong's healing walks across the tar sands, the graphic novel allows us to become alert to alternative energy processes of water, sun, and wind that are living amongst ruin. Wong describes the healing walk noting 'the wind often blows fierce and constant, and the sun peeks through the clouds and smog now and then, reminding us that other forms of energy exist right here, in Alberta, that are cleaner and equally powerful to the dirty tar' (Wong, 138). There is a glimmer of hope and a dream of transition in Wong's and Mochizuki's creative work in *Perpetual*, grounding us in the embedded hydrological cycle that flows through our bodies, across polluted shores, rivers, and oceans.

Perpetual takes us from the underground streams of Vancouver, streams that are paved over by cement, as she listens for 'the dips and cracks in the ground that might signal stubborn streams underneath' (Wong, 8), and then moves to the great the body of water that is the pacific ocean. In the illustration, Mochizuki captures the remains and debris, petro-plastics which float across the shore and the ocean bed. Wong describes the image as 'a human crime scene' (Wong, 33), 'with marine corpses […] bloated […] by plastic pollution' (Wong, 33). As with Baker's exhibition *Roadside*, Mochizuki and Wong record the countless nonhuman deaths that are a consequence of a world reliant on petroculture. In the following pages, we enter the depths of the ocean, words are scattered across the panels, capturing the debris which fills the ocean itself. 'Look down' (Wong, 33) and we find an array of leftovers: 'roadkill […] burger wrapper […] ragged newspaper […] oil smeared plate […] a child's dropped shoe […] straw […] tinfoil […] sock […] crinkly cellophane' (Wong, 37). Scattered across the page, these words are placed next to the panel of the ocean, where fish swim in and out between these leftovers and broken remains. Wong and Mochizuki illustrate and collect the remains of a consumer culture that is embedded in petrochemicals, 'the juice carton', 'the shopping bag' – all created from crude oil and scattered across the ocean bed. Here, we find a sense of grief for the environment in a state of ruin, while invoking our own accountability and complicity in its devastation. This sense of complicity is further implicated when Wong articulates that she is 'living in the belly of the bitumen

beast driving and flying, I am implicated in the oil addiction I critique' (Wong, 57). There is no way to escape crude oil – a society driven by and shaped by this commodity. However, addressing its effects, and accounting for complicity, can therefore expose paths to transition.

This experience of both grief and complicity returns us to Butler's argument in *Precarious Life*. Butler proposes 'to consider a dimension of political life that has to do with our exposure to violence and our complicity in it, with our vulnerability to loss and the task of mourning that follows, and with finding a basis of a community within these conditions' (Butler, *Precarious Life*, 19). It is in such conditions, overwhelmed by grief, accountable and yet exposed to violence, in which Wong and Mochizuki situate environmental damage in their work. Wong asks a haunting and provocative question of 'how do you respond to […] devastation?' (Wong, 47). Behind these words, Mochizuki has illustrated a bird covered by black oil. The question is similar to that of Butler, how do we fashion a community in the face of violence and mourning? What are our modes of resistance to environmental devastation? Mourning for the land and environmental devastation here provoke questions, response, and action. As the narrative turns to collectives and direct action among Indigenous communities, one activist declares that 'our current environmental reality is so urgent that we need to build alliances and relationships to work for the changes that are needed' (Wong, 81). It is in this space of despair, vulnerability, and mourning in which hope of collective action is built. This sense of urgency and exposure of vulnerability to different life forms further points towards Pick's creaturely ethics. For Pick,

> Creaturely vulnerability opens up zones of "indistinction" (Calarco, 2015), where species identities blur and where different beings, or creatures, are perceived as corporeal and vulnerable. More radically still, creaturely vulnerability, as I understand it, calls for the contraction of humanity rather than its benevolent extension to nonhumans. Creatureliness—the state of being exposed to natural necessity and the ravages of power—does not call for the alleviation of vulnerability via gestures of "humanization" but for more profound forms of "dehumanization." The creaturely, then, is focused on unseating the structures of human exceptionalism (less on the generation of empathy). By imbuing materialism with a sense of reverence for everything that is, creatureliness encompasses all life, from animals to plants. (Pick, 'Vulnerability', 414)

Pick notes how a shared vulnerability from animals to plants is a way of building alliances, opening up zones of indistinction. Vulnerability, in this sense, becomes not a plea for paternalism but a path to resistance. As Juiletta Singh suggests in her work on dehumanism, 'we become vulnerable to other possibilities for living, for being together in common, for feeling injustice and refusing it without the need to engage it through forms of conquest (Singh, 21). Vulnerability here becomes a way of becoming in common, creating unlikely bonds and alliances. But how, and in what way does *Perpetual'*s exposure of vulnerability and modes of resistance gesture towards a different relation to energy, to the world around us, beyond violent extraction regimes?

Sheena Wilson has argued that we are currently at a stage of energy impasse that defines contemporary climate discourse in North America – and beyond. This stage is 'a result of an atrophy of imagination that

blockades transformative action' (Wilson, "Energy Imaginaries", 377). For Wilson, this impasse and blockade provokes a series of questions 'what does energy do? What is energy for? What from the age of oil is not working? And, most critically, for whom is it not working?' (Wilson, "Energy Imaginaries", 377). Wilson goes onto suggest that in order to create a just and feminist transition from the age of oil there has to be introduction of what she terms Other knowledge systems including but not limited to feminist and indigenous perspectives. Referring back to the methodology I have developed across the thesis of a combined feminist animal studies, as well as the critical material we find in *Perpetual* drawing on experiences of Indigenous communities in Canada, introduces a possible passage way through the blockade of transition. *Perpetual*, as well as Habila's and Baker's work, addresses what Sharae Deckard terms 'the infrastructure of violence' (Deckard, 7), where pipelines lead to dispossession, draining, as well as sites of potential obstruction and occupation (Deckard, 7). *Perpetua*l presents a site of occupation and resistance through the power of water, as both a material force and metaphor of interconnected collaboration. Water, in a metaphorical sense, breaks the blockade of imagination as the writers, illustrators, and activists come together in the creation of *Perpetual*, 'untapping watershed mind' (Wong, 67). In their creative process of drawing, writing and talking, Wong and Mochizuki describe it as 'nourishing work of a power shift, paradigm shift' (Wong, 73). Acutely aware of the need to transition to different ways of being and living in the world, Wong declares that 'we live in a watershed moment' (Wong, 74). Like Wilson, Wong and Mochizuki are aware of the urgency to move away from the age of oil and to resist the violent colonial logics of extraction. Through the variety of registers within their poetry and illustrations, we encounter this tumult of emotion, a rebellion on edge of revolt, both an address to lives lost and a call for justice for the living.

For Butler, mourning 'has to do with agreeing to undergo a transformation'—a transformation that cannot necessarily be charted or planned (Butler, *Precarious Life*, 21). Undergoing this transformative experience through ecological grief and despair, *Perpetual* asks what can arise within the condition of mourning. As Wong goes onto ask, 'what might a watershed moment look like?' (Wong, 78). After journeying through ruin, becoming alert to the impending climate crisis, transformative action is built in the creation of the graphic novel. For Wong and Mochizuki, the crisis in Canada and across the globe demands 'us to be conscious, to be mindful of our actions, our thoughts – how we live our daily lives. It would require us to take up the challenge to respond to the crisis posed by mega projects like the tar sands' (Wong, 78). Meeting with an Indigenous activist Dorothy Christian, Wong and Mochizuki record the moment they attend an environmental conference. For the protection of the Indigenous lands, Gan-ya-ge-haga, also known as Montreal, Dorothy declares 'who is going to stand next to me when an army tank is coming at me' (Wong, 82). Mochizuki's illustration captures a crowd with all their hands in the air agreeing to stand by Dorothy's side. Like Wilson's claim for the incorporation of feminist and Indigenous perspectives in the coming energy transition, Wong and Mochizuki foreground resistance and healing in the work of the Indigenous communities in Canada. The question of the movement away from the age of oil is 'how to decolonize and re-Indigenize' (Wong, 89). A question which I would further add is how, in Julietta Singh's terms, to dehumanise? Moving away from human exceptionalism and its narrative of conquest brings us closer to the

domain of the creaturely, the shared sense of vulnerability which marks all life, plant and animal, can allow us to embark on new configurations of interacting and understanding our wider ecology.

As we have seen during the course of the thesis so far, energy regimes are shaped and enforced by a colonial logic, an erasure and dispossession of land, as well as erasure of ways of being and living in the world. To embark on a trajectory away from violent extractivism, Wong and Mochizuki invite us to 'listen to the lands, the waters, the first peoples, whose everyday practices continue, despite colonial violence and the theft of Indigenous children from their families. (Wong, 89). To return to Wong's quote at the beginning of my analysis of *Perpetual*: 'keep breathing deeply – this helps us be mindful and present, and attentive to how we are related to creatures and places we may not see' (Wong, 15), we find that by journeying across the Indigenous lands of Canada we have learned of places and lives that have been erased, while illuminating the remains and debris that we ignore. *Perpetual* exposes the infrastructure of violence, the pipelines cutting across rivers, the plastics filling the Pacific Ocean, but also moves from a state of mourning to a position of action and resistance, generating hope within ruin. *Perpetual* is therefore a work of creaturely expression, foregrounding relations beyond species divisions and towards our environment.

Mobilising Affect: Paths to a Creaturely Transition

Baker, Habila, Wong and Mochizuki presented literature and visual media which provided a reframing of oil culture and infrastructure placing the nonhuman at the centre. Their focus on the periphery is a project of attuning our attention to the devastation which occurs beyond physical sight and our sensory field, rendering visible projects of extraction and its multivalent effects. These textual and visual sources thus display the effects of energy production and its infrastructure. As Michael Niblett suggests, 'where a commodity so overdetermines all facets of society, its influence on aesthetic practice will be correspondingly marked' (Niblett, 271). Baker demonstrates the consequences of a region dominated by the automobile creating art which responds to its impact. Habila conveys an irrealist literary register responding to the domination of the oil industry in the Niger Delta. *Perpetual* likewise conveys the violence of pipeline infrastructure and offers creative acts of resistance.

They are all exemplary works of exposure igniting affects which allow one to feel beyond the sphere of the human. These affective encounters with oil spills and animal remains point towards different ways of living and engaging with the world beyond the violence of extraction. To create a creaturely relation to energy, moving away from the age of oil, is a project of attending to violence that is often remote and obscured from view. For a world after and beyond oil, we thus must attend to the present violence of energy infrastructure.

Emerging from the research collective Petrocultures, co-directed by Sheena Wilson and Imre Szeman, another research project called *After Oil* was formed. Through academic workshops, and through what they term a humanities based approach to energy transition, they advocated that 'Global society must undergo an energy transition, a shift from an economy and society based on energy derived from fossil fuels, to an economy and society based on a mix of energy forms' (Szeman, 2018). For the collective, this task of

transition entails ‘a re-imagination of modernity and an ability to recreate ourselves as different kinds of beings than the ones who have built a civilisation based upon non-renewable forms of energy’ (Szeman, 2018). This task is one that requires a move away from anthropocentric domination and colonial extractivist cultures, to another way of being, a path of reinvention and transformation. As we have explored, the affective terrains of textual and visual material open us to experiences of grief, disgust, pain, and despair, while forging the possibilities of new political horizon and communities.

The subject of transition and the ways of getting there become the central aim of the next chapter, for we have now built a movement of hope in spaces of ruin and despair, but the journey to just and utopian energy futures is still unclear. While the affective registers of the sources present an unruly potential of resistance and address, there needs to be some direction in how we conceive of a new relation to energy and its implications for transition. I look to how perspectives on vulnerability can inform a creaturely transition away from violent energy regimes. As we move to the next phase of speculative energy transition in the thesis, I explore science fiction texts and suggest how a non-anthropocentric relation to different life forms can point towards a non-extractive project.

ENERGY FUTURES

Chapter Five

Energy Futures and Multispecies Relations in SF

‘The gathering question of a world "After Oil" illumines the interpretive horizons of space opera's grandiose expenditures. It also preoccupies the contracted visions of post-apocalyptic fiction's myriad collapse narratives, which convey entropic worlds of diminishing and unevenly distributed energy returns, amid the outbreak of resource struggles.’

