

“Re-membering” a Disappearing Coast: A Diffractive Reading of Lyme Regis between  
*Persuasion* and the Anthropocene

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## Abstract

### “Re-membering” a Disappearing Coast: A Diffractive Reading of Lyme Regis between

#### *Persuasion and the Anthropocene*

Shahira Adel Hathout

Crutzen and Stoermer’s (2000) announcement of the Anthropocene draws attention to the agentic nature of the nonhuman world as it appears to be striking back against human intervention through an environmental crisis that is threatening humans and nonhumans alike. Their narrative reveals complex relationalities where humans are now revealed to be inseparable from the nonhuman world and both the material and discursive nature of their practices (historical, social, economic, and political) prove to be central to (re)shaping the earth, causing climate change, species extinctions as well as racism, sexism, and slavery. Rising sea levels is an important aspect of climate change that threatens major coastal places with disappearance. My dissertation offers a new approach that uses Karen Barad’s (2003; 2007; 2017) agential realism and diffractive methodology to study a place called Lyme Regis – a town in west Dorset, England, threatened with disappearance as a result of rising sea levels caused by climate change – as an agential phenomenon shaped by complex multilayered material-discursive practices (political, economic, scientific, and social).<sup>1</sup>

Whereas current research on Barad’s philosophy mainly focuses on discussions about the theory: explaining, critiquing, or defending (Gandorfer 2021; Lettow 2017; Graham 2016; Segal 2014; Geerts 2013; 2016; 2021; van der Tuin 2011; Alaimo and Hekman 2008; Rouse 2004 and more ), my project is the first ethico-political study of a place, Lyme, that

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<sup>1</sup> Please see glossary for definitions of the following terms: Phenomena (xx); agential realism (xi); diffraction (xiv); posthumanism (xxi); intra-action (xviii); apparatus (xiii); entanglement (xxii); material-discursive (xxii).

applies Barad's agential realist perspective by engaging the activism of Barad's concept of "re-membering." The processual nature of the concept is particularly relevant today since its nonlinear understanding of time allows me to see how past violent material and discursive practices (racism, sexism, and slavery) at Lyme unfolds in the present troubled time of the Anthropocene. This process of re-membering that I undertake in this study involves concurrently examining the overlapping historical, economic, scientific, literary, and geological intra-acting practices through a method that Barad describes as diffractive reading. I rethink these practices in their relation to material practices and illuminate multiple layers of meaning and relationalities that constitute Lyme as an agential phenomenon, unsettling boundaries between humans and nonhumans, epistemology and ontology, material and discursive practices as well as boundaries between scientific, historical, cultural, and literary aspects of life.

Therefore, within the context of the Anthropocene, chapter one rethinks how the scientific discourse (re)shapes nature and demonstrates how prioritizing the needs of human over nonhuman inhabitants in the name of saving Lyme could entail the destruction of both. Chapter two rethinks the dehumanizing and marginalizing effect of the scientific discourse by illuminating the agentic role of Mary Anning and Saartjie Baartman in the apparatus of scientific knowledge production that earned Lyme its heritage status. Finally, chapter three rethinks the entangled nature of scientific and literary practices, arguing for an agential realist account of the sublime that celebrates Lyme as a place of transformative human-nonhuman kinship based on Austen's elaborate depiction in *Persuasion* (1817). This reading shows science and literature as material-discursive practices operating along the unsettled

boundaries between the novel and everyday life, allowing us to rethink Austen's writing as a process in constant flux.

**Keywords:** Anthropocene, Agential Realism, Karen Barad, Diffractive Methodology, Lyme Regis, Jane Austen, Persuasion, Posthumanist Sublime, Saartjie Baartmaan, Mary Anning, World Heritage Status.

## Acknowledgments

It was my dream to create a work shaped by the lively dynamism involved in the making of the world. A work that centers the agency of nature and the silenced voices of those marginalized, dehumanized, and deemed confined within the prison of social convention. This dissertation is the realization of this dream. I thank my supervisory committee: Dr. Michael Epp, Dr. Suzanne Bailey, and Dr. Evelien Geerts for their insightful comments. I also thank my examiners: Dr. Christine Daigle, Dr. Kelly McGuire, and Dr. Liam Mitchell for a great defence discussion.

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Last, but never least, I dedicate this work to the memory of my dear father (Adel), whose presence haunts every page, urging me to never give up – *I salute you, Dad!*

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## A Baradian Glossary

<b>Term</b>	<b>Description</b>
<b>Agency</b>	<p>Agency is the ability to perform an intentional act (Schlosser 2019). According to the <i>Stanford Encyclopedia of Philosophy</i>, traditionally, humans are considered to be the only beings endowed with this capability. This narrow definition goes back to Hume and Aristotle, and, in contemporary philosophy, can be found in the work of Anscombe (1957), Davidson (1963), and others. However, in Karen Barad’s philosophy of “agential realism,” agency is not exclusively a human prerogative, but rather a being and a doing; a product of a process called “intra-action” (see the entry on intra-action) in which humans and nonhumans are co-constituted and co-emerge as distinct agencies.</p>
<b>Agential cut</b>	<p>A term used by Barad (2007) to describe the re-enactment and re-arrangement of the boundaries between intra-acting human and nonhuman entities within a phenomenon where they are co-constituted and new meanings, properties, bodies, knowledge,</p>

	<p>agencies, and more emerge. (139-40). Chapter one shows how, in the Anthropocene, human actions left marks on the earth system through sediments, extinctions, climate change, and environmental crises and scientists use these marks to measure time and date the Anthropocene. In turn, the Anthropocene marks human life by virtue of the anxiety and political change activated to slow down climate change.</p> <p>Chapter two discusses Barad’s (2007) example of the brittlestar that re-arranges its body, separating parts attacked by predators and later regrowing them back as it navigates its environment (375-80). The cut, in this sense, marks the brittlestar’s “iterative entanglement” (Rouse 2016, 4) with its surroundings.</p>
<p><b>Agential realism</b></p>	<p>Barad’s philosophy of agential realism is concerned with re-thinking fixed dualities such as human/nature, mind/body, male/female, meaning/matter and so on. Instead, it emphasizes the process of intra-action where these agential phenomena (components or actors) are co-constituted. The boundaries between them are re-arranged through the re-enactment of agential cuts to produce agencies, marked and shaped by this</p>

	<p>encounter. In agential realism, theory and practice are co-</p> <p>constituted, meaning that activities perceived as human-centered, such as observing, contemplating, measuring, and thinking, are understood as material practices as they influence the observed activity and knowledge produced. In this sense, agential realism is a philosophy that advocates a specific form of relational ontology, which rethinks the notions of power relations and representationalism (2007, 408).</p>
<p><b>Anthropocene</b></p>	<p>The Anthropocene is the current geological epoch in which human actions, over time, significantly affected the earth’s ecosystem, causing extinctions, pollution, and other life-threatening environmental phenomena (Crutzen and Stoermer 2000, 17-18). The term proved to be controversial and created different debates surrounding its use, especially very recently (July 2023) when the International Commission on Stratigraphy chose Crawford Lake as the “Anthropocene’s Global Boundary Stratotype Section</p>

	<p>and point” (Prillaman 2023, n. p. ).<sup>2</sup> Thinkers criticized the universalism and anthropocentrism embedded in the term, arguing that, in ascribing environmental existential crisis to human actions, it (1) ignores the differences between humans around the world, (2) ignores the role of nonhuman partners, and, therefore, upholds a stance that sees humans as exceptional and agentic and nature as passive and devoid of agency. Yet, critics like Haraway (2016) and Tsing (2016), among others, find this term productive since it engages the interest of different disciplines and therefore opens up a new field of research that is multidisciplinary. Because of the interdisciplinary nature of this study, my dissertation will use the term ‘Anthropocene’ and highlight its posthumanist aspect as a phenomenon that is shaped by specific intra-actions between its different and differential constitutive components.</p>
<p><b>Apparatus</b></p>	<p>Apparatuses are “boundary-making practices” (Barad 2007, 148) that “produce material phenomena through specific intra-actions where material is always</p>

<sup>2</sup> I would like to note that my project started in September 2019 and submitted in July 2023, before the announcement of the recent Crawford Lake marker.

	<p>material-discursive” (2003, 824). In other words, apparatuses are material setups that produce knowledge, meanings, subjects, objects, and so on from specific intra-actions in such a way that what emerges is shaped by discourses such as gender, class, race, and more, and activates an ethical and political call for responsiveness to issues like racism, sexism, classism , and so on.</p>
<p><b>Diffraction</b></p>	<p>Diffraction or interference is a metaphor popularized by Haraway to complement reflection (Barad 2007, 29; Geerts &amp; van der Tuin 2016, 174); emphasize “patterns of difference” Barad (2007, 71); and locate the effect of these differences (72). Building on this, Barad (2007) adopted diffraction as, first, a physical phenomenon that describes the overlapping waves patterns produced when two stones are dropped into a calm water (76). Second, diffraction is also a metaphor that describes the process of reading insights through one another, illuminating and integrating their different perspectives</p>

	<p>and knowledge that affect the world, based on the premise that humans and nonhumans are equally part of the same world yet situated in different places, times and forms. Hence, diffraction is an analytical methodology that rethinks boundaries and exclusions enacted through specific intra-acting material-discursive practices (Barad 2007, 219). Diffraction is important as it opens up a space where it becomes possible to be objective and responsive to the knowledge produced by these specific intra-actions.</p>
<p><b>Diffraction grating</b></p>	<p>Diffraction gratings are instruments or barriers through which waves pass to “produce patterns that mark differences” (Barad 2007, 81) as they overlap and interfere with one another. This takes us from looking at, for example, light waves as tools or things to looking at the waves themselves, their nature, or, as Barad (2007) asserts, the “nature of nature” (46) as we (humans) intra-act with it and are co-constituted.</p>



<p><b>Ethico-onto-epistem-ology</b></p>	<p>Ethico-onto-epistem-ology emphasizes the inseparability of ethics from “practices of knowing and being” (Barad 2007, 185). According to Barad (2007), humans are ethically responsible and accountable for the knowledge or phenomenon produced (364) through “constitutive entanglements” (158). These entanglements constitute human and nonhuman practices undergoing specific intra-actions that produce distinct agencies, which (re)shape the world as a phenomenon.</p>
<p><b>Ethico-politics</b></p>	<p>Barad’s (2007) agential realism and its diffractive methodology, which is founded upon performative account, rethinks representationalism and concepts like agency, matter, cause, effect, discourse, identity, and perceive them as practices (49). The consequences of this shift are the “possibilities for political intervention” (Barad 2003, 805) and ethical responsiveness.</p>
<p><b>Exteriority – within – phenomenon</b></p>	<p>In agential realism, the knower and object to be known intra-act and are co-constituted to produce distinct</p>

	<p>agencies – human, nonhuman, or cyborg (Barad 2007, 184). Therefore, the knower is no longer a mere observer of the natural world. Rethinking the dualities constructed by these Cartesian cuts, Barad’s (2012) agential cuts re-enact the boundaries between intra-acting components that (re)shape a phenomenon by cutting “together-apart in one move” (19) so that what is lost by one component in an encounter is gained by the other – what Barad (2007) describes as a “relation of exteriority within the phenomenon” (351). These cuts constitute specific entanglements that carry ethical obligations (2012, 22).</p>
<p><b>Intentionality</b></p>	<p>According to <i>Stanford Encyclopedia of Philosophy</i>, intentionality is defined as the power of the human mind and intelligence to form representations that stand for nonhuman things (Pierre 2023, “Intentionality,” para. 1). Barad (2007) reconceptualizes “intentionality” to be a matter of human and nonhuman intra-action (132-85; 353-96). In agential realism, intentionality goes beyond the human as a subject and is attributed to a “complex network of [intra-acting] human and nonhuman</p>

	<p>agents” (2007, 23). Therefore, intentionality emerges from human and nonhuman intra-actions. This is important because it rethinks the classical notion that intentionality is by default the property of “culture, language, or power” (171). Hence, humans cannot create the conditions for their emergence because they are part of the world’s becoming (171).</p>
<p><b>Intra-action</b></p>	<p>The process of intra-action is key to Barad’s (2007) agential realist ontology. It is the co-constitution of entangled agencies (human and nonhuman) that form the world (240). Barad (2007) uses the term “intra-action” instead of “interaction” to recognize the emergent nature of distinct agencies (33) and the fact that nothing precedes intra-actions. In agential realism, agency, causality, subjectivity, and so on materialize as the product of our material encounter/experience with the world. Therefore, intra-action is dynamic, agentic, ongoing, and indeterminate process that reconfigure the world because different intra-actions produce different phenomena (2007, 58).</p>