Graeme Macdonald, *Improbability Drives: The Energy of SF*

‘We’re supposed to be talking about world-making. The idea of making makes me think of making new. Making a new world: a different world: Middle Earth, say, or the planets of science fiction. That’s the work of the fantastic imagination. Or there’s making the world new: making the world different: a utopia or dystopia, the work of political imagination. But what about making the world, this world, the old one? That seems to be the province of the religious imagination, or the will to survive.’

Ursula K. Le Guin, ‘World Making’

Dreams Must Explain Themselves: The Selected Non-Fiction of Ursula K. Le Guin.

The After Oil Research Collective argue that ‘a genuine global transition away from fossil fuels will require not only a reworking of our energy infrastructures, but a transformation of petroculture itself’ (After Oil, 9).[60] In this statement, the collective refer to how petroculture has come to shape values, feelings, and societal norms; their argument is therefore that a cultural and societal transition must take place to conceive of a future free from violent and imperialist modes of resource extraction. In Ursula Le Guin’s passage above, she contemplates world making, a practice that ranges from envisioning and creating the world anew from religious imaginaries to the planets of science fiction, and mere survival. If SF is an act of world-making, not just a focus on the new but about living with the old, how might energy and energy transition be reconceived within the SF imaginary? For Le Guin, Science Fiction is not so much about the future or capitalist imperial notions of progress, but instead about our perception and awareness. As she suggests, ‘As

[60] The After Oil Research collective conducted a workshop and produced collectively the After Oil book in which they explore the social, cultural, and political changes needed to carry out a full-scale transition from fossil fuel energy. Their work forms an important aspect of this chapter as I contend with relationship between science fiction and energy transition.

a science fiction writer I personally prefer to stand still for long periods, like the Quechua, and look at what is, in fact, in front of me: the earth; my fellow beings on it; and the stars' (Le Guin, 'World Making,' 140). In this chapter, I contend not only with envisioning future ways of being with energies and other species through the lens of SF but to figure ways of remaking and living with the old – exposing the relations that we have which may have been broken or forgotten. What relations become possible if mastery and progress are not their defining feature? Can a world after oil be imagined without the extractive regimes of capital marching forward?

In the passage above, Macdonald suggests how a world "After Oil" in fiction can restage the violence of the present through space operas, post-apocalyptic visions, and resource depletion. The problem of the future then is perhaps dealing with and surviving in the present. The chosen literary texts therefore focus not only on envisioning the future, but also on past and current relations and how we perform them in more just and ethical ways. The first text I turn to is the short story 'Moonlight' by Liu Cixin from the Chinese SF collection *Broken Stars*. Here, energy transition is enforced by techno-fixes and green capitalist solutions. In this post-apocalyptic vision of the future, the violence which shaped the age of oil continues despite the introduction of renewable resources. Following this analysis, I focus on Ursula Le Guin's *The Dispossessed* whose future worlds illuminate multispecies solidarity and present an alternative to the capitalist failures of 'Moonlight'. In my analysis of Le Guin's text, Weil's philosophy on affliction informs my reading of the scenes of suffering and solidarity in *The Dispossessed*. By thinking ecologically with Le Guin and Weil, I suggest that the novel has implications for energy transition. The final novel I examine is Stanislaw Lem's *Solaris* which introduces life worlds beyond human mastery and resource violence; Lem imagines an interaction with and engagement across species lines towards interstellar regions and alien life forms. In my reading of these SF narratives, I combine Animal Studies scholarship with energy humanities, addressing the ways the two can inform one another and inspire a transition from the violence of capitalist production and extraction.

Throughout my analysis of the latter two SF narratives, I draw on my feminist animal studies methodology but with a particular focus on Julietta Singh's *Unthinking Mastery*. Alongside what Singh terms 'non-masterful politics' (Singh, 15), I draw on Anat Pick's notion of 'letting be' and core concepts from the philosophy of Simone Weil including decreation, attention, and affliction.[61] These theoretical and philosophical frameworks look to vulnerability as a way to establish an ethical position, a way of recognising the suffering of another. My project is therefore to suggest how all three theorists not only introduce a multispecies ethic through modality of vulnerability, but also how they can inform just, feminist, and perhaps even a 'creaturely' transition from the age of oil. If we are to move from violent modes of extraction, based on human mastery and capitalist logic, the 'human' itself must be brought into question. As Singh suggests, 'we can begin to address how drives towards mastery inform and underlie the major crises of our times – acts of intrahuman violence across the globe, the radical disparities in resources and rights between the Global North and the Global South […] escalating threats of ecological disaster' (Singh, 3). What Singh,

[61] Letting be is a concept developed by Anat Pick that is influenced by Simone Weil's philosophy. Pick develops this concept at length in her chapter on 'Vegan Cinema' in *Thinking Veganism in Literature and Culture: Towards a Vegan Theory.*

Pick, and Weil, offer is a way of rethinking multispecies relations and our position to consider both our own finitude and temporal condition, discovering a sense of vulnerable co-existence and cohabitation with other elements and different species. My suggestion is that this perspective informed by these three thinkers can enable a different form of knowledge outside capitalist logic to embark on a transition away from contemporary violent energy regimes.

I begin with the question of why science fiction is the genre through which to explore energy transition and multispecies relations. Science fiction is immersed in energy politics, legacies of colonialism, future dystopic visions of resource depletion and ecological collapse. I look to how science fiction offers what Gerry Canavan describes as a 'polyvocal archive of the possible' (Canavan, 16) presenting alternatives to the current imperial and capitalist system.[62] I argue that science fiction is a world building project which allows us to challenge the violence and inequalities of the present while articulating and envisioning different futures from the age of oil.

Science Fiction and Resource Politics

The questions raised in the research project After Oil serve as significant pointers to the ways in which science fiction relates to energy and resource politics. The first is 'how is the use of energy entwined with representations and narratives about modernity and the environment? Correspondingly, how do artistic productions reflect, critique, and inform our understanding and use of energy?' (After Oil, 10). And secondly, 'what range of scenarios is currently on the table for imagining our future with energy?' (After Oil, 10). My purpose here is to demonstrate why science fiction is an exemplary form for exploring energy regimes, and also for imagining and reconceiving of energy futures. In this overview of science fiction and resource politics, I focus on science fiction's relation to colonialism, human animal relations, and environmental injustice and examine how they are all connected to capitalist resource politics as they are explored in the SF imaginary.

The propelling force of capitalist progress and the search for more commodity frontiers can often be mirrored in the SF expedition to discover new worlds – space as the final frontier for mining and extraction, to conquer and invade. Gerry Canavan describes late capitalism as,

> a mode of production that insists (culturally) and depends (structurally) on limitless expansion and permanent growth without end: into the former colonial periphery, into the peasant countryside, through oil derricks into the deepest crevices of the earth, and, then, in futurological imaginings, to orbital space stations, lunar cities, Martian settlements, asteroid belt mining colonies, sleep ships to

[62] In Mark Bould and China Mieville's *Red Planets: Marxism and Science Fiction*, they argue that the genre has 'long been allied with Marxist, feminist and queer theory, and increasingly with critical race studies, as politically engaged theorists and critics have found in the genre the radical potential for thinking differently about the world' (Bould and Mieville, 2).

> Alpha Centauri, and on and on. It is a process of growth whose end we can simply not conceive (Canavan, 5).[63]

Capital's path in SF can be a one way journey of progress, without limitations, expanding further across space, to intergalactic regions. Capitalist imperialism's drive for limitless expansion is reflected in some SF tropes, presenting an arena of power relations, technological advances, and the appropriation of new land and resources. In John Rieder's important work *Colonialism and the Emergence of Science Fiction,* he explores this connection of the ideological drives of imperialism and its influence on the aesthetics and themes of SF. He begins this work with a quote from Edward Said: 'the novel as a cultural artefact of bourgeois society, and imperialism are unthinkable without each other' (Said, 70-71). This relationship between the novel and imperialism is further developed in Rieder's work by suggesting that the emergence of science fiction arose at a particular moment of colonial history:

> Increasing popularity of journeys into outer space or under the ground in the late nineteenth and early twentieth centuries probably reflects the near exhaustion of the actual unexplored areas of the globe-the disappearance of the white spaces on the map, to invoke a famous anecdote of Conrad's. Having no place on Earth left for the radical exoticism of unexplored territory, the writers invent places elsewhere. (Rieder, 4).

This connection to imperial power and SF's creation and invasion of new worlds is further elaborated by Michelle Reid who draws on Istvan Csicery-Ronay Jr who goes further than Rieder, arguing that 'sf is itself a fantasy of empire, emerging in industrialised, imperial nations, such as America, Britain, France, Germany, Japan, and the Soviet Union, as a mediator between national cultural traditions and the rise of global capitalism' (Reid, 258). The relationship between SF and the rise of global capitalism is something I wish to draw out further. Returning to the discussion carried out in Chapter Three on the relation between colonial legacies and capitalism, there is clear illustration of these connections in science fiction as fantasies of invasion and appropriation of land are played out within the SF imaginary.

To move to more contemporary readings of science fiction, however, the eco-apocalypse genre often presents resource wars and energy depletion as its central narrative arc. Moving from the rise of capitalism with space operas and mass-market shows such as *Star Wars*, we now find ourselves immersed in an arena of ecological demise, dystopic visions and entropic worlds like the film *Mad Max Fury Road*, or Margaret Atwood's *MaddAddam* trilogy, post-oil futures focused on mere survival. Fictions such as Octavia Butler's *Parable of the Sower*, Paolo Bacigalupi's *Wind Up Girl*, Kevin Barry's *The City of Bohane*, present worlds in which the famous quote of Fredric Jameson, 'it's easier to imagine the end of the world than it is the end of capitalism' (Jameson, xii), is culturally materialised. These works show less of a utopian vision of energy systems and resource politics and more of their destruction and implosion. As Macdonald further notes:

[63] Gerry Canavan's and Kim Stanley Robinson's work *Green Planets* emulates Bould's and Mieville's Red Planet, but with a new specific focus on ecology and science fiction. This area has also been explored at length by Laurence Buell, Patrick D. Murphy, and Eric C. Otto in *Green Speculations: Science Fiction and Transformative Environmentalism*.

> A characteristically ironic feature of eco-apocalypse narratives is their detectable strain of regret for the comforts and security of the petrolife we are now struggling to maintain: a "past" life, a post post-peak of continually desired or extended oil, most notably in its depletion, and especially after the event of an oil-driven collapse. (Macdonald, *Improbability Drives of SF*)

With this melancholic strand that mourns the comforts of capitalist and petrocultural society, the eco-apocalypse genre opens us to the chaos that possibly ensues in a world without oil. Is there, however, as Mark Fisher's *Capitalist Realism* argues, an alternative?[64] As Canavan has asked, how might science fiction provide the 'polyvocal archive of the possible' (16) envisioning futures that are not tied to colonial and capitalist ventures or ecological demise, but transitions to just and ethical energy futures?

Science fiction's capacity to convey capitalist exploitation through the surreal and the alien draws us once again to the irrealist aesthetics outlined by WReC. As Sourit Bhattacharya describes,

> the utopian, dystopian, oneiric, or fairytale narratives can be good examples of critical irrealism, as often the description of social reality is minute and accurate in them; but there is a powerful tendency to question, critique, protest against the existing hegemonic forms of reality, seek alternatives and find ways to liberate the characters from the oppressive social contingencies (Bhattarcharya, 40).

Although science fiction is absent from these examples, the utopian and the dystopian are evident features of the science fiction genre. Like Bhattarcharya's definition of critical irrealism, SF can likewise endeavour to protest and critique capitalist hegemony and seek alternatives. Under the pressures of extractive economies, SF is illustrative of a form of irrealism conveying an artistic response to violent modes of production and imperialism.

SF can offer these modes of critique and alternatives by its engagement and encounter with the animal and the alien. To envision a world free from the violence of oil culture and capitalist logic in the literary and cultural imagination, I suggest that science fiction's focus on animal alterity is perhaps a key starting point. Referenced earlier in the thesis, Sherryl Vint's *Animal Alterity: Science Fiction and The Question of the Animal* provides an effective insight into how SF explores the importance of nonhuman agency.[65] As Vint notes, 'sf offers a wider scope than does most literature for enabling animal agency to become part of the quotidian world, as well as space to attempt to grasp animals as beings in their own right rather than as beings defined through their place in human cultural systems' (Vint, 6). My argument is that science fiction's focus on nonhuman actors and different life forms can serve to create an ecological awareness, pointing to our vulnerable co-existence with other species. The violent disparities of resource distribution and depletion in the eco-apocalypse strain of SF is also often combined with an encounter between different life forms – both alien and animal, a lifeform that appears as an Other. What are the implications of this multispecies merging

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[64] *Capitalist Realism* by Mark Fisher develops this concept of Capitalist Realism and explores the ways it manifests in all of areas of culture and society, noting how it has become such a dominant economic mode that society struggles to imagine an alternative or anything outside of it.