<p><b>Iterative</b></p>	<p>Rouse (2004) explains that Barad’s use of the term “iterative” does not imply “repetition” (147). Instead, it implies “repeatability” (147). The difference is that a repeatable pattern or phenomenon does not mean regularity. Instead, repeatability means the possibility that the phenomenon can recur when the circumstances that instantiate it recur differently and “differentially” because what matters is the ability to reproduce the phenomenon or pattern with different structures of events (147). For example, repeating an experiment does not involve repeating exactly the same steps, but rather trying to produce the same pattern in different circumstances by different “means” (147). This notion of “iterativity” is important for Barad (2007) because the “past” and the “future” are continuously “reconfigured and enfolded through one another” (383) and humans, nonhumans, and more-than-human (e.g., cyborgs) emerge as distinct agencies where the structure that contributes to their emergence is continuously remade (238).</p>
<p><b>Performativity</b></p>	

	<p>Building on Foucault and Butler, Barad (2007) explains that performativity advocates a relationality between specific material and discursive practices, through which boundaries, meanings, properties, and so on, get to be re-arranged and re-thought (139). In this sense, performativity rethinks representationalism with its fixation on words as references or ways to know, as well as the excessive power given to language as a determinant of reality (Barad 2007, 133). Furthermore, performativity is premised on the notion that neither subject nor object exists before intra-acting where they are co-constituted and emerge as distinct agencies (90). This understanding of performativity underscores the productive agentic role of matter (nature) and culture and the impossibility of imagining a radical separation between them in the production of human and nonhuman bodies without privileging one over the other or creating more dualities.</p>
<p><b>Phenomena</b></p>	<p>In their writings about the concept of ‘phenomena’, philosophers like Kant (1770), Husserl (1964), Heidegger (1926), among others see it as either an</p>

epistemological or ontological question by approaching human and nonhuman entities as two separate categories mediated by human intelligence and reflection (Sauzet 2021). For example, Kant (1770) argues that phenomena can be experienced by the senses through reflection, separating it from the ‘things-in-themselves’ or ‘noumena’ (Sauzet 2021, 159; Shouler 2014; Vanzo 2013). Influenced by Kant, Husserl (1964) sees phenomena as “pure essence of transcendental experience” (qtd. by Sauzet 2021, 159) where each human subject advances their own view of the world by rationally justifying their interconnections (Beyer 2022, n. p.). Heidegger (1926), finds it a question of ontology, arguing that understanding ‘phenomena’ depends upon our ‘being-in-the-world’ (Sauzet 2021,159). Rethinking this separability, Barad’s (2007) agential realist account approaches ‘phenomena’ as ethico- onto-epistem-ological, arguing that they are “constitutive of reality” (206). For Barad (2007), phenomena are produced through “complex agential intra-actions of multiple material-discursive practices or apparatuses of bodily production” (206) where specific material and discursive practices intra-

	<p>act to enable or constrain the emergence of bodies (racialized, gendered, etc.).</p>
<p><b>Posthumanism</b></p>	<p>Barad’s agential realist philosophy decenters the human, paying attention to human situatedness and co-constitution among other creatures. Barad’s (2007) posthumanism acknowledges nature’s agency and historicity, along with culture, in shaping the world. It refuses to view nature as matter or in terms of cultural-natural divisions and argues that the boundary between nature and culture is actively configured and reconfigured through intra-action. Accordingly, Barad’s (2007) agential realism’s posthumanist account rethinks human exceptionalism and anthropocentrism and emphasizes humans’ accountability for the role they play as part of a world in its “differential becoming” (361). Rather than eschewing humanism altogether, Barad’s (2007) posthumanism considers the “limits of humanism” (428, note 6) and, therefore, based on my use of Barad’s philosophy in this dissertation, it is still concerned with the past, present and future inseparable human-nonhuman co-existence.</p>

<p><b>Quantum entanglement</b></p>	<p>Quantum entanglements are specific arrangements that change with each intra-action through time and space. It is specified as “quantum” because of the particularly “queer” (Barad 2010, 246) aspect of time, in which “the dichotomy between discontinuity and continuity” (246) is unsettled and it becomes possible for entangled relationships to happen between entities that do not exist in the same space and / or time (2007, 74). Entanglement, in agential realism, is a sensitivity to specific changes, which occur during intra-actions through which time and space (temporality) materialize in such a way that neither one of the intra-acting components can be articulated without the other (152). For example, climate change is a phenomenon produced by the entanglement of specific practices that took place during the Industrial Revolution in England and now materializes in the form of climate change, extinctions, marks on the earth’s sediments, and so on, re-opening the past to be rethought and reviewed in the present and emphasizing the non-linearity of time.</p>
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<p><b>Material-discursive</b></p>	<p>For Barad (2007), the hyphen between material and discursive practices marks their entanglement and co-constitution (414, note 45). It is a relationship based on the notion of entanglement where the practices of one component cause a mark (effect) on another component. In the Baradian sense, material and discursive practices enable or constrain what emerge from intra-action. Discourses of power can be understood through their materiality and could include the social, cultural, .... natural, physical, economic, ..., geopolitical among others (810). Barad (2007) builds upon Haraway’s (1988) notion of an inseparable “naturecultures” (Barad 2007, 407) and the fact that “what counts as an object is precisely what world history turns out to be about” (588) which unsettles the firm modernist distinction like human/nonhuman, culture/nature, organic/nonorganic, among other distinctions.</p>
<p><b>Representationalism</b></p>	<p>Representationalism is a philosophical theory of knowledge, defined in <i>Britannica</i> (2016) as the “assertion that the mind perceives only mental images (representations) of material objects outside the mind;</p>

not the objects themselves” (n. p.). According to Rouse (1996), representationalism emerges from Descartes’ insistence that “we have a direct and privileged access to the contents of our thoughts” (209) more than the world as “external” (209) to us. Thinkers like Michel Foucault and Judith Butler questioned representationalism. Foucault (1970) argues that the visible nature or object is “transcribed into language” where it is no longer “seen ... in their organic unity as by the visible patterning of their organs” (137). Butler (1993) argues that matter is “fully sedimented with discourses on sex and sexuality that prefigure and constrain the uses to which that term can be put” (29). Building on Foucault and Butler, Barad (2007) understands “thinking, observing, and theorizing as practices of engagement with, and as part of, the world in which we have our being” (133); they saw these practices as material (90). Hence, Barad reworks the boundaries between observation and the object under observation and how both are co-constituted by their material-discursive entangled practices.

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<b>Situated knowledges</b>	<p>Haraway (1988) developed this philosophy to rethink ideas of representationalism and scientific objectivity; she argues that these ideas articulate the world based on gender and racial biases embedded within these discourses. Hence, Haraway critiques the situatedness that offers partial vision and presents it as truth (see Rogowska-Stangret 2018). Instead, she argues for knowledge as embodied and relational, and directed a closer look toward possible racial histories behind the embodied knowledge produced and the knower who produced this knowledge (Rogowska-Stangret 2018). Through the philosophy of situated knowledges, Haraway is regarded as planting “the seed” of “feminist new materialisms” (van der Tuin 2015, 21; Hinton 2014, 99). Barad’s (2007) agential realism draws on Haraway’s philosophy in its focus on boundary re-making and an inseparable ethico-onto-epistemology where humans and nonhumans are co-constituted through intra-actions and differently co-emerge. Whereas Haraway’s philosophy rethinks knowledge as embodied and situatedness as not fixed) while being accountable for both, Barad (2007, 470-71) expands it to include ontology.</p>
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<p><b>Spacetime mattering</b></p>	<p>Barad (2011) explains that “spacetime mattering” demonstrates the entangled nature of space, time, and matter (154, note 11). Diffraction or interference is integral to spacetime mattering since it shows the dynamism of the material entanglements of space and time (Barad 2014, 182). Spacetime mattering allows a form of “re-turning” (Barad 2014, 184; 2010, 261) in time and intra-acting or reworking a past that is embodied in the present moment. Barad calls these intra-actions with the past in the present as “ghostly causality” (2014, 178-79; 2010, 268) since specific past events materialize in the present and become agentic to advocate and cause a change. Thus, the implication of spacetime mattering is being able to respond and be responsible for what materializes by activating ethical and political responsiveness. In addition, this process is “iterative” because it entails “continual reopening and unsettling” (Barad 2010, 264) of the past, denying any form of closure, and giving us hope for achieving justice (264).</p>
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**Introduction**

*Re membering is not a replay of a string of moments, but an enlivening and reconfiguring of*

*past and future that is larger than any individual. Remembering and re-cognizing do not take care of, or satisfy, or in any other way reduce one's responsibilities; rather, like all intra-actions, they extend the entanglements and responsibilities of which one is a part. The past is never finished. It cannot be wrapped up like a package, or a scrapbook, or an acknowledgment; we never leave it and it never leaves us behind – Barad (2007, ix)*

## **I. Argument and Contribution**

My dissertation emphasizes the complexities embedded within the Anthropocene narrative through a case study that focuses on Lyme Regis as a World Heritage site and a place affected by the conditions of the Anthropocene and threatened with disappearance under rising sea levels. I argue that these complexities are embodied in Lyme's human-nonhuman entangled practices (political, economic, historical, social, scientific, natural, cultural, literary, geographical, ethical, etc.) over time and space. Current research in Barad's theory engages with their agential realist philosophy through explaining, defending, or critiquing it (Gandorfer 2021; Geerts and van der Tuin 2021; Murriss and Bozalek 2019; Sauzet 2018; 2021; Lettow 2017; Graham 2016; Segal 2014; Thiele 2014; Geerts 2013; 2016; 2021; Juelskjaer and Schwennesen 2012; Irni 2010; van der Tuin 2011; Alaimo and Hekman 2008; Rouse 2004 and more ). My project presents the first ethico-political study of a place, Lyme, that applies a Baradian perspective by engaging the activism of "remembering." This form of activism entails re-visiting and illuminating "the devastation wrought" (Barad 2007, 63) by past violent actions, justified by modern discourses, and contribute to the emergence of the Anthropocene, racism, sexism, slavery, and more. My project is particularly relevant today as it opens a space for entertaining new imaginaries and possibilities regarding how to relate to the nonhuman world in a new promising relationality.

This re-memberance involves concurrently examining the overlapping historical, economic, scientific, literary, social, geological, and heritage insights, which Barad describes as diffractive reading.

Research on place exists in two strands: the first strand approaches place as “bounded, classifiable and static” (Edensor et al. 2023, 2). The second strand sees place as relational, “multi-temporal” (2) and shaped by human and nonhuman agencies. My research is located in the second relational strand. Within this strand, research on place includes Blais et al. (2011) study that traces place back to colonial time examining human systems and settlements. Kitchin (2014) approaches place as an object of “spatial science” identifying social customs, religious and class constitution using measuring techniques to describe scientific facts and observations. Other studies examine quality of places, multiple identities, displacement, belonging, replacement, and managing place (Edensor et al. 2023, 4-5). Appadurai (1990) approaches touristic places as network of commodities, money, and technology threatened by globalization. Jones and Cloke (2008) and Helgason et al. (1998) examine nature and trees in relation to the place. Finally, Edensor and Jayne (2012) challenges Eurocentric urban lives, process, and structures examining it from Asian, Latin American and African perspectives. More research on place addresses issues related to colonial places, risk and resilience, and greening programs among others.

In its use of Barad’s approach, my research is significant since it studies all these overlapping aspects as they operate simultaneously and inseparably to (re)shape our understanding of Lyme. Thus, instead of focusing only on political discursive practices to study issues of slavery or sexism (for example), Barad’s lens allows me to illuminate and trace the effect of these discourses in their embodied form. In other words, I focus on the

inseparable material and discursive practices in their relationalities to historical, economic, and scientific aspects. I trace their emergence in the past and how they evolve and materialize in the present and how, in their re-turn, they enact an ongoing call for ethical and political obligations of accountability and responsiveness that (re)informs the course of action in the future. Furthermore, Barad's philosophy is significant in my study that sets up the Anthropocene as its background. Barad's work draws on Quantum theory and Niels Bohr's work, a branch of physics that created the atomic bomb, along with the invention of steam engine (Crutzen and Stoermer 2000) and other complex processes caused the Anthropocene . However, Barad uses this theory to rethink social sciences and wider issues to underscore co-constitution, co-emergence, intra-relationality, and ethical-political accountability and responsiveness. Therefore, Barad's philosophy is significant to this study that focuses on Lyme as a place that is 1) existentially threatened with rising sea levels; 2) declared a World Heritage site of scientific significance; and, 3) situated as a pivotal experience in Jane Austen's *Persuasion* (1817), revealing Austen's agential realist view of the external world in general and writing in particular. In this understanding, Barad's work unsettles the boundary between destructive and constructive (human and nonhuman) practices in order to respond to different forms of injustice and violence (past and present) associated with specific material and discursive practices discussed over the three chapters respectively.

My study, in this diffractive sense, opens the door for future research that could closely examine other places, calling attention to the different forms of violence and injustice embedded in them over time. This approach, therefore, reframes our understanding of justice from a form "which ... we know ... in advance and which is forever fixed" (Barad 2012, 67) to a form of justice that creates accountability for the role we play amongst other entities in a

world that is always in a process of becoming. Despite arguments that suggest a potential difficulty of applying Barad's agential realism framework, my dissertation agrees with Dunk's (2020) argument that "the strength of [Barad's] framework holds" (229) and that diffraction methodology is an important tool to apply in social research to reinforce connections with physical science and understand contemporary issues (233).

## **II. Context**

The Anthropocene evokes the notion of violence of human actions against nonhuman beings. Critical theorists, like Vermeulen (2014); Tsing (2015); Bonneuil (2016); Haraway (2016); Chandler (2019), among others, argue that these violent practices are fueled and justified by Cartesian dualities (cuts). These dualities dominated the modern mind and allowed it to see humans as superior over nonhumans, males superior over females, white superior over black, mind superior over matter, etc. Barad's philosophy allows me to rethink these fixed separate dualities and the notion of absolute human knowledge by introducing their notion of "agential cuts" (2007). Agential cuts rethink these "Cartesian cuts" and see the components of Cartesian dualities as co-constituted. In their co-constituted multiplicity, they become productive as they allow for the emergence of difference and momentary distinct entities, which are inclusive in their exclusivity since what is excluded (hidden or suppressed) is not erased but haunts the relation; always visible; and could be included when undergoing another intra-action.

Lyme is a town located in South East of England, known to be a part of England's Jurassic coast and a declared World Heritage Site because of its contribution to scientific knowledge production. Using Karen Barad's philosophy of agential realism and diffractive methodology, my project closely examines Lyme to illuminate the multiple different and



differential relationalities that constitute Lyme, which include humans, nonhumans, and the dehumanized. These multiplicities have been silenced and rendered invisible as a result of rigid hierarchical binary structures, such as human/nonhuman, mind/body, male/female, culture/nature and so on. My goal is to examine the human and nonhuman entangled practices at Lyme, make these embedded differences<sup>3</sup> visible, and give voice to the silenced by underscoring their significant contributions to apparatuses of scientific knowledge production that are (and had been) shaping<sup>4</sup> Lyme's identity. In this introductory chapter, I briefly review the original Anthropocene narrative,<sup>5</sup> underscoring its posthumanist nature as it rethinks Cartesian modernist hierarchical dualities, which separate humans from nature, epistemology from ontology, and material from discursive practices. Instead that humans and nonhuman nature, epistemology and ontology, and material-discursive practices are inseparable as they are "agentially intra-acting components" (Barad 2007, 33) that constitute Lyme as a phenomenon.

To do this, my study will briefly engage with different entangled discourses, for example, ecology, capitalism, classism, racism, feminism, colonialism and more, to show how they intra-act with specific material practices to (re)shape Lyme as an agential phenomenon. Following that, I offer an overview of the 'posthuman' as an umbrella term that includes schools of thought like new materialism, and posthumanism, among others. I then focus on Barad's agential realism philosophy, which belongs to new materialist school

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<sup>3</sup> Gunnarsson (2013) emphasizes the difference between "differences" or "distinctions" and "dualities" or "binaries," explaining that the former means "two things that are not the same,...[yet not] neatly separated from one another," whereas, the later refers to "absolute separation between the two [things] in question" (qtd. in Braunmühl 2018, 224). Therefore, throughout this dissertation, I refer to "differences" or "distinctions" as "multiplicity" or "multilayers" that include inseparable components that (re)form and (re)shape Lyme Regis.

<sup>4</sup> I am using the present continuous to signify that it is an ongoing continuous process and indicate how Lyme's inhabitants (humans and nature) participate in Lyme's becoming.

<sup>5</sup> The original narrative of the Anthropocene by Crutzen and Stoermer (2000) and debates surrounding it will be discussed in detail in Chapter 1.

of thought, as a framework for my study, explaining its performative foundation and its difference from philosophical realism. Next, I explain Barad's diffractive methodology, demonstrating how the three chapters that structure my dissertation that work together to illuminate different and differential human-nonhuman forms of interdependent relationalities that (re)configure Lyme as an agential phenomenon. This diffractive reading is interdisciplinary as it allows me to read insights from the Anthropocene narrative, cultural studies, and Romantic literature through one another to illuminate the multi-layered relationalities that (re)shape Lyme as an agential phenomenon. Therefore, as I draw upon these disciplines to closely examine Lyme, I also contribute to them by introducing a new understanding of Lyme whereby, in this study, Lyme is more than just a place; it is an agential transforming and transformative phenomenon that is shaped and reshaped by specific co-constitutive material-discursive practices that are scientific, cultural, and literary. Despite the fact that Barad aims to dislodge anthropocentrism and humanism, interpreting what emerges from specific human-nonhuman intra-actions remains a human practice. That is why, I argue, the ethical dimension that is committed to justice and accountability is important to check the recurrence of discriminating and exploitative actions.

In May 2000, scientists Paul J. Crutzen and Eugene F. Stoermer announced that we are currently living in the geological epoch of the Anthropocene. This epoch is characterized by the loss of biodiversity, climate change, global warming, species extinctions, rising sea levels, and other conditions that threaten both human and nonhuman life on Earth (17-18). Furthermore, Crutzen and Stoermer (2000) argue that the Anthropocene was brought about by human actions, which exploited and abused nature and depleted its natural resources (17-18). The Industrial Revolution and the invention of the steam engine powered by coal are

considered to have triggered these Anthropogenic effects (18). This preview sets up the Anthropocene as a troubled complex context. Events that took place during the Industrial Revolution over 200 years ago are re-appearing in the present to haunt and affect the human and nonhuman world and demand urgent redress. In this sense, time is no longer linearly “imagined as evenly spaced out moments” (Juelskjaer 2013, 758); it is “out of joint” or “spooked” (Barad 2010, 243) as it “queers our presumption of continuity” (247) and invites a rethinking of the notion of linear movement of time by re-appearing and “haunting” (243) the present.

In reaction to human intervention, within the context of the Anthropocene, nature proves to no longer be a set of passive things available for domination and exploitation by human practices and intelligence. Plumwood (1993) explains this attitude toward nature as specific to the west since the Enlightenment as follows:

To be defined as ‘nature’ ... is to be defined as passive, as non-agent and non-subject, as the ‘environment’ or invisible background conditions against which the ‘foreground’ achievements of reason or culture (provided typically by the white, western, male expert or entrepreneur) take place. It is to be defined as a *terra nullius*, a resource empty of its own purposes or meanings, and hence available to be annexed for the purposes of those supposedly identified with reason or intellect, and to be conceived and moulded in relation to these purposes. (4 – italics in original)

Instead, nature materializes as agentic as it appears to be “kick[ing] back” (Barad 2007, 215) in the form of climate change and other environmental crises. Furthermore, humans materialize as a “geological force” (Crutzen and Stoermer 2000, 17) in their destructive and transformative effects on Earth. As a place threatened with extinction in the Anthropocene, Lyme Regis is approached in my study as a knot of relations that constitute material and discursive practices and rethink Cartesian modernist dualities that rendered nature, women, indigenous, and Black people othered, enslaved and dehumanized by creating a strict

separation between mind/body, culture/nature and meaning/matter, among others. Thus, in my study and seen through the agential realist notion of an apparatus, such discourses and processes like institutionalized racism, slavery, and so on are examined in their materiality to highlight the contribution of matter, body, nature, women, the enslaved and so on in the creation of meaning and knowledge.

My reference to modernism and modernity in this study is based on the Cartesian and Kantian philosophy of dualism following Tarnas's (1993) explanation that:

Cartesian-Kantian philosophical assumptions that have governed the modern mind, and that have informed and impelled the modern scientific achievement, reflect the dominance of a powerful archetypal gestalt, an experiential template that selectively filters and shapes human awareness in such a manner that reality is perceived to be opaque, literal, objective, and alien. The Cartesian-Kantian paradigm both expresses and ratifies a state of consciousness in which experience of the ..... depths of reality has been systematically extinguished, leaving the world disenchanted and the human ego isolated. (432)

Instead, my study rethinks this Cartesian-Kantian paradigm using Barad's agential realism framework and diffractive methodology. My approach aims to reveal different and differential complex relationalities that are suppressed and hidden by these dualities by approaching Lyme as an agential phenomenon. This phenomenon is (re)defined by the entanglement of specific material and discursive practices as they intra-act. Through these specific intra-actions distinct agencies emerge in a process described as a "congealing of agencies" (Barad 2007, 183-84), since they become distinct as a result of the co-constitution of these intra-acting material-discursive practices giving rise to what Barad (2007) describes as "subject matter" (94).<sup>6</sup>

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<sup>6</sup> "Subject matter" for Barad (2007) constitutes "specific material linkages [human and nonhuman inseparable]and how these intra-relations matter [or materialize]" (94).

From this vantage point, Lyme becomes the embodiment of different and differential relationships that extend over time and space. Hence, as we come to an awareness through the Anthropocene that our human history of progress interferes and overlaps with the nonhuman earth's history, this study investigates time, space, and matter in their entangled state as I attempt to rethink the nature of the human causal relationship with nature and those deemed nonhuman.

### **III. The Anthropocene: A Posthumanist Narrative**

In May 2000, Crutzen and Stoermer announced the advent of a new geological epoch, the “Anthropocene,” in which human actions are seen to resemble a geological force in its effects on the earth systems and the atmosphere. Crutzen and Stoermer (2000) explain that:

The expansion of mankind, both in numbers and per capita exploitation of Earth's resources has been astounding ... In a few generations, mankind is exhausting the fossil fuels that were generated over several hundred million years...30%-50% of the land surface has been transformed by human action...more than half of all accessible water is used by mankind; human activity has increased the species extinction rate by thousand to ten thousand fold in the tropical rain forests...(17-18)

To mark the beginning of the Anthropocene, Crutzen and Stoermer (2000) propose the “later part of the 18<sup>th</sup> century” (17), arguing that:

[D]uring the past two centuries, the global effects of human activities have become clearly noticeable. This is the period when data retrieved from glacial ice cores show the beginning of a growth in the atmospheric concentrations of several “greenhouse gases,” in particular CO<sub>2</sub> and CH<sub>4</sub>. Such a starting date also coincides with James Watt's invention of the steam engine in 1784. About that time, biotic assemblages in most lakes began to show large changes. (17-18)

To respond to this crisis, the two scientists specify “the global research and engineering community to guide mankind toward global, sustainable, environmental management” (18).

By implicating human violent actions and calling for a shift in the way we relate to the nonhuman world this Anthropocene narrative operates ethical and political imperatives that invite us to rethink the different forms of violent exploitative and oppressive actions committed by humans over time. In the preceding passage, the Anthropocene demonstrates that non-living nature has the agency and the capacity to strike back in reaction to human exploitation and (ab)use of nature. Accordingly, the Anthropocene underscores an anthropocentric stance as it brings under scrutiny concepts, such as freedom, agency, and responsibility as will be discussed in chapter one. The generalization and universalization embedded in the Anthropocene narrative have evoked corresponding narratives of inequality and violence arising from capitalism, racism, colonialism, sexism and so on, which contributed to its interdisciplinary aspect. Thus, in chapter one, I argue for the posthuman nature of the Anthropocene as its instantiation troubles our fixed belief in the boundaries separating and privileging humans from nonhumans and mind from matter among other binaries and sheds light on the entangled state of time, space, and matter.

#### IV. The Posthuman: An Overview

Following the technological and scientific progress that marked the 20<sup>th</sup> and 21<sup>st</sup> centuries, posthumanism emerged as an important concept that rethinks the place of humans in the world (Ferrando 2019, 1). In her book, *Philosophical Posthumanism* (2019), Francesca Ferrando explains that the term “posthuman” is an “umbrella” that includes different schools of thought, including “posthumanism,” “new materialism,” and “anti-humanism” (1).