[65] For further scholarship by Vint on this topic see 'Species-Being: Alienated Subjectivity and the Commodification of Animals' in *Red Planets: Marxism and Science Fiction*.

for energy futures? Can such powerful rethinking of the human in the interaction with different species call for a renewed energy ethic? If we are now at a current energy impasse, a deadlock, in which imaginations are blocked, how can science fiction itself contribute to ways of imagining transition? For the After Oil Research Collective, transition is not just a case of moving from one form of energy to another. As they declare, 'we will not make an adequate or democratic transition to a world after oil without first changing how we think, imagine, see, and hear' (After Oil, 41). Changing how we think, imagine, see, and hear, has to do with relations and how we perform them. Literature, and as I shall argue, science fiction in particular, pays attention to and critiques present power relations and can show alternatives to the contemporary violence of oil culture. Science fiction's engagement with an animal alterity has the potential to rethink human mastery and thus provides a template for our future interaction with our wider ecology from other species to energy sources. In what follows, however, I turn to Liu Cixin's short story, 'Moonlight', addressing the failure of undergoing energy transition within the existent extractive mode of capitalist logic.

Green Capitalism and Violent Transition in Liu Cixin's 'Moonlight'

Liu Cixin is a prominent Chinese SF writer, whose famous trilogy, *The Three Body Problem*, illustrates anxieties over extra-terrestrial invasion and presents the fears around nuclear energy. Cixin is one of the contributors to Ken Liu's *Broken Stars* collection of Chinese Science Fiction. In Cixin's contribution, the short story 'Moonlight' explores the rise of green capitalist solutions to climate catastrophe and the problems which arise from the fossil fuel economy. Cixin himself comments on the limitations of technological advances on Earth to survive ecological disaster:

> There is no apparent short-term benefit to human terrestrial beings; on the contrary, even those endowed with greater governmental foresight are confronted with imagining the unique dilemmas presented when we imagine the successful establishment of extra-terrestrial colonies (Cixin, *Zuizao de yuzhou*, 25).

For Cixin, the solutions and technology needed to prevent climate crisis cannot be sourced on earth and instead he promotes intergalactic travel as a solution to planetary issues. 'Moonlight' stages these limitations of advanced technologies and renewable energy resources, where the outcome is bleak inaction, a blockade to energy transition resorting back to the fossil fuel economy. Green capitalism offers what is termed as 'sustainable' solutions to the ecological crisis. As Jacklyn Cock argues, 'The two pillars on which 'green capitalism' rests are technological innovation and expanding markets while keeping the existing institutions of capitalism intact'(Cock, 45). Cixin presents the fatalities and failures of relying on capitalist solutions to the problem of energy and energy transition. David Schwartzman declared China as a world leader in renewable energies offering a vision of hope for the future.[66] Cixin's position in 'Moonlight' illustrates a

[66] Schwartzman concludes that China could perhaps initiate a socialist green transition. As he argues: 'In view of the fact that China has the largest renewable energy capacity and leads the world as a producer of renewable energy technology (Renewables, Global Status Report, 2018), she has the historic potential of leading a global ecosocialist transition. However, a thorough assessment of the contradictions in Chinese political economy and

less utopian view, where we discover the limitations of technological advances which are entrenched in global capitalism.[67]

'Moonlight' explores the transition to renewable energy resources but envisions the dystopic and apocalyptic visions of a global system under the same imperial and violent modes of production that shaped the age of oil. In this short story, the protagonist, an energy planner, receives a call from the future, the year 2123, from his future self. His future self informs him that Shanghai has been flooded, 'the last of coastal cities to fall' (Cixin, 57), as climate change has ravaged the earth; 'the polar ice caps have gone' (Cixin, 57). The caller suggests to the protagonist that he must implement a transition from the fossil fuel economy to solar energy to save the world from ecological and social collapse. Following this call, he receives an email with the latest future models and technological advancements in solar technology to create a global transition. A few moments later, he receives another call from his future self in the year 2119. Solar energy has now dominated global markets, but the desired outcome does not prevail. The earth is now covered in silicon fields, as 'after all the deserts had been turned into solar fields, they began to devour arable land and vegetation cover' (Cixin, 64). The need for energy kept on growing and solar panels led to an excess of siliconization. The caller proposes one more transition to save the future, ultra-deep drilling, and a geoelectric form of green technology. Once again the protagonist receives details on this advanced green technology and aims to implement it. However, another call takes place, and we find that the ultra-deep drilling did not solve the problems of the fossil fuel age. Instead the earth surface is covered in radiation, an ever-expanding drilling force having destroyed the earth's magnetic field. The protagonist resolves to delete all the emails; having changed the course of history three times in one night, but in the end decided to change nothing at all. The result is an energy impasse not knowing how to move forwards and being trapped in the current capitalist system.

The tone of the narrative is one of technocratic authority, informed by the protagonist's belief that technology will provide the solution to a warming world. There is an emphasis on 'impossibility' where changes at a structural level are difficult to enforce, but human technological innovations are perhaps the answer to the existing problems of an impending energy crisis. As the protagonist's future self informs him, 'Remember I am speaking to you from the future. Think. We are smart people' (Cixin, 58). This entrepreneurial spirit and belief in humanity's progress recalls the techno-utopian discourse in energy politics explored by Imre Szeman. He notes that 'entrepreneurship exists in the twenty-first century as a commonsense way of navigating the inevitable, irreproachable, and apparently unchangeable reality of global capitalism' (Szeman, "Entrepreneurship as the New Common Sense," 473). The apparent unchangeable reality of global capitalism is manifested in this narrative with disastrous consequences. The text primarily foregrounds the

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energy/environmental policy is needed to inform an analysis of how this potential could be realized.' Yet China's position as socialist country is certainly contested for it is now rooted in a global capitalism and market relations pioneering in world trade and technologies.

[67] Jacklyn Cock further argues that 'sustainability' has been co-opted by neo-liberal capitalism. Adrian Parr explores this in detail in his book, *Hijacking Sustainability*, arguing that 'sustainability' has gone mainstream in the sense that is a criteria in corporate eco-branding strategies and promoted by Hollywood movie stars. The suspicion of 'sustainability' discourse is a sentiment that we find in Cixin's narrative.

change in market demands and goals while providing the infrastructure necessary for wholesale global transition. Energy consumption continues at a fast pace with the introduction of solar power, as 'the need for energy kept on growing, and silicon plows had to devour more land' (Cixin, 65). The narrative appears to critique what Szeman describes as 'blind faith: the belief that some new technology will arrive to rescue us from our thorniest problems' (Szeman, 2014). As Szeman further notes on techno-utopianism, 'this hardly constitutes a real solution to environmental and energy problems, which are produced by our way of life and not by bad technology' (Szeman, 2014). In 'Moonlight', no transition is enforced in ways of living but simply the introduction of new technology. This is not to suggest technological innovation is not an important dimension of energy transition, but rather it cannot be solely relied on. As Szeman notes, his problem is not to do with technology itself:

> What I do have a problem with is our increasing tendency to look to technology and science to create a soft landing for capitalism. We are living in the first years of a fully capitalist world, which has led not to wealth for all but to gross economic inequalities across the planet. It has also produced an ever-hotter planet, with consequences that we are already beginning to experience, but which our grandchildren will have to endure (Szeman, 2014).

The demise of this techno-utopian belief system and entrepreneurial spirit is illustrated in Cixin's narrative, as the proposed green and technological solutions lead to ever more ecological disasters. In the text, the solar industry is 'no different from the history of fossil fuel industries […] land siliconization was even more damaging to the environment than desertification. As conditions deteriorated, drought swept the globe, and the occasional rainfall only resulted in massive floods (Cixin, 65). The market growth and domination of solar forms of energy in 'Moonlight' are indicative of Szeman's critical statement that: 'If we can't stop capitalism from destroying the planet, then we'll use technology to make the planet work with our consumer culture, whatever the ultimate cost might be' (Szeman, 2014). Energy consumption is not changed or reduced, but continues unimpeded at a mass scale as arable and vegetive lands turn into solar fields. For Andreas Malm, a liveable future requires renouncing all fossil fuels and 'living with the autonomous sun and wind and waves without any more solid energy to expand on' (Malm, 228). Yet as Cixin's narrative demonstrates, implementing renewables cannot be the sole response to climate catastrophe. Under the existing capitalist regime, whose path is a one way system of progress, nature reveals its limitations. The fast growth of both solar and ultra-deep drilling and their ecological consequences in 'Moonlight' illustrate a need not to master and govern nature in order to meet consumer needs but rather to withdraw demand – to change Western norms introduced through the age of oil. Cixin's narrative is of a circular nature, we find ourselves back at the very beginning where nothing has changed and the fossil fuel economy remains. Such circularity reflects the logic of extractive capitalism and energy politics, imaginative and creative moves away from the fossil fuel industry are forestalled or prohibited as profit and the market is prioritised. As Wilson notes, 'the ontologies of modernity that have shaped the global present limit our ability to imagine other futures' (Wilson, "Energy Imaginaries", 381). Cixin presents this crisis of capitalist modernity, with

technological advancements providing only further issues and bringing us back to the dominance of fossil fuel economy.

Wilson expands on the current deadlock, suggesting that 'this energy impasse is the political, economic, and environmental deadlock created by the limits of Western ontologies and epistemologies that need to be newly thought' (Wilson, "Energy Imaginaries," 378). 'Moonlight' offers the outcome of these deadlocks and concludes with nothing happening at all, as 'the world began another ordinary day' (Cixin, 71). Capitalism remains the dominant socio-economic model and the fossil fuel industry the main source of energy to fuel it. The fantasy of techno solutions becomes apocalyptic in 'Moonlight', exposing how the problems of the present remain intact despite the implementation of renewable resources. Wilson's critique of Jonathan Porritt's book *The World We Made* highlights the flaws of foregrounding transition in primarily technological and economically driven solutions. It is, as Wilson suggests, 'business as usual disguised as radical innovation' (Wilson, "Energy Imaginaries," 380).

The 'radical' innovations 'Moonlight' proposes to prevent ecological disasters are mediated through technology; a phone call, an email, presenting models of new and 'green' energy systems. Relations, and how we perform them, how we interact with our ecology, are significantly absent. This distant managerial approach provides the technology, yet not the cultural and social change to create a just and ethical energy transition. It could be argued that 'Moonlight' proposes inaction and convergence to the dominant energy system of the fossil fuel industry. However, its critique of violent energy transition illustrates the dangers which can ensue if we maintain the same knowledge systems, and highlights the dominance of capitalist and techno-utopian solutions. For environmental change and justice to be carried out, Wilson suggests that 'from a feminist or Indigenous perspective, empathy, not just knowledge, clearly plays a role in action or stasis' (Wilson, "Energy Imaginaries," 383). Empathy is acutely absent from 'Moonlight', the plot is driven by continuous phone calls, reports on climate and the introduction of new technologies. This is evident from the final phone call when the protagonist asks his future self 'Please tell me about our life after this moment' (Cixin, 69). The intimacies and personal life stories are entirely absent from the call; his future self refuses to reveal anything about their life. It is a narrative devoid of connection and interaction, solely driven by technological change and innovation. This lack of empathetic knowledge and engagement is perhaps one of the downfalls of their project to save the world from ecological destruction. 'Moonlight' looks to the limitations of technological solutions revealing what happens if we rely on the entrepreneur alone. Wilson's suggestion that empathy holds a key role in environmental action points to how affective relations are vital within the task of energy transition.