Ferrando (2019) describes posthumanism as:

The pluralistic symphony of the human voices who had been silenced in the historical developments of the notion of “humanity,” post-anthropocentrism adds to this concert the non-human voices, or better, their silencing amid what is currently defined as the sixth mass extinction – the

ongoing extinction of species caused, directly or indirectly, by human actions.  
(103)

This passage highlights the three main areas of critique: ‘humanism’, ‘anthropocentrism’, and ‘dualism’. Posthumanism seeks to dismantle ‘humanism’, in which the concept of “human” is marked by marginalizing or silencing categories, such as women, slaves, and children, and enacting “exclusionary” (4) practices, such as racism, classism, and sexism. “Human,” argues Ferrando (2019), is the “white, male, heterosexual, and propertied citizen” (4) who complies with the Western “institutionalized norms as well as ethnic, cultural, and physical characteristics” (4). Posthumanism, hence, is concerned with integrating the silenced voices of dehumanized beings. The second area of critique is “anthropocentrism,” which is the centrality of the “Anthropos” or the human, and its separateness from the rest of the world as a superior entity (103). Ferrando (2019) asserts that this separateness has “sociopolitical and ethical [and geological] consequences” (103) as it justified humans’ abuse and exploitation of nonhuman others and, consequently, gives rise to the Anthropocene (103-4). The third aspect is “dualism,” which implies negative hierarchical relationalities, such as self/other, subject/object, animate/inanimate, human/nonhuman, male/female, and mind/body (65-6). Posthumanism recognizes the difficulty of dismissing age-old hierarchical binary structures but seeks to deconstruct them from within these dichotomies (Ferrando 2019, 4).

Other schools of thought that constitute the ‘Posthuman’ react to ‘humanism’, ‘anthropocentrism’, and ‘dualism’ differently. For example, transhumanism has its roots in the Enlightenment (Ferrando 2019, 3) and would seek to intensify and enhance humanism (3). Anti-humanism shares the goals of posthumanism, that is, critiquing humanism and anthropocentrism. However, the direct opposition in “anti” creates a new duality (4). Foucault was one of the leading post-structuralists to assert the anti-human philosophical

stance of the disappearance of “man” as a privileged entity in relation to nonhuman things (Ferrando 2013, 31).<sup>7</sup> Consequently, there exists a tension between the goals of anti-humanism and transhumanism on the one hand, and posthumanism on the other. It is important to note that anti-humanism is different from the notion of anti-humanist posthumanism (see Lovell and Arab 2022, 51) that Braidotti (2013) uses to describe her approach to posthumanism (38). A notion that finds inspiration in “ecology and environmentalism” (49) as it seeks to reconceptualize “subjectivity as both material and relational” (52) rather than intensify or obliterate humanism.

Another strand of thought that constitutes the “Posthuman” and shares its critique of humanism, anthropocentrism, and dualism is new materialism— a term coined by Rosi Braidotti and Manuel DeLanda (Ferrando 2019, 158; Dolphijn and van der Tuin 2012, 48). The “newness” in “new materialism” pertains to its views regarding the nature of matter. Willey (2017) argues that this approach is “new” because it revises what she describes as a “politically backward understanding” (149) of matter as “static and inert” (149) and recognizes it as “dynamic [and] a force in its own right” (149). Hence, new materialism unsettles the human prerogative as agentic and affirms two main aspects “ –vitalism” and “performativity” of the human and nonhuman (Ellenzweig and Zammito 2017, 7). To do this, new materialism associates itself with “new science” (Ellenzweig and Zammito 2017, 7) in moving away from viewing nature as an inanimate passive “clock” or machine with God as

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<sup>7</sup> In *The Order of Things* (1966), Foucault asserts that the historical appearance of “man” is not:[T]he transition into luminous consciousness of an age-old concern, the entry into objectivity of something that had long remained trapped within beliefs and philosophies: it was the effect of a change in the fundamental arrangement of knowledge. As the archaeology of our thought easily shows, man is an invention of recent date. And one perhaps nearing its end. If those arrangements were to disappear as they appeared, if some event of which we can at the moment do no more than sense the possibility – without knowing either what its form will be or what it promises – were to cause them to crumble, as the ground of Classical thought did, at the end of the eighteenth century, then one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea. (Foucault 1970, 387)



the creator who “imbues it with force” (Gamble et al. 2019, 115) toward understanding matter as an animate object and recognizing “matter’s activity” (118). In this sense, new materialism is a reconceptualization of how the world is continuously changing, evolving, or becoming by admitting the entanglement and intra-activity of human and nonhuman practices (Ellenzweig and Zammito 2017, 7). This understanding has ethical implications as it draws attention to existence as onto-epistemological as it opens a space for “new knowledges [sic] and new materializations” (Willey 2017, 149). Van der Tuin (2011) follows Grosz (2010, 49) to argue that “new materialism” is a “leap into the future without adequate preparation in the present” (276), emphasizing the notion of “becoming-more and becoming-other” in order for the new to emerge in an essentially unpredictable future (276). As an example, van der Tuin uses Barad’s (2007) description of the “quantum leap...[as] the intra-play of continuity and discontinuity ... possibility and impossibility that constitutes” (276) the (re)shaping of the world – or what I suggest, based upon my understanding of Barad’s agential realism, to be an ongoing process of making and re-making differently and differentially.

My dissertation engages with Barad’s philosophy of agential realism and their diffractive methodology. Drawing on the work of Judith Butler and Donna Haraway, Barad formulates a feminist new materialism, which responds to representationalist discourses that ignored matter and caused a division between the knower or observer, knowledge or observation, and the object to be known or observed, including reality (Ferrando 2019, 159; Barad 2003, 813).<sup>8</sup> Barad’s approach hails from the feminist new materialist perspective of physics (Tuana 2021, 385), which critiques the anthropocentric assumption that matter lacks

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<sup>8</sup> Philosophical reality and agential reality will be discussed later in the chapter in detail.

meaning, and seeks to unsettle dualities (Gamble et al. 2019, 111-12). Barad emphasizes matter as a domain for relationality (Barad 2003; 2007; Tuana 2021). Agential realism underscores the co-constitution and co-emergence of the material and the discursive, which in turn rethinks the separation between language and matter, nature and culture, human and nonhuman, and so on. Barad (2007) argues that power, perceived "in the fullness of its materiality" (66), would undermine the hegemonic duality of mind/matter because power in this sense would emerge from specific intra-actions and, therefore, is changeable, unknowable, or indeterminate. This is significant because power that emerges from intra-actions becomes co-constitutive of humans, nonhumans, the othered, and so on, which reworks the modern rigid dualities that place power firmly in the hands of humans, language, culture, males, the white, science, and so on.

Based on this overview, I argue that the Anthropocene narrative presented by Crutzen and Stoermer (2000) should be read or interpreted as an agential realism posthumanist account. While the Anthropocene marks the damaging effects of human actions on the planet, it also shows humans as no longer independent superior agents. In addition, this narrative places humans amongst nonhumans (living, non-living, others, and dehumanized) who share the same world where they evolve collectively in an open-ended becoming. Contrary to the scientists' call on the scientific community to intervene and solve the problem, I argue that humans' participation in the world in terms of how we relate to other human and (deemed) nonhuman entities entails ethical and political obligations (see Rouse 2004, 46) because, first, we become attuned to the entangled practices of the inseparable discursive and material practices that (re)form the world. Second, the exclusions inscribed within the distinct agencies that emerge as humans and nonhumans intra-act and are

differentially co-constituted<sup>9</sup> would carry significant implications for power dynamics and political responsiveness (Barad 2007, 236). The reason is that these exclusions are haunted by what is excluded and, therefore, an ethical imperative to attend to those excluded, marginalized, or dehumanized is embedded within these emerging agencies and would activate ethical-political responsiveness. This is significant because intra-action, in this sense, is a process that opens up a space of possibilities, in which justice could be achieved.

## V. **Karen Barad's Agential Realism: Rethinking Philosophical Realism**

Philosophical realism has numerous accounts. However, all accounts agree that philosophical realism is the view that the world exists both prior to and independent of human interactions and mind (Tuana 2008, 190; Harman 2016, 1). Thus, philosophical realism underscores two important tenets. The first is “existence” (Tuana 2008, 190) where the realist “accepts the existence of obvious objects and phenomena but sees those entities as independent of human beliefs, conceptual schemes, linguistic practices, and social structures” (190). The second is “independence” (190), which is the idea that “the world (or reality) exists independent of our representations of it” (190). Barad rethinks the representationalist foundation of philosophical realism as problematic. Building on Foucault’s and Butler’s theories, Barad advocates her philosophy of agential realism founded upon the notion of performativity as will be discussed in chapter two.

### *i. Agential Realism*

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<sup>9</sup> See the glossary for entry on “intra-action” (xviii). This process will also be discussed soon in this chapter as well as in chapter two.

Agential realism is Barad's posthumanist performative philosophical framework that rethinks representationalism. Barad (2003) proposes agential realism as a form of relational ontology, which sees "words" and "things" as inseparable (812) and rethinks concepts, such as "discursive practices, materialization, agency, and causality, among others" (811). Agential realism's posthumanist account of discursive practices unsettles the boundary between what is categorized as "human" and/or "nonhuman," and enables a "genealogical analysis of the discursive emergence of the human" (Barad 2003, 821). Accordingly, agential realism allows us to engage with co-constituted "nature, the body, and materiality in the fullness of their becoming" (Barad 2003, 812), unhindered by fixed hierarchical dualities, such as exteriority/interiority, epistemology/ontology, the human/nonhuman, or mind/matter. Ethical and political obligations are attached to what emerges from our intra-action with the nonhuman as we become accountable for what materializes from this encounter "for the role 'we' play in the intertwined practices of knowing and becoming" (812).

In agential realism, reality is conceptualized as what Barad (2007) describes as "things-in-phenomena" (140). Reality, for Barad (2007), is not a "wholeness" or "monism" (as in Braidotti's case) that dissolves boundaries, rather it is constituted by specific intra-actions between material and discursive practices whose relationship is that of "mutual entailment" (152) where neither one of them can be articulated without the other (152). As such, Barad (2007) views phenomena from a scientific perspective as the "basis for a new ontology ... [and] the basic units of existence" (333) shaped through "specific intra-action of an 'object'; and the 'measuring agencies'; the object and the measuring agencies emerge *from*, rather than *precede*, the intra-action that produces them" (Barad, 2007, 128; my italics). Barad coined "intra-action" to replace "interact" to signal that relationships are temporarily

resolved after the encounter and that “distinct” agencies emerge from an encounter where mutual entanglement amongst intra-acting entities takes place. Sauzet (2018) explains that, instead of associating agency with humans or nonhumans, when we observe phenomena, we are part of it because “we enact agential cuts” (n. p.) that do not signal an “absolute separation” (n. p.), but rather signal what Barad (2012) describes as “a cutting together/apart” (19) meaning whatever is excluded from or lost by one component in this cut is included in or gained by the other – a form of mutuality (46). This will be discussed in detail in chapter two.

ii. *Barad’s Posthumanist Performativity*

As mentioned earlier, Barad’s agential realism is founded upon the notion of performativity. Since I have briefly discussed above agential realism, I now turn to the notion of performativity. Traditionally, performativity depends on human language and its capacity to “initiate and perpetuate action via speech acts” (Lovell and Arab 2022, 56). Performativity is originally presented by J. L. Austin who bases his performativity upon human “speech ... [as] verbs uttered in the first person, present tense ... conventional ... based on the presuppositions of sincere intentions and felicitous conditions” (Lovell and Arab 2022, 56). Jacques Derrida, alternatively, focuses on the context in performativity and emphasized the importance of the utterance’s “(re)iterability” (Lovell and Arab 2022, 57) depending on the context. Building on Derrida’s work, Butler focuses on power relations within performativity in addition to context and argues that performative acts are “forms of authoritative speech ... [such as] statements that, in the uttering, also perform a certain action and exercise a binding power” (Butler 1993, 171). At first, Butler appears to see Austin’s

performativity as “a nexus of power and discourse that repeats or mimes the discursive gestures of power” (Butler qtd. by Lovell and Arab 2022, 57). Later, Butler (2011) argues that “gender proves to be performative ... [as it] constitute[s] the identity it is purported to be” (33). Like Austin and Derrida, Butler sees the performative act as intentional and human-centered.

Considering the above approaches to performativity, Barad’s posthumanist performativity is considered to be radical<sup>10</sup> as they unsettle humanism and anthropocentrism by emphasizing the process of intra-action that is unintentional in its co-constitution of different and differential components. Barad (2003) extends Butler’s approach to performativity to include nonhuman beings. This understanding of performativity is fundamental for agential realism as it allows it to rework the human/nonhuman boundaries deemed fixed by Cartesian measures so that the boundaries (re)materialize from specific intra-actions. By founding their agentic reality upon performativity, Barad (2003) aims to rethink the “excessive power granted to language to determine what is real” (802) and co-constitutes “material and discursive, social and scientific, human and nonhuman, and natural and cultural” practices (808). This approach would then shape and (re)shape discourses as they are constrained or enabled by material forces and relations.

Barad’s agential realist approach in this respect is significant because it simultaneously demonstrates the agentic aspects of the material and the material aspects of agency. This radical position carries political consequences (see Hekman 2008, 110-14). Examples of the political and ethical implications as well as the power relations emphasized by agential realism will be discussed in the methodology in chapter two when I examine the

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<sup>10</sup> See Lovell and Arab 2022.

technological-material-discursive practice of ultrasound as an apparatus for fetal imaging along with the role played by the apparatuses in agential realist philosophy. This aspect demonstrates how discourses of race, gender, class, among others can be shaped and re-shaped by technology, for example, which calls for a corresponding ethical political responsiveness.

## **VI. Barad's Diffractive Methodology**

Within the above discussed agential realist framework, my study uses Barad's diffractive methodology to shed light on the differences that constitute Lyme as an agential phenomenon that is (re)shaped by specific entangled material-discursive practices.

Diffractive will be discussed in more detail in chapter two. However, I will now give a brief account of what diffraction entails. Barad (2012) defines diffraction both as a "methodology and as [a] physical phenomenon" (13). As a methodology, diffraction is about "ethico-ontological engagement" (16), which is the act of being accountable for what emerges from entangled practices of knowing and being, or what Barad (2012) calls "world-making practices" (16) and "our indebtedness to the past and the future" (16). As a physical phenomenon, according to Barad (2007), diffraction is an experiment "to learn about the nature of the substance [water waves, sound, or light] that is being passed through a diffraction grating (see glossary, p. xv) and sometimes ... to learn about the diffraction grating itself" (83). However, in either form (methodology and physical experiment), diffraction is an analytical tool, which makes differences visible and creates an ethical obligation to respond and account for the effects of these differences (72). In an interview with Juelskjaer and Schwennesen (2012), Barad asserts:

Diffraction pattern only shows up again if you do the work of tracing the entanglements. In performing the labor of tracing the entanglements, of making [the] connections visible, you're making our obligations and debts visible, as part of what it might mean to reconfigure [the] relations of spacetime mattering ... Indeed, it shows that the universe itself holds a memory of each event. (20)

My dissertation will operate as a diffracting grating through which Lyme, as a node of relations, diffracts to make visible layers of meanings and relationalities rendered invisible by old rigid hierarchical dualities. My study traces the human-nonhuman entangled practices and make contributions visible by going back in time and reworking specific events in the contemporary condition of the Anthropocene. This context of the Anthropocene is significant because this is the moment, I argue with Barad (2007) that when “things [the way we understand them as subordinated to human intelligence and power] stop working” (158), we start noticing the importance of thinking in terms of “apparatus” and intra-related networks (158). In other words, our knowledge about nature and the nonhuman world as passive and available for us to use is put into question. Instead, the future becomes indeterminate as we are now starting to notice the significance of acknowledging our dependent co-existence within the dynamism of the nonhuman world. Thus, diffraction, in this dissertation, is about boundary re-making, attunement to differences, and a commitment to justice (Barad 2017, 63-4). In addition, diffraction is about a “temporality haunted by the past” (Barad 2012, 13) so that closure is no longer an option. This notion opens up a space where justice can possibly be achieved. I would like to note that my study does not offer solutions to climate change at Lyme. In fact, using Lyme as an example, my study is an intervention to problematize the notion of fixed knowledge and references that dictate how we relate to the nonhuman (nature and objects) in a world rendered complex by the Anthropocene.



## VII. Dissertation Structure

As mentioned earlier, this dissertation will operate as the diffractive grating that illuminates the differences and multiplicity underlying Lyme as an agential phenomenon. These differences will structure my dissertation as follows:

Chapter one demonstrates the struggle of humans and nature to survive the violent effects of climate change that threaten Lyme's existence. By demonstrating the entangled practices of humans and nature, this chapter underscores the dynamism and agency of nature, and illuminates the impossibility of perceiving human intentionality and intervention as central to saving Lyme from complete disappearance. In this light, I examine what Barad (2007) describes as the "politics of possibilities" (225) that is essentially open-ended and co-constitutive to rethink Lyme as an agential phenomenon (re)shaped by the entangled practices of its human and nonhuman inhabitants.

Chapter two illuminates another aspect of Lyme pertaining to its contribution to scientific knowledge production. Drawing on insights from Barad's notion of hauntology,<sup>11</sup> heritage studies, scientific, feminist, indigenous, and Black discourses, and Lyme's role in the slavery trade, I read Mary Anning's and Saartjie Baartman's stories at Lyme. This approach allows me to make their contribution visible and to re-integrate the epistemological and ontological entangled practices of Anning and Baartman within the apparatus of scientific knowledge production at Lyme amongst scientists, such as Cuvier, fossil buyers, scientific equipment, and the cliffs themselves. This reading has created ethical and political implications. The ethical dimension refers to making visible and giving voice to those pushed to the realm of the other, including nature, women, the poor, and enslaved. The political

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<sup>11</sup> Barad's hauntology is influenced by Derrida's spectrality and both will be discussed in detail in chapter two.

dimension refers to the need to demand institutions, such as the World Heritage Convention, to acknowledge and integrate agentic contributions of those othered and dehumanized.

The final chapter discusses the entangled nature of intra-acting scientific and literary practices at Lyme by examining its literary representation in Austen's *Persuasion* in the scientific discourse and in the historical parlance of geologists of her time. I underscore the emerging transformative power of this entanglement on people and culture, which is another layer of meaning that (re)shapes our knowledge of Lyme as an agential phenomenon. This chapter rethinks the "sublime" as a relationship of scale between humans and the more-than-human nature, which, according to Immanuel Kant, sees the human mind as having a superior capacity to contain a possibly terrifying nature. I closely read Jane Austen's *Persuasion* and her depiction of sublime nature at Lyme. I argue that Austen's approach to nature is indeed different from her other novels. *Persuasion* is the only novel in which Austen contemplates nature at Lyme in its wilderness, untouched by humans or what Austen terms "improvements" (Austen 2004, 80). I rethink the classical understanding of the sublime and argue for a posthumanist sublime that co-constitutes scientific and literary practices, unsettles the humanism and anthropocentrism embedded in Burke's and Kant's understanding of the sublime, affirms human-nature kinship, and the transformative nature of their relationality. This reading could illuminate aspects of Austen's philosophical view of life as an author, which expands beyond marriage schemes and the landed gentry. Austen's writing, in my approach, cannot be articulated without her personal material experience of the violence embedded within economic, political and social discourses of her time, which left its mark on her work. In other words, Austen's position as a woman and orphan is ontologically complicated by the material and discursive practices of her time which threaten

her with the possibility of homelessness and / or a failed marriage and sees her as detached from (masculine) political and economic upheavals of the time. Accordingly, my reading sees Austen's writing as ethically responding to these complex relationalities in a manner whereby ethics is not about choosing to respond correctly to these external changes but about having accountability and responsibility as an integral part of these processes of becoming. Barad's approach is different because we can see the effects of these different and differential material and discursive practices operating in the novel, allowing us to rethink Austen's writing process.

The three chapters together demonstrate the complex inseparable multiplicities and differences that form and (re)form Lyme, making it a place that shapes and is being shaped by different and differential relationalities, including time, space, and matter. In this sense, my project illuminates the multiple layers of meaning and relationalities that constitute Lyme as an agential posthumanist phenomenon, which not only unsettles boundaries between humans and nonhumans, epistemology and ontology, material and discursive practices but also unsettles boundaries between scientific, cultural, and literary approaches to studying Lyme in the Anthropocene.

Because of the interdisciplinary nature of my project, information known by scholars in one discipline might not be equally known by scholars from other disciplines. Therefore, in presenting my work, I made the conscious choice to offer descriptive accounts about certain aspects discussed in the dissertation in order to read them through Barad's account of agential realism. Furthermore, I have carefully planned my citation policy in order to present accurate insights specific to the discourses I use. For example, in chapter one, because the Anthropocene is a phenomenon unfolding over time, I offer a descriptive summary of the

economic, historical, political and class practices at Lyme in order to read these practices through the different discourses embedded within the narrative of the Anthropocene and underscore the nature of the material and discursive practices that entangle Lyme as an agential phenomenon in an open-ended becoming. In part I of this chapter, I cite authors, like Morton (2013), Haraway (2016), Malm (2012; 2013; 2014), Chandler (2019), and Vermeulen (2014) among others, who dealt with affordances of the Anthropocene on different aspects ranging from historical, economic, geological, political and more. Informed by this background, in part II, I cite authors, like (Fowles 1982) and Wanklyn (1927) for their historical knowledge of Lyme; I also cite Oppermann (2018), Graham (2008), Nicholas et al. (2021), Waters et al. (2016), Zalasiewicz (2008), and more for their geological insights that helped me to understand the internal dynamic of nature at Lyme.

In chapter two, I provide a descriptive account of Anning's and Baartman's histories to read them through Barad's agential realism's posthumanist account and illuminate the material and discursive practices that silenced their contribution to the apparatus of scientific knowledge production at Lyme. In the first part, I use insights from posthumanism theorists like Braidotti (2013), Ferrando (2013; 2019), along with Barad (2007; 2003; 2010; etc.), showing that, despite their different philosophical genealogies,<sup>12</sup> they can be contextualized since their stance on issues like agency, subjectivity, intentionality, etc. overlap as explained earlier. In part II, I cite critical thinkers like Donnachie (2010), Harrison (2010), Yusoff (2018), Spiller (1987), Hekman (2010), Mahmood (2001), and Watts (2013) among others,

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<sup>12</sup> Barad's agential realism draws on Bohr's work on Quantum physics, feminist theory, and poststructuralists like Haraway, Foucault, and Butler (see chapter two). Braidotti draws on Deleuzian becoming, connecting it with feminist emphasis on the bodies' sexual difference (Ferguson 2004, 136). Ferrando's philosophical posthumanism is genealogically related to the "radical deconstruction of the 'human'" (2019, 2), by drawing on Martin Heidegger's 1947 *Letter on Humanism*, and some postmodernist studies of difference including critical race, gender, and queer, as well as cyborg theory (2).

as each from their specific perspective allows me to examine Anning and Baartman as vulnerable entities where the material-discursive violence of racism, colonialism, slavery, and sexism converge and sediment in the making of Lyme as a World Heritage site renowned for its scientific knowledge production in relation to fossils and different species.

Finally, in chapter three, I offer a descriptive account of Austen's place in the Romantic period as well as a brief account of Burke's and Kant's approach to the sublime in order to read them through Barad's agential realist account and illuminate what I argue to be an agential realism's posthumanist reconceptualization of the sublime. In part I, I cite thinkers and theorists of the sublime, like (Burke 1757), Kant (1790), Murphy (2013), and Whyte (2011) among others to introduce and discuss my proposed posthumanist agential realism form of the sublime produced by Austen's depiction of her characters as they encounter nature at Lyme. In part II, I cite critical thinkers and theorists in the Romantic canon, Jane Austen scholarship, and cultural studies, like Bate (2000), McGann (1983), Mellor (2001), (Auerbach 1981), Williams (1973), and Fergus (2005), among others to locate Austen within the Romantic tradition and show how *Persuasion* in particular is different from her other novels. I argue that, in its posthumanist character, events in *Persuasion* are driven by human and nonhuman entangled experiences that (re)shape how Austen's characters co-emerge and co-evolve.