Wilson emphasises empathy in forming what she calls 'ecologies of care' (Wilson, "Energy Imaginaries," 379). Ecologies of care serve to counter the distant and managerial approach of 'Moonlight', introducing relations as an important dimension of energy transition. If, as Wilson contends, the project of oil capitalism and the nation state 'require as their prerequisite the erasure of certain bodies' (Wilson, "Energy Imaginaries," 396), the ambition of this chapter is then to illuminate these bodies – and in particular the nonhuman life forms erased from ethical consciousness. Like Wilson, who foregrounds empathetic

knowledges from feminist and Indigenous perspectives, I too introduce 'Other knowledge' systems which prioritise encounters and relations between others. By introducing what Julietta Singh terms as 'dehumanist solidarities – social bonds that are mobilised and sustained through a refusal of sovereign human subject and enact agential forms of inhuman relationality' (Singh, 123), we can find other ways of being and interacting with the world and its creatures. 'Moonlight' presents the violence of extraction and transition, but in what follows I look to the ways solidarity is formed across difference, and how such a fellowship with animal or alien life forms can generate a different imaginary from the deadlocks of capitalist and techno-solutions to transition.

To return, however, to the question of SF and energy, Macdonald suggests,

> The eco-apocalypse genre usually moves in narrative arcs from violence to turpitude, depending on relative access to energy. The field is packed. But what of post-oil fictions of renewable energy? The utopian imaginations of a powered-down society seem less realized' (Macdonald, Improbability Drives)

What I am about to discuss provides a response to Macdonald's query. Although not specifically about energy or post oil worlds, *The Dispossessed* and *Solaris* open us to alternative relations beyond resource violence and human mastery, they expose the vulnerability of the human, bringing the human itself into question. In scenes of shared suffering, the undoing of mastery, alternative forms of living become possible in the novels, developing a sense of vulnerable co-existence and fellowship with other creatures which has implications for energy transition.

Shared Suffering and Creaturely Companionship in *The Dispossessed*

Ursula Le Guin's *The Dispossessed* has been read 'as an anarchist, ecological, anticapitalist, or revolutionary utopia' (Davis, xi). Le Guin's experiment in anarchism and anti-capitalist vision presents an antithesis to the failures of green capitalism we explored in 'Moonlight'. Despite the fact that energy transition is not the focus of Le Guin's fictional universe, the narrative illustrates an ecological sentiment which is resonant of Simone Weil's philosophical thought and Pick's creaturely poetics. I argue that an ecological philosophy emerges from *The Dispossessed*, a philosophy which is grounded in shared suffering and that offers a challenge to the regimes of extractive capital.

The Dispossessed is one of the novels from the Hanish cycle, alongside *The Left Hand of Darkness* and *The Word for World is Forest*. The Hanish cycle and other Le Guin fictions are often attuned to environmental politics, Indigenous rights, and her own position imbricated within settler colonial capitalism. In her essay, 'A Non-Euclidean View of California', she discusses how Utopia has always been white, European and male, consisting of one journey, the "march of progress." She goes onto note 'it seems that utopian imagination is trapped, like capitalism and industrialism and the human population, in a one-way future consisting only of growth' (Le Guin, 'A Non-Euclidean View of California,' 111). Le Guin's experiment in

an anarchist ambiguous utopia in *The Dispossessed* defies such capitalist logics, offering spaces of communion and solidarity through an environmental politics and a multispecies ethics.

The Dispossessed itself follows the twin planets Anarres and Urras, and the scientist Shevek as he ventures from Anarres, the anarchist planet, to Urras, a planet under a capitalist system, where the inhabitants are often described as propertarians. The Anarres people are settlers who left the political turmoil of Urras to build a society based on anarchist principles. The two planets have had little communication or relation to each other since the settlers arrived on Anarres 200 years ago. It is Shevek, the physicist, however, who changes this relation; his project, as he describes it, is 'to unbuild walls' (Le Guin, 8). The narrative moves between stories from Shevek's past on the planet Anarres which involve resource struggles, episodes of drought, and his ventures in physics to the present day where he navigates and attempts to understand the capitalist and hierarchical society of Urras with its constant wars, poverty, and ideological divisions. Scholarship on *The Dispossessed* focuses on the political tensions of anarchism and capitalist society, its relation to cold war politics, class conflict, and its post-consumerist ethics. The intentions of my reading, although connected to Le Guin's anti-capitalist visions, are more specifically focused on the Weilian and creaturely aspects of *The Dispossessed* exploring what Pick terms as 'the communicative pressures of vulnerability' in the novel. The episodes of drought and famine on Anarres, Shevek's endurance of pain and suffering while carrying out his studies in physics, and his intellectual musings on the significance of pain as a driving force for solidarity, are my main foci. Another area that comes to the fore in my reading is the ecological aspects of the novel – Le Guin's focus on the wastefulness of Urras society, the ideas around possession, property, and communal resources. As I explore these moments of isolated and shared suffering and the characters' sense of ecological awareness, I frame the analysis through Weil's philosophical thought illustrating the ways in which my reading can gesture towards an alternative energy ethics from present extractivism.

Le Guin's *The Dispossessed* is neither strictly about energy or nonhuman animals, yet the central character Shevek's fascination and experience of suffering and affliction provides an illustration of Pick's creaturely fellowship and Weilian philosophy. In my reading of *The Dispossessed*, I focus on Shevek's claim that 'it is our suffering which brings us together' (Le Guin, 247) and demonstrate how the Weilian modality of affliction arises from Le Guin's novel offering what the After Oil collective strive for, regarding new ways to 'think, imagine, see and hear' (After Oil, 41). Yoon Sook Cha suggests Weil's philosophy presents an other-centred ethics. By placing this other-centred ethics within the heart of energy transition, it can perhaps alter our relation to our wider ecology and other nonhuman life forms.

The Dispossessed is an experiment in anarchist principles, a world which Fredric Jameson has termed 'world reduction' (Jameson, 267). Jameson focuses primarily on Le Guin's *The Left Hand of Darkness*, but also draws on *The Dispossessed,* noting that Anarres is a planet where humans are entirely without biological partners.[68] One reading of *The Dispossessed* is to see these two opposing worlds, Anarres and Urras, as an

[68] Gib Prettyman has described Jameson's reading of Le Guin, noting that Jameson viewed Le Guin's approach as a fantasy of escaping the history of capitalism (Prettyman, 57)

ambiguous utopian anarchism versus a dystopian rampant capitalism. Like Le Guin, Simone Weil was also a known anarchist exploring the inadequacy of Marxist tradition in her work *Oppression and Liberty* and favouring an anarchist approach to political change and justice. Although Le Guin is versed in anarchist politics, it is unknown whether she engaged with Weil's scholarship. However, Weil's philosophical and political writings, and Le Guin's fiction, have ecological themes that are foregrounded in their anti-capitalist visions. As Peter Stillman writes, 'Le Guin was writing at the outset of the modern environmentalist movement, symbolised by the first earth day in 1970' (Stillman, 55). Weil herself never directly engaged with an environmentalist politic in her philosophical thought; however, contemporary scholars such as Simone Kotva and Anat Pick have identified the ways Weilian modalities are significant aspects in forming an ecological and creaturely consciousness. For Gib Prettyman, Le Guin is also a key figure in science fiction who has drawn on ecofeminism, Daoism, and environmentalist politics. As Prettyman suggests, Le Guin's fictions work towards this 'recognition of ourselves in nature' (Prettyman, 58). Bringing together Le Guin and Weil, I argue is a way of introducing a form of ecological thinking that has implications for energy transition. Weil's clear anti-capitalist thought and Le Guin's science fiction imaginaries are an attempt to unpack the violence of the present capitalist system, offering alternatives and different ways of being together.

For Gib Prettyman, 'ecology involves two related cognitive processes: unlearning the egoisitic and anthropocentric illusions that underlie the psychic ecosystem of capitalism, and learning the real limits that characterise the material ecosystem and circumscribe human culture (Prettyman, 62). This definition of ecology is illustrative of both Weil's notion of decreation and Le Guin's fiction. As Sook Cha notes on Weilian decreative ethics, it is 'to begin to think of the way self-dispossession might be a passage to the other' (Sook Cha, 3). The self-dispossession that leads to a connection to another is also a passage of attunement to other life forms beyond species divisions. Eradicating the 'I' in Weilian philosophy becomes a way of recognising and hearing the call of the sufferer. Similarly, as Prettyman notes, Le Guin expresses an ecological strategy of 'trying to counteract the way of the ego' (Prettyman, 65). The society of Anarres in *The Dispossessed* is led by the fictional ideology of Odonianism where egoism and individualistic possession is condemned and is replaced by a communal politics and philosophy. Le Guin's ecological strategy of counteracting the way of the ego in *The Dispossessed*, which is informed through her work on Daoism, is similar to Weil's scholarship on decreation. As Sook Cha describes, decreation is 'a radical decentering of the ego that would allow the other to make contact with others or, finally, with God' (Sook Cha, 17). Both Weil and Le Guin's focus on the decentring of the ego serve to implicate the human as earthly and ecological, as well as a spiritual being, connected and bound to others.

Weilian scholar Stuart Jesson describes Weil's concept of attention 'as a kind of openness or receptivity; a willingness to encounter – or even be penetrated – by what is given in the real' (Jesson, 121). In this statement, Jesson describes how attention operates as a way of attuning oneself to suffering and the reality of our world. This receptive openness is illustrated by Le Guin's central character Shevek, and his desire to unbuild walls, to communicate across barriers – spatial, social, and ideological. The image of the wall haunts

Shevek from an early age. In the opening pages, the first sentence announces 'there was a wall' (Le Guin, 5). The wall, he describes, emphasised 'the idea of the boundary. But the idea was real' (Le Guin, 5). From the very beginning, Le Guin accentuates both the idea and the materiality of walls and divisions, what separates and divides us from others. In this case, it is the separation of the two planets Urras and Anarres, but the complexity of these divisions is imbricated in the novel on a far deeper level from the cultural, ideological and the material. The walls which surround Anarres cut their universe off from communication with other planets, with Urras in particular appearing as alien, monstrous, and monolithic. In his ambitions to create bridges between the two planets, Shevek is open and receptive in a Weilian sense, demonstrating a willingness to engage. In Shevek's dream as a child, he comes across a wall which 'went from horizon to horizon across the barren land' (Le Guin, 30). He attempts to go on, but 'the wall stopped him' (Le Guin, 30). The wall becomes a metaphorical and physical barricade to other worlds and fellowship with other creatures; the wall itself emphasises solidity and division, conflicts and isolation. Shevek's ambitions throughout the narrative is thus to unbuild the walls which haunt him and surround his planet; his journey is one of openness and free communication beyond divisions and conflicts.

Weil's notion of attention allows for 'self-displacement, a loving patience, and a willing and receptive openness (Jesson, 126). Attention is an ability to wait, of emptying out oneself, in order to receive the other in all their unbearable reality and truth. Weil discusses this at length in *Reflections on the Right Use of School Studies*. As Weil writes, 'above all our thought should be empty, waiting, not seeking anything, but ready to receive in its naked truth the object which is to penetrate it' (Weil, 4). We find in Shevek's character this process of opening oneself out. The narrator describes how,

> Shevek had learned how to wait. He was good at it, an expert. He had first learned the skill of waiting for his mother Rulag to come back, though that was so long ago he did not remember it; and he had perfected it waiting for his turn, waiting to share, waiting for a share. At the age of eight he asked why and how and what if, but he seldom asked when' (Le Guin, 39).

It is this practice of waiting that allows one to hear and attend to another's suffering. As Weil suggests, 'the love of thy neighbour in all its fullness simply means being able to say to him: what are you going through' (Weil, 124). The ability to patiently wait is a process of allowing to hear what is often not articulated or is sometimes ignored. Shevek's method of waiting provides an avenue to his ambitions of breaking down walls, to communicate and listen across divisions.