## **Chapter One**

### **Lyme Regis in the Anthropocene**

*[I]n our present time, the world is changing from year to year, to year, as humanity takes over the Earth's surface and adapts it to its needs. How much of that change is only skin-deep, as far as the Earth is concerned, to disappear in a generation or two? How much will last longer – a millennium, say? And how much of that change is being written into the fabric of this planet, to remain detectable in a million years...? ...The answer will be written in the strata. One will need only to find the message left by the human race, and then to decipher it – Zalasiewicz (2008, 117- 8).*

#### **I. Introduction**

Lyme Regis is a town located on the “Jurassic” coast of South East England where nature, literature, science, and society meet and merge. It is a place that has been visited and cherished by authors like Jane Austen, John Fowles, F.T. Palgrave, Alfred Tennyson, artists like J.M.W. Turner, and many more. Sir George Somers, the discoverer of the Bermudas, was born in Lyme; a place that inspired William Shakespeare's *The Tempest* (1611). A coast visited by violent sea waves, landslides, erosion, and climate change, Lyme Regis holds the earth's history in the different strata of its cliffs and the fossils of extinct species uncovered by Mary Anning in 1811 and until her death in 1847. Here, at Lyme, human history is revealed in the bones of past generations, uncovered by the floods of 1844, 1849, and 1862. However, Lyme Regis is now threatened with disappearance.

The Anthropocene is described by Crutzen and Stoermer (2000) as the “current geological epoch”<sup>13</sup> (17) – an argument that remains to be established by the Sub-commission on Quaternary Stratigraphy; the two scientists argue that human actions have significantly affected the earth’s ecological and geological systems, causing extinctions, pollution, and other life-threatening environmental phenomena. However, I argue along with critics, such as Simon (2020, 184), Caracciolo (2021, 28), and Davies (2016, 13) that to make the concept of the Anthropocene accessible to lay people and different disciplines, it must be approached as a “narrative” form. This would make the dangers presented by the Anthropocene understandable, encourage interdisciplinary collaborative work, and help in explaining scientific and geological information and their significance in a language accessible to the public and non-scientific disciplines.

In this chapter, I apply Barad’s perspective by making my key argument that sees Lyme as an agential phenomenon shaped by human violent actions against nature over time that brought about the Anthropocene conditions that only intensify the harsh weather conditions exposing Lyme to the risk of being completely devoured by the sea. The main issue recently is that Dorset Council spent £60 million over 20 years on maintenance and construction work to build seawalls, rock armour walls, and defenses to protect the people’s properties and crumbling nature at Lyme. Since Lyme is a coast that carries a heritage status, the constructions are partially funded by the DEFRA (Department of Environment, Food and Rural Affairs) and partially by the European Union. The service life of such constructions is approximately 60 years, after which the council would need to re-do them. My paper

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<sup>13</sup> As will be discussed later, the Anthropocene is the first geological epoch brought about by human actions. Compared to preceding epochs, the Anthropocene is described as “new” by several scholars and scientists, such as Jeremy Davies, Dahlia Simangan, Jan Zalasiewicz, Mark Williams, Alan Haywood, Michael Ellis, and Will Steffen.



discusses the dilemma revolving around the following difficult question that even the Dorset Council is considering: Would spending huge amounts of funds on a small community, protecting a part of the coast that will probably disappear in time, be wise when this money could be spent on programs, such as adult social care and children's services? To discuss this question, this chapter uses Karen Barad's philosophy to draw on insights from the Anthropocene narrative, and the historical, economic, social, political, and environmental practices at Lyme to illuminate the nature of entangled human and natural practices at Lyme. This complexity presented by the Anthropocene, this chapter argues, cannot be confronted by imposed politics or what Barad describes as the formation of a "new political collective" (Barad 2007, 59). Instead, I argue that this dilemma could be navigated by taking account of how the practices of the human and nonhuman inhabitants of Lyme are co-constituted (59), which is what Barad (2007) describes as a "politics of possibilities" (225) that responsibly imagines and intra-acts with power in a form of an open-ended attunement required for the survival of both humans and nonhumans.

To discuss this, I critically situate Lyme within the narrative of the Anthropocene in a way that sees Lyme as a site of "complex inheritance" (Barad 2010, 254; 2013, 816) and an "ambivalent past" (Sehgal 2014, 191) upon which the violent causes and effects of the Anthropocene converge. The notions of "inheritance" and "ambivalent past," which Barad invokes, implying past events, which involve human/nonhuman embodied practices within the Anthropocene context. This complex inheritance constitutes specific intra-actions between material and discursive practices. By material practices, I mean technologies like the steam engine that, according to Crutzen and Stoermer (2000), initiated the large-scale use of fossil fuels during the Industrial Revolution, which significantly impacted the earth's system

(humans and nonhumans) and caused climate change. In addition, the discursive exclusionary and inclusionary practices are discourses that justified violence against nature such as capitalism and what Andreas Malm (2013) calls “fossil economy,” which will be discussed soon in this chapter.

As explained in the introduction, this dissertation project approaches the Anthropocene as a posthuman narrative, primarily because the Anthropocene is a phenomenon which emerges from myriad intra-actions that constitute different nonhuman and human actors, relations, or practices. “Intra-action” is a term coined by Barad (2007), which describes a process where practices and actions of undefined, non-distinct entities, actors, laws, policies, discourses, human, and nonhuman are entangled and co-constituted, and what emerges becomes agentially marked by such entanglements.<sup>14</sup> Critical thinkers, for instance, Vermeulen (2014, 123), Morton (2013, 108), Chandler (2018, 2), Tsing (2015, 21), and Besley & Peters (2019, 1347), argue that the Anthropocene is something more-than-human, which ominously predicts the extinction of the human and nonhuman alike and calls for rethinking new meanings for what constitutes a “human.” This chapter sheds light on the negative consequences of separating the human and the nonhuman world and affirms our entanglement and embeddedness in the nonhuman world. In addition, the Anthropocene narrative reveals the deep entanglements and interdependence between humans and the natural nonhuman world in a manner that goes beyond humanism as a central aspect for defining and controlling such a relationship. Ferrando (2013) argues that:

The posthuman focuses on de-centering the human from the primary focus of the [Anthropocene] discourse. ... posthumanism stresses the urgency for humans to become aware of pertaining to an ecosystem which, when damaged, negatively affects the human condition as well. In such a

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<sup>14</sup> Barad describes this as “agential becoming” through the entanglement in a manner that nonhuman actors are agentic for the part they play in the process (Barad 2007, 91). This will be discussed in detail in Chapter 2.

framework, the human is not approached as an autonomous agent, but is located within an extensive system of relations. (32)

Due to such entanglements and relationality, the Anthropocene expands beyond being a scientific geological concept and engages in multidisciplinary interests, which, in turn, create further narratives from their respective perspectives.

This chapter consists of two parts: The first part sets up the Anthropocene as the current context or ontology, and the use of coal to power the steam engine during the Industrial Revolution as one marker for the beginning of the Anthropocene. This part reviews the Anthropocene narrative, which matters in the context of the development of my analytical approach vis-à-vis Lyme Regis. In this part, I, first, explain the original narrative of the Anthropocene put forward by Crutzen and Stoermer (2000); a narrative that highlights the central role played by human actions in bringing about the Anthropocene. Second, go back in time and trace the evolution of the term “Anthropocene” over the last two centuries by discussing the theories presented by different scientists and, most importantly, Georges-Louis Leclerc (Comte de Buffon) whose theory about nature and humans (1778) resonates with the original narrative presented by Crutzen and Stoermer (2000). I show how the human age-old concern with progress and exploiting nature distracts them from recognizing how the fate of humanity is deeply entangled with the nonhuman world. Third, I examine the different debates evoked by the Anthropocene narrative regarding its beginning date, and the anthropocentrism and universalism embedded into the narrative.

My approach seeks to unsettle rigid dichotomies and divisions underscored by the Anthropocene. Hence, I discuss the Capitalocene as an example of a term preferred by scholars, such as Andreas Malm and Jason Moore. However, I continue using the term “Anthropocene” because of its capacity to provoke interdisciplinary interests that in turn

could offer different perspectives, which would render the “Anthropocene” a useful site of multiplicities. I offer an analysis of Malm’s “fossil economy” by reading his Marxist approach to the Anthropocene through Crutzen and Stoermer’s (2000) scientific narrative. Based on this reading, I argue that Malm’s narrative offsets the human-centred understanding of the Anthropocene’s original narrative by underscoring specific intra-acting material and discursive practices that co-constitute specific class of humans (rich, business, male, and political) and a specific class of matter (coal and other fossil fuel resources) and cause the emergence of the current environmental crisis that threatens humans and nonhumans alike.

Building on this context, the second part of this chapter focuses on Lyme and investigates the human-nonhuman entangled practices which shape life there, to rethink the assumption that only human (scientific) knowledge (epistemology) can interfere and save Lyme from disappearance. I demonstrate the historical, economic, and strategic significance of Lyme, and the dynamic nature-nature, human-nature, and “naturalcultural practices” (Barad 2007, 32) that shape life there. I argue that as the human and nonhuman inhabitants of Lyme are co-constituted through their entangled practices an ethico-political imperative emerges with them that sees them relate responsibly to the land in their collective becoming.

## Part One

### The Anthropocene: A Narrative that Redefines the “Human”

*“I sell here, Sir, what all the world desires to have – POWER”*  
- Boulton  
(1859)<sup>15</sup>

*“I am become death, the destroyer of worlds”*  
- Oppenheimer (1945)<sup>16</sup>

#### I. The Original Narrative of the Anthropocene

In the IGBP newsletter from May 2000, meteorologist and atmospheric chemist, Crutzen, together with limnologist, Stoermer, announced the advent of the new geological epoch, the “Anthropocene”;<sup>17</sup> an epoch driven by human actions. Crutzen and Stoermer argue that:

Considering .... many ... major and still growing impacts of human activities on earth and atmosphere, and, including global scales, it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term “anthropocene” for the current geological epoch. (2000, 17)

The two scientists proposed the Industrial Revolution or the “later part of the 18<sup>th</sup> Century” to mark the beginning of the Anthropocene:

[D]uring the past two centuries, the global effects of human activities have become clearly noticeable. This is the period when data retrieved from glacial ice cores show the beginning of a growth in the atmospheric concentrations of several “greenhouse gases,” in particular CO<sub>2</sub> and CH<sub>4</sub>. Such a starting date also coincides with James Watt’s invention of the steam

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<sup>15</sup> Boulton was Watt’s (inventor of the steam engine) business partner. According to Malm, this line was quoted by an anonymous writer in *The Times* (1859), reporting a sales argument between Boulton and a potential customer at Boulton & Watt’s Soho factory where Watt’s steam engine had been manufactured and sold (Malm 2012, 108).

<sup>16</sup> According to Barad, physicist, J. Robert Oppenheimer translated this line from the Bhagavad Gita (in Sanskrit) and repeated it in the wake of the first atomic bomb explosion in 1945 (Barad 2017, 103).

<sup>17</sup> IGBP is the International Geosphere Biosphere Programme.

engine in 1784. About at that time, biotic assemblages in most lakes began to show large changes. (17-18)

Furthermore, Crutzen and Stoermer (2000), here, anticipate that “(m)ankind will remain a major geological force for many millennia ... to come” as long as humans do not change their behaviour toward nature (18). Based on this information, they contend that a “daunting task lies ahead of the global research and engineering community to guide mankind towards global, sustainable, environmental management” (18). Throughout this study, I refer to Crutzen and Stoermer’s (2000) announcement as the original narrative of the Anthropocene where humans and their actions are seen to be the main drivers of natural catastrophic events and potentially irreversible climate change, which could result in the extinction of both the human and the nonhuman world.

## II. Tracing the Evolution of the Anthropocene

Concepts similar to the Anthropocene existed as far as two centuries ago before Crutzen and Stoermer’s (2000) anthropocenic narrative and are being re-visited in light of the marks that human actions have left on the earth strata and the natural world in the form of climate crisis, species extinction, and similarly embodied environmental phenomena. I argue that this emergence of the past to be reworked in a present that is materially marked by human actions is an instance of spacetime entanglement where specific intra-actions between space and time materialize to illuminate new ways of understanding the current geological epoch. As early as the mid-19<sup>th</sup> century, George Perkin Marsh in *Man and Nature* (1864) argued:

It is, in general, true, that the intervention of man has hitherto seemed to insure [sic] the final exhaustion, ruin, and desolation of every province of nature, which he has reduced to his dominion. (...) The instances are few

where a second civilization has flourished upon the ruins of an ancient culture and lands once rendered uninhabitable by human acts or neglect have generally been forever abandoned as hopelessly irreclaimable. (416)

Later, scientists, such as Stoppani (1873), Vernadsky (1926), and Wilson and Revkin (1990), respectively, argued for an “Anthropozoic era,” “Biosphere” theory, and the “Anthropocene age” in which they all point out the effects of human actions on earth (Zalasiewicz et al. 2019, 7; Davies 2016, 43).

The original narrative of the Anthropocene finds an echo in the theory proposed by the 18<sup>th</sup>-century naturalist, Georges-Louis Leclerc (Comte de Buffon), in his book, *The Epochs of Nature* (1778). Buffon grounded his argument on humans’ “growing use of fossil fuel” (Buffon 1778 in Heringman 2015, 63) when he asserted that man’s powerful actions interfered with how nature operates (63). Interestingly, Buffon’s approach integrated space, time, and matter as he brought together “antiquarianism” and natural history. By describing the fossils as “the antiquities of the earth” (60) and “the archives of nature” (60) Buffon situated the fossils as a site of relationships, which constitute “two different time scales, the human and the geological” (60). Due to its relevance to the present condition of the Anthropocene, a new edition of Buffon’s book was re-published and translated in 2018 by Zalasiewicz et al. to make Buffon’s work accessible to scholars from different disciplines and help understand the Anthropocene.

The Anthropocene linked these powerful deep time events to human actions, making human history a participant in natural history (Davie 2014, 28). The idea of “deep time,” which Heringman (2015) and Buffon (1778) pointed out, is the time scale of geological events, such as hurricanes and earthquakes, which is greater than the time scale for humans, plants, and animals in magnitude. Human actions, in this scenario, are a continuous process,

extending from the past to the present. The entanglements between these specific human actions with other geological processes, I argue, produced the Anthropocene. Or, in Barad's (2007) words, such entanglements happen when "part of the world becomes determinately branded and propertied in its emergent intelligibility to another part of the world" (149). Within the contours of this scenario, humans would no longer be distant observers standing outside the world; they would be "part of the ongoing dynamism of [the world's] becoming" (2007, 142). Since the Anthropocene narrative reveals that human actions resemble that of a "geological force" (Crutzen and Stoermer 2000, 18) and are capable of harming the physical human and nonhuman worlds alike, humans lose their privileged status and become a member of deep time, such as volcanoes, earthquakes, and other major events (Davies 2016; Chakrabarty 2009). As a result, I argue that what constitutes being "human" becomes destabilized as humans come to realize that they are and always have been entangled with an ever-evolving planet in a relationship of interdependency for survival.

### **III. The Anthropocene: Different Debates**

#### *i. Marking the Beginning of the Anthropocene*

A debate related to the Anthropocene resides in finding a possible date, which would mark the beginning of the Anthropocene and locate the corresponding global material evidence that would help in tracing the effect of human actions in the rock strata. In addition to the Industrial Revolution as a point of origin, as proposed by Crutzen and Stoermer (2000), scientists have proposed two other possible dates for the beginning of the Anthropocene. Currently, it is agreed that the early 1950s, when extensive nuclear testing



took place, is the date that marks the advent of the Anthropocene (Castree 2023, n. p. ). Steffen et al. (2015) anticipated this conclusion when they pointed out the existence of evidence that “large scale shifts in Earth system functioning” (93) took place after 1950 (see Fig. (1) below for graphs showing Earth system trends).

William Ruddiman proposed an early Anthropocene when humans significantly modified the landscape and shifted their activities from hunting and gathering to agriculture, farming, and cattle-raising. These activities paved the way to urbanization (see Zalasiewicz et al. 2015, 199). Another date proposed as the beginning of the Anthropocene is the mid-20<sup>th</sup> century, following the end of World War II (WWII), called the “Great Acceleration.” This date has been proposed by the Anthropocene Working Group (AWG).<sup>18</sup> During the proposed interval, a significant increase in population growth, global economic growth, and environmental change was noticed (Zalasiewicz et al. 2015, 198). From a geological point of view, geologists found the period around WWII to more likely mark the beginning of the Anthropocene because of the traces of radioactive isotopes found:

[P]ossibilities for an Anthropocene GSSA are either 1950 CE (as being closer to this date) or 1954 CE to mark the first widespread appearance of artificial radioisotopes in the geological record, part of the clear, globally distributed signal from the more extensive above-ground nuclear testing that took place mainly in the 1950s and early 1960s. (Zalasiewicz 2015, 201)

By examining evidence related to the patterns of increase in the levels of CO<sub>2</sub> and other gases in the atmosphere, surface temperature, forest loss, rates of fishing, the Industrial Revolution, and the use of the steam engine appear to have provided the spark that started the first

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<sup>18</sup> The AWG was established by the Sub-commission of Quaternary Stratigraphy (SQS) in 2009 to trace scientific material evidence of human actions in the earth’s strata through formally defining a “chronostratigraphic unit” for the Anthropocene (Corlett 2015, 36). Chronostratigraphic units are rocks “layered or unlayered, that are defined between specified stratigraphic horizons, which represent specified intervals of geologic time. The units of geologic time, during which chronostratigraphic units were formed, are called geochronologic units” (n. p.).

acceleration, which sent humanity on its way to the Anthropocene. The graph (Figure 1) shows the acceleration trends, starting from the late 18<sup>th</sup> century when the steam engine was invented and put into operation:

[The] importance [of the late 18th century] as the beginning of large-scale use by humans of a new, powerful, plentiful energy source – fossil fuels – is unquestioned. Its imprint on the Earth System is significant and clearly visible on a global scale. However, while its trace will remain in geological records, the evidence of large-scale shifts in Earth System functioning prior to 1950 is weak. (Steffen et al. 2015, 93)

#### Earth system trends

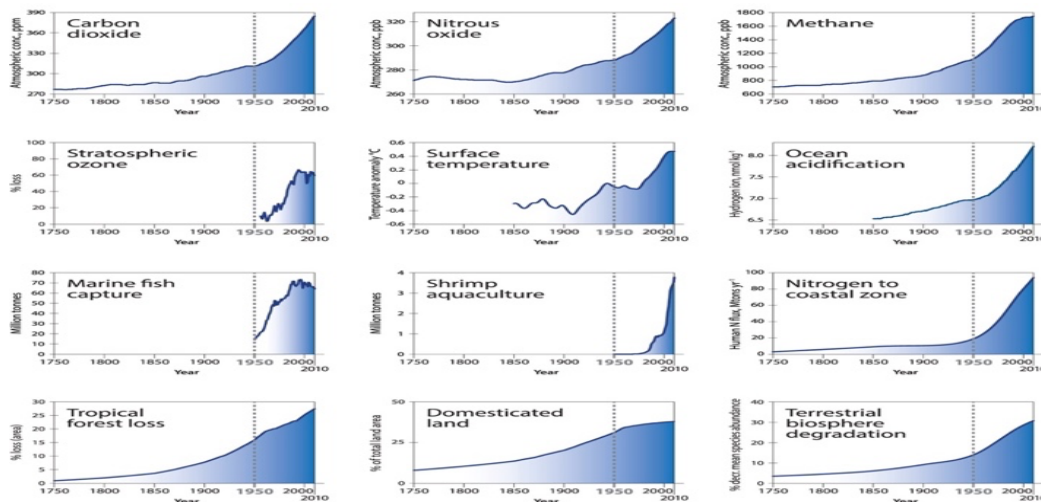


Figure 1: This graph shows acceleration trends since late 18<sup>th</sup> century (Steffen et al. 2015, 87)

Given the above review, this study argues with anthropological archeologist, Andrew M. Bauer, and environmental scientist, Erle C. Ellis, that periodizing the Anthropocene and adhering to a specific date to mark the beginning of the Anthropocene would “obscure rather than clarify understandings of human-environmental relationships” (Bauer & Ellis 2018, 209) since it creates a duality between before and after that distracts away from examining their relationality. Thus, I argue with Bauer and Ellis that, to understand the human and nonhuman practices, which caused the Anthropocene, these relationships must be perceived as a “continuously changing process[es], which ... call attention to a variety of differentiated

actors and historical, cultural, political, and ecological contexts” (Bauer & Ellis 2018, 210). Thus, this study acknowledges that the extent of humans’ impact on the ecosystem has been unfolding over time. In other words, rather than representing another dividing marker of the Anthropocene, the rapid economic and population growth associated with the nuclear testing of the 1950s have accelerated and intensified the impact of the Industrial Revolution to precipitate the climate change crisis. This idea can be more specifically explained through Bauer and Ellis’s contention that “the challenge of the Anthropocene ... [is] the need to call attention to the entanglements through which social relationships, inequalities, and environmental histories are continually unfolding and producing novel Earth trajectories” (Bauer & Ellis 2018, 210). This understanding is important because, besides allowing us to avoid creating a duality between before and after associated with the Anthropocene periodization, it emphasizes the different processes and practices (economic, political, historical, etc.) involved in the change and the open-ended becoming of the human and the nonhuman world.

ii. *The Anthropocene: Universalism and Anthropocentrism*

The Anthropogenic narrative proposed by Crutzen and Stoermer (2000) received criticism across different disciplines, primarily for the universalism and anthropocentrism associated with it. The term’s basic assumption specifies the actions of undifferentiated humanity, ‘Anthropos’, as the main cause of and the key to solving the current environmental crisis. Based on this assumption, the original narrative of the Anthropocene is criticized for ignoring the posthuman nature of the crisis as it re-instates humans as central to solving the

problem and neglects the role that nonhuman nature plays in bringing about and, potentially, bringing us out of the Anthropocene.

The original Anthropogenic narrative that I have pointed out earlier sheds light on the nature of human–nonhuman relationality by underscoring human actions, which have caused the present environmental crisis. Even so, I argue that this narrative underscores the dynamic nature of this relationship when viewed from the processual perspective that sees human–nonhuman ongoing practices as agentic in bringing about and negotiating the Anthropocene conditions. Seen this way, the humanism and anthropocentrism besetting the Anthropocene narrative is unsettled. As discussed earlier, based on Barad’s view of agency as an emerging aspect (Barad 2007, 33), humans are a part of the world in its becoming. Climate change emerges or materializes as a consequence of the different and differential human–nonhuman entangled practices where the nonhuman world appears to be dynamic and agentic (explained and demonstrated in this chapter when discussing the human–nonhuman entangled practices at Lyme Regis).

In response to the anthropocentrism embedded in the original narrative of the Anthropocene, scholars, such as, Scott F. Gilbert, decry this negation of the posthuman aspect of the crisis. Gilbert argues that the anthropocentrism associated with the Anthropocene narrative would reinforce a hierarchical perspective of the world that would “reintroduce the great chain of being [in which] ... we had the age of fish, we had the age of reptiles, we had the age of mammals, and ... The Anthropocene! The age of the human!” (Gilbert qtd. by Haraway 2016, 540). The hierarchical gradation that Gilbert points out in the preceding lines appears to favour humans alone with the power to drive a geological epoch, ignoring the agency of other creatures and things who share life with us. Haraway reflects on

the anthropocentrism and universalism embedded in the Anthropocene narrative and argues:<sup>19</sup>

[T]he contemporary world is not a human species act ... [r]ather, it is a highly complex systematicity of situated peoples and their apparatuses, including their agricultural critters and other critters. It is not just a human species act. But the term Anthropocene, by emphasizing the ‘anthropos’ and etymologically ignoring other species, portrays itself as the result of a human species act. (Haraway et al. 2016, 539)

Haraway emphasizes the importance of human situatedness amongst the nonhuman world. She approaches situatedness as a concept about communities as opposed to “isolated individuals” (Haraway 1988, 590). Haraway’s (1988) situatedness is more reflective of the embeddedness and immersion of the human in the nonhuman world and their geographic and historic perspective that is constantly changing; her notion of “situated knowledges” underpins the entangled situatedness of ontology, epistemology, ethics, and politics that opens a space for responsible knowledge production that could prove to be transformative as it would address different forms of injustice and violence justified by excessive anthropocentrism when seen from these different perspectives.

In response to this reaction, Crutzen (2013) revised his initial claim and argued that central to addressing the Anthropocene is “respect for nature and all animals, for art, culture and education” (8). Having centered ‘respect’ as a phenomenon, through which different and differential humans and nonhuman practices or naturalcultural practices are viewed as entangled in an ongoing open-ended becoming, Crutzen’s (2013) revised statement unsettles the anthropocentrism and humanism besetting the original narrative of the Anthropocene, making it proto-posthuman.

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<sup>19</sup> Haraway is described as a feminist posthumanist science studies theorist (Barad 2007, 410, 414; Haraway et al 2016, 536), A labelling that Haraway rejects in her book, *Staying with the Trouble* (2016) when she asserts that “Philosophically and materially, I am a compostist, not a posthumanist” (97).