Weil's concept of decreation explores this sense of receptive openness. Decreative ethics questions the sovereign subject, and thus offers an undoing of power relations. As Sook Cha notes, 'to not exercise power where one has it, then, is so radical because it withdraws altogether from the binary model of subjugator-subjugated' (Sook Cha, 4). In such a process of radical dispossession, decreative ethics leads to a loss of oneself, an inability to say 'I'. The conceptions of individualism and autonomy that shape capitalist ideology are thus brought into question through this dispossession. It becomes not so much a question of rights and individual freedom, but of obligations and willing attention. We find this dispossession of the 'I' in Le Guin's anarchist world Anarres through the political project of Odonianism. As a young boy growing up, Shevek

insists on being in the sun. He enjoys the radiating heat and declares 'Mine! […] Mine sun!' (Le Guin, 26). Following this, his father insists that 'Nothing is yours. It is to use. It is to share. If you will not share it you cannot use it' (Le Guin, 26). As Shevek is reduced to tears, his father continues: 'Come on, you know you can't have things' (Le Guin, 26). In Anarres, ownership and property are condemned and a communal philosophy and practice is instead favoured. To declare ownership, to focus on what 'I' am or what 'I' own, is what the planet's inhabitants term egoising. By forging such an ethics and politics around a dispossession of the 'I' in favour of a communal and shared subjectivity, Le Guin's anarchist world in Anarres follows that of Pick's creaturely ethics which is inspired by Weilian thought. As Pick concludes in her work, 'a creaturely ethics […] does not ask what are the limits of rights? But what are the limits of attention? (Pick, *Creaturely Poetics*, 193). Weil's philosophical thought argued for the precedence of obligations over rights – rights being tied to property and ownership, whereas obligations emerge regardless of individual freedoms and autonomy.[69] In Weilian thought, it is only through sincere and bound obligations in which we can hear the call of the suffering, that we can become aware of what someone is going through and attend to their cry. As Sook Cha questions,

> What kind of ethical perspective—freed from the egocentrism of "the person"—can be developed from the kind of impersonal being Weil envisages? Would we find there a distinctly ethical expression of being, one that respects the alterity of the other so that it can neither be subsumed under nor mastered through one's responsibility toward him? Would it compel us toward a mode of being profoundly open to the other, not because of any supposed social harmony (which can lead to idealization, in Weil's view) or because the relationship is reciprocal (obligation, according to Weil, does not belong to an economy of equitable exchange or reciprocity), but because both the self and the other are, finally, vulnerable to harm? (Sook Cha, 20).

Le Guin, like Weil, attempts to envisage a world in which one is freed from egocentrism and engages instead within a reciprocal relation, forging a path to undoing sovereignty and ownership. It is this question of vulnerability, of both being subject and vulnerable to harm, in which Le Guin's character Shevek suggests brotherhood is formed. As he announces to his friends when discussing the severity of pain, 'I'm trying to say what I think brotherhood really is. It begins – it begins in shared pain' (Le Guin, 54). Shevek illustrates how solidarity and companionship emerge from both being vulnerable to harm, subject to blind force and gravity in the Weilian sense. Shared vulnerability can extend not just to the human being, but to other creatures and ecological life forms. If solidarity across difference begins with pain, what implications does this have for our treatment of nonhuman life forms? Can a recognition of shared pain lead to a fellowship with other beings that are similarly finite and temporal, and vulnerable to harm? As the title of Le Guin's novel is indicative of an act of dispossession, of becoming the dispossessed, Weil's decreative ethics is thus illustrated through Le Guin's renunciation of the 'I' and instead proposes a creaturely companionship on the basis of shared pain and suffering.

[69] This is expressed in Weil's essay on the 'Human Personality.'

During Shevek's studies, he contemplates the experience of pain, its purpose, and its implications. As he notes, pain:

> Exists […] It's real […] Suffering is the condition on which we live. And when it comes you know it. You know it as the truth. Of course it is right to cure diseases, to prevent hunger and injustice, as the social organism does. But no society can change the nature of existence. We can't prevent suffering. This pain and that pain, yes but not Pain. A society can only relieve social suffering. The rest remains. The root, the reality. All of us here are going to know grief; if we live fifty years, we'll know pain for fifty years. And in the end we'll die. That's the condition we're born on' (Le Guin, 53).

Weil's philosophy is illustrated in this passage, describing a case in which reality is made 'not less painful, only clearer' (Weil, *A Letter to a Priest*, 1) and where vulnerability itself is 'a mark of existence' (Weil, *Gravity and Grace,* 108). As Shevek contemplates a past experience of caring for another, a man who crashed an air car, the vehicle having caught fire, Shevek suggests: 'You couldn't do anything for him, except just stay there, be with him' (Le Guin, 54). It is the act of bearing witness to another's pain, hearing their cry, which is where solidarity and companionship is formed. As Sook Cha suggests,

> To recognize this vulnerability implies a failure, a failure that is even beautiful, but beautiful in that it cannot defend itself against the cry of the other. That is the ethical bind: that, bound to the other by an unconditional and unconditioned demand ("Why am I being harmed?"), one must nonetheless undergo and sustain an unconditioned desire defined by its unrealization and that presumes the destruction of one's "I." (Sook Cha, 39).

As Shevek hears the cry of the man he attends to, he realises he has little to offer, but in hearing the suffering of another, this connection enables an ethical bind in which one's self becomes undone in the face of an other's pain.[70] Much later in the novel, as Shevek joins a protest on the planet Urras, he announces to the crowd: 'It is our suffering that brings us together […] the bond that binds us is beyond choice' (Le Guin, 247). This ethical bind, formed through the dispossession of the 'I', has implications for a new and alternative relation to energy. On Anarres, they use wind power as their main source of energy. Unlike the mistakes and violent transitions in 'Moonlight', Le Guin presents a world of de-growth and decreation on Anarres– a world focused not on possession, property ownership, and extraction but formed through solidarity, mutual aid, and community.

The energy impasse is 'without signposts', and we hold the immanent knowledge that 'we now must transition to different ways of being in the world, both with each other and in relationship to the environment' (After Oil, 17). Le Guin's expression of a decreative and other-centred ethics, however, can gesture towards a changed relation to the environment and energy sources. As I have now demonstrated the Weillian aspects of *The Dispossessed*, my analysis suggests that an other-centred and creaturely ethics can be orientated

[70] This recalls our earlier reflections on Sara Ahmed's work on in *The Cultural Politics of Emotion*.

towards ecological consciousness. 'Upending sovereign modes of identity and political constitution' (Sook Cha, 6) allows for our vulnerable co-existence to become apparent, an earthly yet spiritual bind to the cries which often remain muted or silent.

Le Guin's Anarres is not, however, a strictly utopian world, with its frequent famines, resource depletion, and, as Jameson has noted, the absence of biological partners, namely fellow creatures. Anarres is a barren landscape prone to droughts and inhabitable for other species. Shevek is astounded when arriving on Urras at the flora and fauna that populate their world:

> It's a queer situation, biologically speaking. We Anarresti are unnaturally isolated. On the old World there are eighteen phyla of land animal; there are classes, like the insects, that have so many species they've never been able to count them, and some of these species have populations of billions. Think of it: everywhere you looked animals, other creatures, sharing the earth and air with you. You'd feel so much more a part. (Le Guin, 186)

This feeling of integration with different species in Urras emphasises becoming one creature among many, a fellowship emerging as you become a part of an entire eco-system. This sense of belonging, however, emerges not just with Shevek's fascination on the planet Urras but also on Anarres with his partner Takver and her role as a biologist. As Shevek describes,

> Her concern with landscapes and living creatures was passionate. This concern, feebly called "love of nature", seemed to Shevek something broader than love. There are souls, he thought, whose umbilicus has never been cut. They never got weaned from the universe. They do not understand death as an enemy; they look forward to rotting and turning into humus. It was strange to see Takver take a leaf into her hand, or even a rock. She became an extension of it: it of her. (Le Guin, 154)

The umbilical cord image envisions how Takver is bound to her world, the universe, and the creatures which inhabit it. She is depicted as an extension of her environment, rather than a solitary master of it. By becoming an extension to the rock or the leaf, Takver is not the sovereign subject or master but exists alongside these organic and elemental forms. Le Guin's description envisions a creaturely companionship, the human itself immersed and connected to other life forms, a process of 'retranslating the human into the creaturely order, into the anonymity of perishable matter' (Pick, *Creaturely Poetics*, 183). Le Guin illustrates the unbuilding of walls to uncover long forgotten bonds and ties, the connections between the two alien worlds, and the creatures which reside in them. Le Guin thus envisions Pick's creaturely project of 'illuminating the relations we currently have and the ones I believe we ought to have – with the world around us' (Pick, *Creaturely Poetics*, 185).

The Dispossessed concludes with Shevek releasing his new theory of physics thus making possible a model of communication that can traverse the universe to speak with other planets from different time zones and locations. He does not do this for entrepreneurial gain or to benefit the profit seekers from Urras, but to unbuild the walls, to walk through them, and to connect with others. What strikes Shevek as the connection that binds us all, however, is not the connections formed through scientific innovations, but through the

‘deepest intimacy of pain’ (Le Guin, 304). As with Weilian philosophy, Le Guin forges a world and a sense of solidarity through our vulnerability. In this vision, ‘man as the centre of the universe is no more, and a new history, a musical and natural history – the natural history of creatures – is born (Pick, *Creaturely Poetics*, 183). Le Guin’s fictional accounts of ecological relationships that lead us to ‘the ordinary – yet extraordinary – living encounter’ (Pick, *Creaturely Poetics*, 13) with vulnerability. Suffering becomes the source of solidarity in *The Dispossessed*; in Julietta Singh’s terms the novel ‘asks us to open ourselves to reimagining ways of relating to each other – to others, human, nonhuman, and inhuman, to which (even when disavowed) we are mutually bound’ (Singh, 3). The ethical bind that ties us to other beings – human and nonhuman – is distinctively non-masterful, allowing for a fragile opening and passage to another. It is through this shared fragility that one can imagine a world beyond violent modes of extraction, an ethical and non-anthropocentric project that ‘is a profoundly hopeful one that gazes towards a future it still cannot see’ (Singh, 21).

For the After Oil Research collective, ‘the struggle that is currently taking place over the direction of energy transition, which involves scientists, activists, governments, and businesspeople, is a struggle over representation and narrative, the stories we tell about human capacity and future possibility’ (After Oil, 73). Perhaps it is the undoing of certain human capacities, exploring our limits and finitude – seeing ourselves as perishable matter, that enables the blockades and walls preventing a just and ethical energy transition to become unbuilt. Le Guin’s *The Dispossessed* and Weilian philosophy provide renewed and alternative modalities of the human through the experience of suffering and affliction. Instead of being a subject holding dominion and mastery over the earth, the human becomes one creature among many, vulnerable and subject to pain. Their reconfigurations of the human in fiction and philosophy offer an entryway to alternate modes of understanding and interacting with energy. Thus, the combined analysis of Le Guin’s fiction and Weil’s philosophy facilitates engagement with the violence of the human past and present, yet envisioning a future in which we become attentive to different ways of hearing, seeing, and living upon the earth amongst its different creatures, life forms, and energies.

Undoing Systems of Mastery in *Solaris*

Ursula Le Guin’s ‘Foreword’ to the Russian SF writers, Arkady & Boris Strugatsky’s *Roadside Picnic*, offers an insight into Stanislaw Lem’s *Solaris* and the failures of human mastery. Le Guin describes that:

> The question of whether human beings are or will be able to understand any and all information we receive from the universe is one that most science fiction, riding on the heady tide of scientism, used to answer with an unquestioning Yes. The Polish novelist Stanislaw Lem called it “the myth of our cognitive universalism.” *Solaris* is the best known of his books on this theme, in which human characters are defeated, humbled by their failure to comprehend alien messages or artifacts. They have failed the test (Le Guin, ‘Foreword’, viii).

In this final literary analysis, I explore the implications of what it means to 'have failed the test' and how the undoing and failure of human mastery leads to a discovery of different relations beyond the human. Mastery shapes our past and present relation to energy sources; from the whale in *Moby-Dick*, hunted and harpooned, to animal bodies, processed and packaged, from oil itself extracted and refined. These power relations, that have come to shape energy systems and politics, rely on the human holding both dominion and sovereignty over the natural world.

Lem's *Solaris* opens with the SF endeavour of discovery and mastery, yet as the novel develops mastery begins to falter and new relations emerge. The undoing and failure of mastery are my focus within this next analysis, exposing how mastery's failure leads to the discovery of both vulnerability and 'non-masterful forms of politics' (Singh, 15). The planet Solaris is made solely of water, a non-human agent that refuses to be controlled or harnessed by human scientific and technological practices. Just like the whale in *Moby-Dick*, the planet is surveyed and assessed according to human measurements, while being subjected to violence through both classificatory language and material modes of extraction. In the narrative, there is a transition from distant scientific observer, the master of its object of study, to 'a participant in mutual exploration' (Jue, 231) which is the result of mastery's failure. This failure calls for new imaginative horizons of how we engage and live with other nonhuman life forms, thus problematising our current violent practices of energy extraction. In my analysis of *Solaris*, I explore the ruptures of mastery and control, the moments of vulnerability which lead to forms of creaturely companionship.

Like much of my literary analysis throughout the thesis, I present critiques of capitalist production through the literary material. However, it is important to note the Polish and Soviet context in which *Solaris* emerges. Lem's life in Poland includes the periods of Nazi occupation to Stalinism. Here he discusses the different totalitarian regimes:

> I spent the first seventeen years of my life in prewar Poland, a country normal enough by European standards, capitalistic like all others, even if poorer than its neighbours. After that I went through the first period of Nazi occupation. After that there was Soviet totalitarianism, much more oppressive since at that time, living in Lvov, I was exposed to a brutally authentic Stalinism. The next thing you know, the Germans were back in Lvov; more executions, more purposeful but aimless slaughter, then the city was liberated for good at last, and following that, all the way down to Gorbachev and the downfall of communism, there were some forty odd years of communist Poland, i.e., an imported kind of totalitarianism' (Lem, *Life and Times*, 17).

Lem's, novel, however, goes beyond just a reflection of these times to explore philosophical speculations on the human condition and its relation to the nonhuman. Nonetheless, I argue that Lem's critique of human mastery offers a challenge to the current capitalist imperial system despite emerging from a location occupied by the Soviets. I suggest that the novel's challenge to hegemonic thinking and violent regimes can offer a critique and alternative to capitalist logic unravelling mastery in all its forms.

Julietta Singh's project in *Unthinking Mastery* follows a similar trajectory to Pick's claim in her work which is to make, in part, dehumanisation something radically positive. Singh's project differs somewhat from other posthuman scholars in the sense it is committed to critical conversations with the decolonial. Singh's dehumanism is a project which aims 'to become exiled from subjectivities founded on and through mastery […] a project of remaking the human from the outside' (Singh, 5). Addressing both the animality of the human, the ideological fantasies of human's unique agency, Singh aims to create other less masterful subjectivities that are driven by the promises of vulnerability. Like Weil and Pick, Singh also emphasises vulnerability as the modality that transforms not only our understanding of the human identity but also their wider relations. As Singh argues,

> If the masterful work of global imperialism functions through dehumanisation of those it aims to conquer, and if we can now argue that the human to which we have been aspiring is intimately bound to a logic of mastery, the looking toward those "other genres of being human" that have been well lived and will be lived by those subjected to imperial force might offer us other performances of the human that allow us to begin to practice a non-masterful politics (Singh, 15).

Looking to these other genres of being human can provide a way of becoming attuned to other species and the environment. It is through the colonial SF endeavour within *Solaris* in which I explore the human's inability to master and its ramifications for energy relations and transition. Science fiction's ability to 'provide us with a future-orientated perspective' (Vint, 21) might offer ways of changing the here and now, gesturing towards a renewed relation to energy.

Solaris provides an acute illustration of the limitations of human mastery and discovery opening us to scenes of vulnerability. As Melody Jue suggests, the central crisis of the novel is 'that human beings can only know what is Other through existing frameworks of cognition and linguistic means' (Jue, 230). *Solaris* is a narrative that begins as a colonial venture, the scientific community's aim of understanding and thus mastering the planet. The crisis of human mastery is demonstrated by the scientific project called Solaris studies which is the academic pursuit of understanding the mechanisms of this ocean based planet. Theorised as a "thinking ocean", the scientists' produced multiple hypotheses of its creative movements, attempting to understand the planet's processes and interactions through mathematical models and equations. The project evoked all kinds of metaphysical questions: 'Was it possible for thought to exist without consciousness? Could one, in any case, apply the word thought to processes observed in the ocean?' (Lem, 25). For Melody Jue, these ruptures in understanding illustrate the novel's central theme: 'a crisis that is jointly scientific, masculine, colonial, and terrestrial' (Jue, 227). These crises are in effect the failure of mastery, and therefore, as Singh suggests, 'in failing to master […] we become vulnerable to other possibilities of living, for being together in common' (Singh, 21). It is to this process of being together in common that the characters of the novel find themselves, unable to master or understand the planet, they become open to different and perhaps less masterful forms of relations.

The novel follows Kelvin, a psychologist, who ventures out to station Solaris to join a team of scientists who are hoping to understand the ocean depths of the planet. But as Jue notes, 'Lem's fantastic ocean resists

both physical and epistemic human penetration with depths that remain cognitively out of reach to whatever extent they exists at all'(Jue, 228). As Kelvin arrives on station Solaris, he notices something strange about the other scientist onboard, both Snow and Sartorius. Snow is elusive towards uncertain about whether he is a fellow human being. Sartorius locks himself in his room to hide away from Kelvin. The sense of apprehension onboard the intergalactic station suggests to Kelvin that something unnerving has taken place. Gibarian, a colleague from earth who was also placed on the station, appears to be absent. Kelvin interrogates Snow about Gibarian's disappearance only to discover that Gibarian has died in mysterious circumstances. Later Kelvin discovers the cause behind this madness, as he is visited by one of the ocean planet's avatars, the physical manifestation of his memory of a woman he once loved. The planet, according to Snow and Gibarian's notes, is sending them their past memories of people who were once a part of their lives. As if reading the scientists' dark and forgotten memories, the planet creates clones of their past lovers, children, and mothers, following and haunting the scientists' every movement onboard the station. However, rather than reading these human clones through a psychoanalytic frame, as pure manifestations of the character's unconscious, I look to the implications of them as material nonhuman life forms, an encounter with the alien Other.

For Ann Weinstone, the subject of *Solaris* is 'colonisation, especially those colonizing activities that proceed from hegemonic science' (Weinstone, 177). The scientific observer combined with the colonial mastering gaze resonates with the previous exploration of the whale in *Moby-Dick*, as being subject to an over-coding and mastery through scientific naming and classifications. In the novel, the planet Solaris becomes the object of human progress and innovation as the scientific community's primary aim is to make "contact" – an aim that is colonial, conjuring images of the final frontier. Solaris itself becomes interpreted in many ways: a colossal brain, a thinking ocean, a mass energy source, and a strange and alien animal.

Much of the novel explores the scientific reports, investigations, and experiments carried out on the planet Solaris as Kelvin attempts to decipher what is happening to them onboard the station. In the chapter Solarists, Kelvin surveys the history of the scientific community's attempts to make "contact" with the ocean. First attempts at contact were developed through an electronic apparatus: 'the ocean itself took an active part in these operations remodelling the instruments. All of this, however, remained somewhat obscure. What exactly did the ocean's participation consist of?' (Lem, 21). As Kelvin further notes, 'constantly it seemed, the experts were on the brink of deciphering the ever-growing mass of information' (Lem, 22). Initially, the scientists suggest the ocean expressed itself 'in a more or less mathematical language' (Lem, 22). Lem's focus on the scientific endeavours, their successes and, ultimately, their failures to make contact, in order to understand this nonhuman and alien agent resonates with ecofeminist Vandana Shiva's critique of modern science. As Shiva notes in her and Maria Mies' key work, *Ecofeminism*:

> Modern science is projected as a universal, value-free system of knowledge, which by the logic of its method claims to arrive at objective conclusions about life, the universe and almost everything. This dominant stream of modern science, the reductionist or mechanical paradigm, is a specific

> projection of Western man that originated during the fifteenth and seventeenth centuries as the much acclaimed Scientific Revolution (Shiva, 22).

In this work, Shiva addresses how often modern scientific discourses can become reductionist, stripping nature to its bare mechanics and thus presenting the earth as inert and fragmented matter. Under such a reductionist paradigm, nature is understood as mere commodity thus lending itself to a capitalist framework, the environment seen as something to be harnessed, controlled, and conquered. The study of Solaris is similarly an Enlightenment project, demonstrating the ultimate progress of "man" as well as being tied to capitalist progress. This is evident through the scientists' offering a prize for those who could discover ways of harnessing the energy of the ocean planet and transporting it back to earth. As Kelvin notes:

> Two years before I began the stint in Gibrarian's laboratory which ended when I obtained the diploma of the Institute, Mett-Irving Foundation offered a huge prize to anybody who could find a viable method of tapping the energy of the ocean. The idea was not a new one. Several cargoes of the plasmatic jelly had been shipped back to Earth in the past, and various methods of preservation had been patiently tested: high and low temperatures, artificial micro-atmospheres and micro-climates, and prolonged irradiation […] the end product was always a light metallic ash. (Lem, 177).

The attempts to extract and transport the energy of Solaris fail after multiple attempts at preservation and transportation to Earth. This alien planet refuses to be harnessed for capitalist innovations; human attempts at control and extraction are met with failure. The conflation between scientific endeavours and capitalist profit demonstrates Shiva's argument in *Ecofeminism* where she explains the reductionist perspective as serving the dominant economic and political systems. As Shiva suggests, 'the reductionist world-view, the industrial revolution and the capitalist economy are the philosophical, technological and economic components of the same process' (Shiva, 24). Lem thus demonstrates in *Solaris* how scientific mastery is a capitalist imperial motivation. The depiction of the planet as an energy resource here follows an extractivist logic, in which 'we associate energy with something to be burned, hoarded, or wasted without any clear end' (Marder, x). However, as Kelvin's stay on station Solaris continues, we find the planet is not simply inert matter, but has some kind of agenda of its own. The inability to extract and refine the energy of Solaris holds significant implications for energy transition, illustrating the undoing of mastery results in a withdrawal.

Before any form of withdrawal of power takes place, however, we witness the scientists struggle with this nonhuman agent. For Melody Jue, the critical problem *Solaris* stages 'is the cul-de-sac of scientific investigation that brackets the observer out of the dynamic relation between phenomena/other and self' (Jue, 230). This bracket creates a subject/object dichotomy in which the planet is stripped of any form of agency, the planet is thus shaped under the colonial and scientific gaze. As Snow speaks with Kelvin on their scientific intentions, we discover the legacies of colonial power beneath their pursuit of contact. As Snow suggests:

> We don't want to conquer the cosmos, we simply want to extend the boundaries of Earth to the frontiers of the cosmos. For us, such and such planet is as arid as the Sahara, another as frozen as

> the North Pole, yet another as lush as the Amazon basin. We are humanitarian and chivalrous; we don't want to enslave other races, we simply want to bequeath them our values and take over their heritage in exchange. We think of ourselves as the Knights of holy Contact. This is another lie. We are only seeking Man. We don't know what to do with other worlds. We need mirrors […] We are searching for an ideal image of our own world: we go in quest of a planet, of a civilisation superior to our own but developed on the basis of a prototype of our primeval past (Lem/Swirski, *Stanislaw Lem: Philosopher of the Future*, 76).

This passage evokes the colonial venture of appropriation and assimilation, the search for and discovery of new lands and planets as a means to enforce the image of the Western man as the measure of all things. The description of themselves as 'humanitarians' is not to be interpreted as demonstrating acts of humility and generosity, but can be aligned with Sylvia Wynter's concept of the Colonaility of Being. For Wynter, the human is often defined according to the Western bourgeois conception of what is and what is not human. She then suggests that, 'the negation of the generic "normal humanness," ostensibly expressed by and embodied in the peoples of the West' (Wynter, 266). This normativity is often reflected in Lem's *Solaris* as the scientists' grapple with what is distinctively Other than themselves. As Wynter goes on to note in reference to the treatment of America's Indigenous populations, there is an 'overrepresentation of Man as if it were the human, and to legitimate the subordination of the world' (Wynter, 267). Wynter's depiction of the coloniality of "man" echoes in Lem's narrative as the scientists' attempt to subordinate the nonhuman life forms according to their measurement of what is human. If we are instead to follow Singh's practice of dehumanism, to introduce different genres and modalities of the human, something that might not appear to be human at all, this formulation of the Coloniality of Being must be undone. *Solaris* captures Singh's notion of dehumanist practice by exposing vulnerability and the undoing of scientific mastery in the face of a nonhuman creature who refuses to become absorbed or assimilated under the colonial gaze.

In *Energy Dreams,* Michael Marder notes that 'of Greek provenance, the word energy is stamped by a double entendre. Composed of the prefix en- and the noun ergon, energia can be literally translated as "enworkment", putting-to-work, activation' (Marder, 3). Such analysis of the term 'energy' suggests that it is associated with activation, an implicitly extractive logic in which the natural resource is put to work or activated. *Solaris* begins with this dominant form of logic, and with the scientists' ambitions of activation, contact, and extraction. However, as we witness the arrival of what the scientists term phi-creatures, the material manifestations of their memories, the notion that the planet Solaris is inert and unthinking matter is brought into question.

Singh's *Unthinking Mastery* is illustrated by Kelvin's narrative journey within *Solaris* – a process of moving from human mastery to vulnerable co-existence with alien life forms. Following a similar theoretical arc to those of Weil and Pick, Singh orientates us to vulnerable modes of being. As she suggests, 'the practice of vulnerable reading can move us "beyond" mastery not in the sense of exceeding it but in the sense of surviving it in order to envision being in and for the world' (Singh, 23). After the violence of attempting to harness, grasp, and understand the ocean planet, the novel opens us to this form of vulnerable reading; no

longer the distant scientific observer, Kelvin becomes immersed in a co-relation with the planet and its phi-creatures. His vulnerability is exposed through his relation to Rheya, the ocean planet visitor. Initially, Kelvin is shocked and terrified by the presence of his dead wife now physically materialised through the power of the ocean planet. He attempts all means of murderous aims in order to rid himself of her. Kelvin manages to escape her by placing Rheya in a launch rocket. In this separation, she screams, he declares 'I could not bear to expose myself again to the sound of that horrifying voice, which was no longer even remotely human' (Lem, 68). Kelvin conceives Rheya as distinctly Other, outside the category of the human. His logic of dehumanisation serves as a way of separating himself from Rheya and the planet Solaris itself, simultaneously asserting a form of power and protection from what is Other.

Rheya poses a crisis of understanding for Kelvin; she has often been read as a manifestation of Kelvin's unconscious, revealing his dark repressed memories. However, Rheya is autonomous from both the planet's intentions and Kelvin's memory of her. It is perhaps more convincing to read Rheya as a material creature. Kelvin's encounter with Rheya is therefore not a confrontation with his inner psyche, but rather the encounter with the materiality of an alien creature. In Weinstone's terms, 'Rheya resists oversignification by disrupting totalizing categories such as subject/object, human/nonhuman, and biological entity/machine. As a result, the scientists are forced to confront the limitations of their unidirectional world view and must grapple with the possibility that they inhabit a world of multiple, constitutive, and sometimes unalterably alien agencies' (Weinstone, 177). As Rheya reappears after Kelvin's first attempted escape from her, the dynamic between them alters. He discovers from Gibraian's recordings that she is not in fact Rheya, but what Gibrarian understands to be some sort of instrument or appendage from the ocean planet. As Weinstone further notes, 'Rheya stands in a unique ontological position. She is not one of the freestanding beings, i.e., she is neither one of the humans nor the alien Ocean. She occupies a gap, brought into existence only to serve as a parodic critique and perhaps as a bridge between two master signifiers: she is the oversignified creation par excellence' (Weinstone, 179). Rheya's fluid identity of existing within the in-between, as a bridge between the human and the alien, brings into question the very nature of the human itself. She can feel pain, is a vulnerable being, but her mortality is not entirely clear. As Sartorius suggests, 'The Phi-creatures reappear exactly as they were, down to the last detail … as vulnerable as before, each time we attempt to rid ourselves of them' (Lem, 108). The key term here is the definition of the Phi-creatures as vulnerable beings – subject to pain and force. Despite Rheya's unique difference from human life, she, like all living beings, is vulnerable. As mentioned earlier in the thesis, Weil perceived vulnerability as a marker of existence. It is thus through such revelations of vulnerability that the bridge between the human and the alien is crossed.

This recognition of mutual vulnerability does not inevitably lead to an ethical response. As Kelvin discovers through his reading of scientific manuals, he finds that 'following the Eruption of the 106, and for the first time in Solarist studies, there were petitions demanding a thermo-nuclear attack on the ocean. Such a response would have been more cruelty than revenge, since it would have meant destroying what we did not understand' (Lem, 130). The desire to attack Solaris with nuclear weapons comes from a motivation to destroy what they cannot access, know, or control. As with the Phi-creatures, and Rheya in particular, the

scientists onboard the station want to rid themselves of the creature they cannot understand or control. Kelvin alternatively wishes to maintain intimacy and connection with Solaris and Rheya. His recognition of their corporeality and vulnerability creates a change in Kelvin. Such transitions of becoming open to what is animal, alien or Other provide an answer to Alexander Weheliye's question: 'what different modalities of the human come to light if we do not take the liberal humanist figure of Man as the master-subject but focus on how humanity has been imagined and lived by those subjects excluded from this domain' (Weheliye, 321)? Rheya thus occupies such a realm for the scientists', the space of the excluded – an alien life form which if it is not mastered, must be expelled or destroyed. *Solaris* explores the domain of the excluded illustrating the agency of the animal and alien life forms which are beyond our grasp.

Kelvin's process of withdrawing mastery, of recognising the beauty of the planet ocean Solaris, without choosing to conquer or invade, but to engage in a mutual exploration opens us to Pick's concept of 'letting be'. Pick engages with Laura Mulvey's notion of the cinematic male gaze, a look which at once devours and masters. She presents the antithesis of the male gaze through Weilian philosophy that inspires her concept of letting be. As Pick suggests, 'Thus, beauty involves a "letting be" of the object before us. In place of the hungry gaze, Weil makes possible a non-devouring mode of looking, a "vegan gaze" cast by the camera, viewer, or critic. While the devouring look yields pleasure, looking without devouring is akin to love' (Pick, *Vegan Cinema*, 128). The vegan gaze, for Pick, offers distance and withdrawal yet an intimacy akin to love. We witness this transition in Kelvin as he chooses to leave station Solaris and visit the planet itself. As he describes,

> Alone over the ocean, I saw it with a different eye. I was flying quite low, at about a hundred feet, and for the first time I felt a sensation often described by explorers but which I have never noticed from the height of the Station: the alternating motion of the gleaming waves was not at all like the undulation of the sea or the billowing of clouds. It was like a crawling skin of an animal – the incessant slow-motion contractions of muscular flesh secreting a crimson foam (Lem, 210).

It is particularly significant that Kelvin emphasises viewing the ocean with a different eye. This transformation recalls the After Oil Research Collective's demand to discover different ways to see and hear. Kelvin no longer clings to scientific mastery in order to control the object of study, but enters into a co-relation of a mutual explorer. Kelvin's description of the planet also emphasises the corporeality of the planet, its contours and movements compared to the skin of an animal. His encounter with the ocean is mysterious and withdrawn yet they appear as both open and receptive to one another. The process of withdrawing, a sense of reticence, allows Kelvin to engage in a form of openness. For Pick, letting be is 'a conservationist impulse that honours the existence of beings and things by looking-without-devouring' (Pick, *Iris Murdoch Review*, 47). Unlike the scientific and colonial gaze to which the planet has been subjected, Kelvin follows Pick's conception of looking without devouring, engaging in a non-masterful politics.

As Kelvin explores deeper into the ocean planet, he realises 'that [he] was not in the least concerned with the mimoid but to acquaint [himself] with the ocean' (Lem, 212). Rather than attempting to extract the energy

from the planet surface, to understand its intentions and mechanisms through scientific innovations, Kelvin instead wishes to address and recognise the planet as a fellow creature and lifeform. The interaction between the ocean planet and Kelvin is one of curiosity and playfulness:

> I raised my hand slowly, and the wave, or rather an outcrop of the wave, rose at the same time, enfolding my hand in translucent cyst with greenish reflections. I stood up, so as to raise my hand still higher, and the gelatinous substance stretched like a rope, but did not break. The main body of the wave remained motionless on the shore, surrounding my feet without touching them, like a strange beast patiently waiting for the experiment to finish. (Lem, 212)

The two engage in a form of mutual exploration, what Melody Jue describes as 'the co-creation of meaning practiced by two aware participations in mutual curiosity' (Jue, 238). As Jue goes on to note, science fiction stories such as Solaris 'ask us to rethink the way that we position ourselves in relation to the waters, to others, and how the dynamic tidal space of contact might offer alternate and more mutualistic space' (Jue, 239). It is to this mutualistic space, which in the *Dispossessed* was discovered through shared affliction, which Kelvin discovers through becoming open and vulnerable to another. As Kelvin concludes: 'We all know that we are material creatures, subject to the laws of physiology and physics, and not even the power of all our feelings combined can defeat those laws' (Lem, 213). This recognition of himself and others as both material and temporal beings recalls Pick's creaturely ethics that is driven through the logic of flesh. As Pick notes, 'Human (and other bodies) are indiscriminately subject to natural necessity and powers from without' (Pick, *Creaturely Poetics*, 4). To push Pick's creaturely poetics further, so too are energy sources subject to mastery, necessity, and the forces that penetrate them from the outside. By recognising vulnerability as a modality that connects us all from other species to plant and inorganic life, we find solidarity and fellowship with the most unlikely of creatures and things.

Marder's *Energy Dreams* looks towards a non-extractive paradigm in order to understand and interact with energy. By exploring the failures of extraction and mastery to a mutual exploration and shared vulnerability in *Solaris*, I too have proposed a non-extractive paradigm that is simultaneously a creaturely ambition and a non-masterful one. *Solaris* exposes the inhuman solidarities that can be formed across difference, and presents ways of reconceiving energy – to not aimlessly devour and consume, but to withdraw and acknowledge the beauty of difference, a process of letting be. Science fiction immerses us in worlds unfamiliar and alien, where we encounters animal like creatures, unknown and unmastered; the texts demonstrate alternative ways of understanding the here and now in order to map a just and ethical future.

Energy Impasse and Futures

Adrienne Maree Brown's *Emergent Strategy, Shaping Change, Changing Worlds* focuses on science fiction as a worldbuilding process. As she declares, 'I would call our work to change the world "science fictional behaviour"—being concerned with the way our actions and beliefs now, today, will shape the future, tomorrow, the next generations. We are excited by what we can create, we believe it is possible to create the

next world' (Brown, 14). Science fiction, as it is conceived by Brown, is rooted in a decolonial and feminist practice, a way of practising a just future together, and opening up new and alternative relations to others and the world. 'Moonlight', *The Dispossessed* and *Solaris* explore scenes of energy transition, moments of mastery and violent extraction, encounters with alien and animal Others, and the implications of the suffering of another. The novels experiment, critique, and present alternative modes of living beyond violent histories of extraction.

The techno-fix fantasies of Liu Cixin's 'Moonlight' explore the ways in which renewables cannot provide the sole answer to a just and ethical energy transition. The short story thus invites the question of how we can implement transition differently. Le Guin's *The Dispossessed* presents an ambiguous utopia in the world of Anarres, but it also demonstrates an ecological consciousness through shared suffering, one based on the unbuilding of walls, and on connecting with others. Le Guin's imaginary world of de-growth and anti-capitalist thought gestures towards different ways of engaging with our environments, offering alternative perspectives on energy sources outside capitalist regimes. Lem's *Solaris* begins with the colonial and capitalist venture, an Enlightenment project of science and discovery, to extract and master alien worlds. As the narrative develops, however, mastery faulters and non-masterful relations begin to emerge.

The theoretical terrain of this chapter has included Animal Studies scholars, feminists, and philosophers who advocate for methods of withdrawal from power relations. Through Weil and Pick, we discover ways of forming a companionship with the unfamiliar while withdrawing the consumptive and extractive gaze. Singh presents alternative modalities outside the formulation of the human, exploring dehumanist solidarities that can arise from rejecting liberal humanism. Despite the absence of energy from their scholarship, the three thinkers focus on vulnerability as a marker of existence offers different ways of perceiving energy sources beyond their label as commodities. Energy regimes and relations, presently, are dictated by human mastery, technocratic, and capitalist solutions. How are we to produce then the non-extractive paradigm invoked by Marder? As I have proposed in this chapter, recognising the vulnerability of all things, from other creatures to the earth itself, offers what has been described by Sook Cha as an other-centred ethics. This other-centred ethics, inspired by Weilian philosophy, simultaneously demonstrates the creaturely ambitions of Pick and the non-masterful relations developed by Singh. The feminist animal studies paradigm I have developed here and throughout the thesis gestures towards a renewed relation to energy – one in which violent means of extraction are disrupted and a process of withdrawal takes place, withdrawing mastery for more ethical and just relations.

To return to the research collective After Oil, the science fiction narratives and the theoretical arc of this chapter offered ways to 'transform and transition our cultural and social values' (After Oil, 10). The violent mechanisms and imperialist strategies that shape contemporary modes of energy extraction are critiqued by Liu Cixin's 'Moonlight', whereas *The Dispossessed* and *Solaris* provide a transformation that is non-anthropocentric, attentive to forms of oppression and suffering while presenting forms of solidarity across species lines to the alien and the unknown. The After Oil collective go on to note 'the energy question is, at its core, a human question, a social question that concerns accounting for the quality of human experience

under the fossil economy, reckoning with the increasing precarity of life under fossil fuels' (After Oil, 13). The question I have intended to propose, however, is that the energy question is not simply 'at its core, a human question' (After Oil, 13) but a question that engages all creatures, from plant and animal life. What if we change the centring of the human in energy discourse, and present instead the history and lives of creatures? How we engage and interact with energy must not be on the basis of human mastery, but rather through the experience of vulnerable co-existence. As the After Oil research collective have suggested, the energy impasse has no signposts – we have no map to find out where we go next. Perhaps then it is important to abandon what they call the humanist project of transition and instead invoke a creaturely project. The science fiction narratives I have explored demonstrate the limits of human power and mastery, revealing what happens when mastery fails as a creaturely fellowship arises. A creaturely transition traces the logic of flesh, the vulnerability of all beings, discovering companionship with other creatures and the world around us. By advocating an energy transition not led by liberal humanism and its histories of violence, but instead through dehumanist and creaturely solidarities, new worlds become possible and a life beyond oil can be conceived.

CONCLUSION

Vulnerability, Hope, and Energy Transition

Two-legs had a specific way of classifying the world that Yetu didn't like. She remembered that, at least. They organised the world as two sides of a war, the two legs in conflict with everything else. The way Suka talked about farming was as if they ruled the land and what it produced as opposed to – they'd just said it themselves – existing alongside it.

Rivers Solomon, *The Deep* (84)

In the narrative of *The Deep*, the main character Yetu is a hybrid creature, part fish and part human. Yetu comes from a community of marine creatures raised by whales, and whose ancestors were victims of the transatlantic slave trade, victims who were thrown overboard from a slave ship. In the passage that opens this conclusion, Yetu reflects on a particularly human way of understanding the world, tied to violent classificatory and colonising systems which are about mastery and control rather than mutual co-existence. Yetu's perspective aligns with the project of this thesis, discovering common ties and bonds outside the exploitative relations of mastery and capital, allowing us to recognise vulnerability while existing mutually alongside other creatures and environments.

Towards the end of Solomon's narrative, we discover that the 'two legs', the 'surface dwellers', have ventured again into the depths of the ocean to search for and extract crude oil. As one of the characters describes, 'their purpose was to see what gifts of the deep they could steal from us. Below us, deep beneath the sand, there is a substance they crave. It is their life force. Their food. They feast on it like blood' (Solomon, 135). Here, Solomon connects the trauma of the past, histories of colonisation and slavery, to the violence of the present, the regimes of extraction which destroy homes and dispossess communities. Solomon poignantly reflects on the power of multispecies communities in the face of violent regimes of extractive capital. In this extractive zone, deep within the ocean, these marine human hybrid creatures determine that 'we fight' (Solomon, 136) against the oncoming destruction of their habitat.

By contemplating a world beyond the human, *The Deep* connects us to the vulnerability of different environments and bodies, of discovering multitudes, complexities, and fellowship with other creatures. The preceding study has illustrated similar spaces of mutual and vulnerable co-existence which can emerge within extractive zones, illuminating the violence of extractive capital while also articulating voices of resistance.

In this project, I have illustrated narratives of petrocultures which centre the nonhuman animal: beginning with the origins of mass energy consumption in nineteenth century commercial whaling in Chapter Two.

Moby-Dick explored an early iteration of extractive and energy cultures, where the animal's body serves as an energy resource. Alongside *Sketches in Crude Oil*, we discovered the parallels of nineteenth century whaling and early crude oil extraction in North America. While *Sketches in Crude Oil* focused entirely on the entrepreneurial progress of petro-capitalism, *Moby-Dick* offered encounters with the vulnerability of the whale itself challenging the novel's position as merely a commodity narrative. Chapter Three examined contemporary modes of production with meat and crude oil extraction. *Under the Skin* and *Lagoon* magnified peripheral spaces turning to the offshore oil site and the industrial slaughterhouse. Despite the fact that capitalist production remains in flow, the characters in these narratives present acts of rebellion against the structural forces which shape the extractive zone. Chapter Four highlighted the consequences of energy infrastructure in the form of oil spills and road kill. The sources recorded the remnants of animal remains in Steve Baker's photography, Helon Habila's *Oil on Water*, and the graphic novel *Perpetual.* The texts and visual material foregrounded the power of the individual affects to generate hope in the aftermath of production and the consequences of automobility. Finally, Chapter Five charts the SF expedition of future energy systems and alternative relations. The science fiction texts conclude the project by exploring new possibilities and future energy relations. The chosen sources demonstrate how human mastery faulters and new yet hopeful relations emerge between ourselves and other creatures. In each chapter, I revealed peripheral spaces, subjects, and the cultural forms which arise from outside capitalist consumer centres.

In opposition to the 'extractive view' (Gomez-Barris, 5), my study of peripheral extractive zones has presented 'expressive and emergent alternatives' through an ethics and politics of vulnerability demonstrating 'the importance of perceiving otherwise' (Gomez-Barris, 8). The extractive view 'refers to state and corporate logics that map territories as commodities rather than perceive the proliferation of life and activities that make up the human and nonhuman planetary' (Gomez-Barris, 133). To perceive something other than the colonial registers and the monocultural capitalism, the chosen literary and cultural sources has presented encounters with bodily and planetary vulnerability which attune to a 'non-masterful politics' (Singh, 15). The theoretical strands of a feminist animal studies, combined with decolonial and Marxian literature, offer insights into the affective encounter with vulnerable bodies and environments, as well as to the material conditions which shape the extractive zone and spaces of energy production. Pick, Butler, and Weil offer a rearticulation of the human, undermining the anthropocentric and capitalist logics which shape commodity production, and illustrate a way of attuning to the planetary and peripheral violence within and beyond our sensory field. An ethics of vulnerability invites a sense of interdependency with other creatures and species, a disruptive rupture to the commodification of the nonhuman animal. Through an investigation into the cultural and literary depictions of energy regimes and their impacts on different species, my work has illustrated the significance of the literary and cultural domain in understanding the violence of extractive regimes while also staging possible alternatives.

Gomez-Barris's exploration of extractive zones within regions of South America reveals what she coins 'submerged perspectives' and the 'unpredictability of the decolonial gesture' (Gomez-Barris, 13). Through entering into zones of production, land in which capital has rendered commodity, Gomez-Barris asks 'what

are the more silent spaces that refuse these terms' (14). The scenes of vulnerability in the chosen peripheral fictions offered these silent yet powerful modes of resistance. For Gomez-Barris, extractive zones contain seeds of resistance to the technologies which rendered them inert and passive. As Gomez- Barris suggests,

> Extractive zones contain within them submerged perspectives that challenge obliteration. I describe these transitional and intangible spaces as geographies that cannot be fully contained by ethnocentrism of speciesism, scientific objectification, or by extractive technologies that advanced oil fields, construct pipelines, divert and diminish rivers, or cave-in mountains through mining. Seeing and listening to these worlds present nonpath dependent alternative to capitalist and extractive valuation (Gomez-Barris, 12).

This thesis has explored paths of attunement to the vulnerability of different ecologies, acts of seeing and listening, turning to images and writing which illustrated capitalist violence yet generated voices and bodies of a hopeful solidarity across difference. The theoretical perspectives challenged the human mastery which is implicit in the ideology of extractive regimes. By informing energy ethics through the modality of vulnerability, the literary and cultural works offered different modalities of the human which has ramifications for energy relations.

As many petrocritics have noted, we cannot solely rely on green technologies and technofixes to solve the problems of the present; alongside a shift away from the fossil fuel economy, there must be a societal and cultural transition to challenge the current imperialist modes of energy production. This thesis illustrates an ethics of vulnerability, conveyed through cultural and literary production, that serves to present a disruptive antithesis to the 'extractive view' and capitalist machinations which have shaped energy production. Energy is a problem for our current times suggests Cara New Daggett,

> Humans need new energy systems – and likely new energy cultures—that leave fossil fuels in the ground and that instead rely on renewable fuels, coupled with more efficient technologies and, most likely, decreased energy consumption […] However, market based fixes are insufficiently appreciative of the limits of human mastery over the world. In order to live appropriately on the Earth, humans need to re-evaluate our commitment to endless growth, productivity, and commodity accumulation (Daggett, 187).

Daggett highlights the limitations of green capitalism, and dwells on the problems of relying on technological innovation to alleviate the issue of oil running dry while hoping to maintain endless growth and consumption that has defined the fossil fuel age. The philosophical strands developed in this thesis explores a different trajectory and marks a transition away from capitalist progress and human mastery. Through various conceptual and theoretical tools, this study explores a non-extractive paradigm focused on vulnerability as a mode of exposure and attention. My work thus articulates the centrality of ethics and culture in order to shape our present relations to the land and other species, and to experiment with and explore the cultural imaginary which stages new ways of living with and attending to the Earth.

By outlining an alternative energy ethics on the basis of vulnerability, my project presents a politics of hope within the extractive zone and capitalist ruin. Combining the fields of petroculture and Animal Studies points towards a multispecies ethics which has implications for energy and energy regimes, demonstrating how it is possible to attune and to attend to vulnerable environments, and how to generate hope in extractive zones.

Oliva Laing's *Funny Weather: Art in an Emergency*, reflects on the importance of hope in response to the emerging disasters of the twenty first century. Laing quotes Eve Sedgewick's work as a way to forge different futures and contend with the present,

> Hope, often a fracturing, even traumatic thing to experience, is among the energies by which the reparatively positioned reader tries to organise the fragments and part-objects she encounters or creates. Because the reader has room to realise that the future may be different from the present, it is also possible for her to entertain such profoundly painful, profoundly relieving, ethically crucial possibilities as that the past, in turn, could have happened different from the way it actually did. (Sedgewick, 146)

Laing focuses on what Sedgewick terms 'paranoid reading' and 'reparative reading', suggesting that this mode of reading is something that affects us all 'how we me make sense of the world, how we approach knowledge and uncertainty' (Laing, 3). Most crucially, however, Laing explores Sedgewick's impetus for hope. Writing at the times of AIDS crisis, Laing suggests Sedgewick's 'hope was hard-won, and in part derived from the powerful role art played during the plague years' (Laing, 5). The energy transition is without map or signpost, and we are met with the destabilising uncertainty Laing describes. Yet, as I have explored, an openness to vulnerable encounters offers room for hope, and where cultural and literary work can experiment with different futures while illuminating the problems of the present.

Laing's discussion on the importance of art and hope in states of emergency demonstrates the significance of culture in attending to the climate crisis. As Laing notes,

> We're so often told that art can't really change anything. But I think it can. It shapes our ethical landscapes; it open us to the interior lives of others. It is a training ground for possibility. It makes plain inequalities, and it offers other ways of living. (Laing, 8).

My chosen cultural and literary sources brought us to the interior of the extractive zone, magnifying the inequalities and violence which shape energy production. Literary and cultural expression offered alternatives to the present circumstances, generating hope and possibility of just and utopian energy futures. If, as petrocritics argue, the cultural imaginary is invested in fossil fuels, and we need to discover ways to divest, my work alternatively offered both an act of withdrawal and an intimacy with different creatures and environments. The exposure of vulnerability revealed not only how we are perishable and subject to harm but also how we form a powerful resistance to the present injustices which shape energy production. Interdependency, an essential component of an ethics of vulnerability, generates bonds and connections which challenge the present hegemony of capitalism. It is through a shared vulnerability in which a multispecies solidarity emerges and alternative energy relations can be imagined.

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