This posthuman nature of the Anthropocene narrative is reflected in its ability to shed light on all things that relate to the human and the nonhuman, both ontologically and epistemologically. Barad, seen by theorists, such as Ferrando (2013, 31) as a major theorist of new materialism, a school of thought under the umbrella of the posthuman, proposed her philosophy of agential realism that sees ontology, epistemology, and ethics as inseparable (see chapter two for methodology). Based on this notion of inseparability of ethics, ontology and epistemology or ethico-onto-epistemology that is unique to Barad's (2007) philosophy, human and nonhuman entities "intra-act responsibly within and as part of the world" (218) that "we seek to understand" (67) and, as such, we are ethically required to account for the "power asymmetries" (219) between us as humans and the nonhumans. In other words, the role of humans cannot be understood independently from the nonhuman. Therefore, the ethicality, I pointed to earlier, becomes a doing and a way of being that accounts for such entangled relationalities. This form of entanglement, Barad (2007) calls "quantum" where humans and nonhumans "mutually constitute one another" (388) and where "ethico-onto-epistemology" expresses an "attention to our responsibilities, not only for what we know but for what may come to be" (364). This inseparability emphasizes our non-innocent contribution in the world's becoming as a process that is complex, indeterminate and open-ended (see Geerts 2016, n. p.; Haraway 1988, 585; Hinton 2014, 111; Barad 2004, 182).

In agential realism, humans share the world with the nonhuman other, and are bound by an "instantaneous accountability" (Geerts 2016). This position triggers an ethical obligation toward what transpires from such intra-actions, or as Geerts (2016, n. p.) puts it: "[D]iscovering and following up on these ethical demands" is imperative for Barad's ethico-onto-epistemology and manifests as "an immediate indebtedness to the Other" (Geerts 2016,

n. p.) where the Other “does not come from below or from above, but from within interactions between the world and its beings” (Barad cited by Geerts 2016, n. p.). Consequently, humans and nonhumans are now required to attend to the past, which is embodied in the present moment through spacetime mattering. This notion can be explained through Barad’s approach to hauntology,<sup>20</sup> drawing on Derrida’s and Levinas’s philosophies, that see the “ghosts from the past” (Geerts 2016, n. p.) as a force. This force, I argue, is conjured up by the emergence of embodied human and / or nonhuman encounter, what Barad (2007) describes as, “marks on bodies” (89), which demand accountability and rectifying certain wrongs. Barad emphasizes the non-intentional character of the entangled human and nonhuman practices when they explain that humans are “responsible to the others with whom or which we are entangled, not through conscious intent but through the various ontological entanglements that materiality entails” (393). For Barad, to be entangled is to “lack an independent, self-contained existence” (2007, ix). In this sense, I argue that Barad’s assertion, which denies independence and self-containment to either humans or nonhumans, confirms that both intra-acting humans and nonhumans are interdependent and mutually contained.

Based on this interdependency, the Anthropocene, as a reaction to human irresponsible actions towards the nonhuman world (see Crutzen and Stoermer 2000), shows the agentic power of the nonhuman as entangled with the human and its role in knowledge creation. In their philosophy of agential realism, Barad (2007) aims to create a space for a world that is “kick[ing] back” (215) in which all things, human and nonhuman, are intricately linked. Thus, in their approach to agency, Barad reconceptualizes issues, such as rationality,

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<sup>20</sup> Barad’s hauntology will be explained briefly later in this chapter and in more detail in Ch. 2 with the methodology.

subjectivity, and intentionality, which initially led to objectification and the othering of certain people. Thus, Barad (2007) frees agency from its traditional association with humans or “human intentionality or subjectivity” (177). Instead, they emphasize the “dynamism” and emergence (Barad 2003, 818) of agency as it changes with “the ongoing reconfiguring of the world” (818). I argue that Barad’s approach, which rethinks the boundaries and separations enacted by Cartesian modernist dualities, is aligned with the complexities and complications presented by the Anthropocene. In a similar vein, Braidotti (2013) argues that by focusing on the inseparable aspect of material and cultural processes, we can underscore “an ethics of knowledge that reflects and respects complexity” (158) as well as rethinks “critical reflexivity” (158) as a practice. I agree with Braidotti (2013) when she calls Barad’s agential realism an expression of an “ethics of knowledge” (158), which “renews the practice of critique and reflexivity” (158). Indeed, Barad’s agential realism emphasizes a new understanding of matter, which is agentic and “self-organizing” (Braidotti 2013, 158). Braidotti’s point is important for explaining the new relationality that Barad creates between all things and the co-emergence of ethical accountability.

The notion of ethical obligations, which, according to Barad (2007), arise with practices of being and knowing, including both humans and nonhumans, is important to my project which reflects on Lyme’s existential dilemma, in which both its human and nonhuman inhabitants are threatened with extinction as a result of climate change. According to Barad, subjectivity, agency, and ethical and political obligations co-emerge from intra-actions, which constitute humans, nonhumans, and other entities in their surroundings. Barad indicates that “specific intra-actions of humans and nonhumans, where the differential constitution of the ‘human’ (and its ‘others’), designates an emergent and ever-changing



phenomenon” (2007, 218). For agency, Barad (2007) asserts that “the notion of intra-action recognizes that distinct agencies ... emerge through their intra-action” (33). Furthermore, they associate agency with ethics and accountability when they write that “agency is about the possibilities and accountability entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulations and exclusions that are marked by those practices” (2007, 218). In freeing agency from its fixation on the subject and intentionality, Barad (2007) recognizes the paradox created by such a radical move: “the question of nonhuman agency may seem a bit queer, since agency is generally associated with issues of subjectivity and intentionality” (214). Accordingly, Barad (2007) explains that they approach agency not as “something someone has” (214), rather as an “enactment” that constitutes human and nonhuman entangled practices and, therefore, it becomes “not only appropriate but important to consider agency as distributed over nonhuman as well as human forms” (214). Instead of having a human subject, Barad (2007) emphasizes a “subject matter” that is usually non-human (214).

Another way of explaining the dissociation of ethics from subject and intentionality within Barad’s (2007) philosophy could be found in Braidotti’s (2013) discussion of machines and robots supplied with “ethical systems embedded” (45) in them based on input from “engineers, ethicists, lawyers” (45) and so on. Braidotti (2013) describes this situation as the emergence of a “new form of subjectivity” (45) that is capable of making ethical decisions. This emergence of a “new form of subjectivity” (Braidotti 2013, 45) affirms the interdependency of humans and nonhumans and the consequent emergence of a new understanding of ethics and agency that accounts for their entangled and co-constituted co-existence.

In this new framing of agency as an emergent phenomenon (re)shaped by different and differential material-discursive practices, anthropocentrism becomes destabilized. The reason is that, rather than upholding the hubris of human/nonhuman, mind/body, dualities that sees humans as knowers within this Baradian account, humans are only “accountable for the role ... [they] play in the differential constitution and differential positioning of the human among other creatures” (Barad 2007, 136, 338). Therefore, I argue, based on Barad’s (2007), Braidotti’s (2013), and Norris’s (2016) assertions, that ethical obligations, in Barad’s posthumanist performative sense, emerge not from conscious intentions of a subject, but rather from “the primacy of the relation of interdependency” (Braidotti 2013, 95) where the “new knowing subject” (159) that emerges from intra-action “is a complex assemblage of human and nonhuman, planetary and cosmic, given and manufactured” (159). Even though humans have little control over intra-action because intelligence and agency emerge and become distinct after the process, ethical and political responsiveness for Barad could be achieved by paying attention to “the practices through which [human’s and nonhuman’s] differential constitution is produced” (2007, 59). Ethical obligations emerge as a doing, which then becomes co-constituted within the emerging subject matter. This is a notion that, Braidotti (2013) argues, would require “major adjustments in our ways of thinking” (159). Therefore, the nonhuman world could also be regarded as agential for the role that it plays in the materialization of the Anthropogenic conditions of climate change, species extinctions, and other catastrophic events.

The forceful element of surprise by which the Anthropocene crashes into our lives and confronts us with the reality of our earth system and actions reveals our place compared to the natural nonhuman entities on earth. Following Barad’s footsteps, I argue that all

embodied beings, humans and nonhumans, are part of the world. There is no outside positionality – we are in the world and that is why we are ethically responsible to respond to this crisis. Barad confirms this when they argue:

There are no pre-existing, separately determinate entities called “humans” that are either detached spectators or necessary components of all intra-actions. Rather ... “humans” emerge as having a role to play in the constitution of specific phenomena, ... as part of the larger material configuration, or rather the ongoing reconfiguring of the world. Thus, no a priori privileged status is given to the human ... “Humans” are emergent phenomena like all other physical systems. (Barad 2007, 338)

In this passage, Barad destabilizes the notion of what constitutes being a “human” when they underscore “intra-actions” as processes through which the boundaries between the human and the nonhuman world are (re)drawn. In *Meeting the Universe Halfway* (2007), Barad explains that “‘interaction,’ ... assumes that there are separate individual agencies that precede their interaction, [however] the notion of intra-action recognizes that distinct agencies ... emerge through, ... intra-action” (33). Thus, based on Barad’s (2007) assertion, agency itself emerges from intra-actions<sup>21</sup> and relationality; it is a “doing / being” (235) free from any human intentionality or subjectivity<sup>22</sup> and emerges as a result of specific intra-actions that constitute human and nonhuman practices. Sauzet (2018) explains that agency, in this context, emerges in the form of indeterminate “relations, movements, repetitions, silences, distances, architecture, structures, feelings, things, us/them/it, words” (2) and more. Barad’s (2007) approach attends to the ethical dimension of accountability since agency is no longer perceived as a fixed human property, rather is assigned to humans or nonhumans based on the part they play in shaping and re-configuring the world (338).

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<sup>21</sup> Barad (2007) defined agency as “an enactment,” not as a property exclusive to humans. Thus, she considered agency as “distributed over nonhuman as well as human forms” (214).

<sup>22</sup> Subjectivity emerges as a product of material-discursive intra-actions (Barad 2003; 2007). Barad’s material-discursive intra-actions will be discussed in detail in Chapter 2.

In line with Barad's notion of entanglement, some scholars attribute the Anthropocene and its conditions to modernity's construction of negative binaries to order the world. Historian Christophe Bonneuil (2015) affirms human embeddedness within the earth system and argues that the Anthropocene reveals the inherent weakness of the structure based on binary oppositions introduced by modernity. Bonneuil (2015) argues:

The Anthropocene proclaims the *inescapable immersion* of human destiny in the great natural cycles of the Earth, and *the meeting of the temporalities of short-term human history and long-term Earth history* that had been viewed as separated for the last two centuries. This reading argues for the impossibility of continuing to separate "nature" and "society." (24; my italics)

In this passage, Bonneuil asserts the complex overlapping of human and earth history, previously deemed as separate, when he describes human "immersion" as "inescapable." Bonneuil's word choice suggests the impossibility of a separation between human society and nonhuman nature or culture and nature since the Anthropocene proves the deep entanglement of the human fate with the earth. Further, in pointing out the merging of "the temporalities of short-term human history and long-term Earth history that had been viewed as separated" (24), Bonneuil emphasizes the continuity (as opposed to a break) between human history and the earth's history based on the entangled nature of human and nonhuman (including space and time) activities.

This notion of entanglement is supported by Barad (2007) in their discussion of the neologism "spacetime-mattering" (234). Barad (2007) defines this concept as follows:

Space, time, and matter are intra-actively produced in the ongoing differential articulation of the world ... [these] iterative intra-actions are the dynamics through which temporality and spatiality are produced and iteratively reconfigured in the materialization of phenomena and the (re)making of material-discursive boundaries and their constitutive exclusions. (234)

Contrary to being containers for events to take place, time and space are marked, entangled, and defined (and redefined) because of the entangled human and nonhuman activities or intra-acting practices. Matter (human or nonhuman), in this understanding of “spacetimemattering” (234), becomes a site of space, time, and matter “in the making” (Murriss & Bozalek 2019, 878). Thus, “spacetimemattering” captures the dynamic entangled relationality involved in human and nonhuman becoming. Indeed, this understanding of “spacetimemattering” reworks negative binaries as it “offers opportunities for radical openness, reconfigurations of meanings, and possibilities for materialization ... [of] future entangled possibilities ... made available” (Chihaiia 2021,117). Thus, different intra-actions that shape and re-enact (re-form) the boundaries between the intra-acting entities – humans, nonhumans, women, men, Western and non-Western subjects, and other dualities could open a space for revisiting past inequalities and be ethically accountable and politically responsive to them.

This reforming aspect of intra-actions and entanglements is important in dealing with the challenges presented by the Anthropocene and the need to relate differently to the nonhuman other. This relationality and relatability include human and nonhuman entangled practices through time and space, or spacetimemattering. Therefore, the Anthropocene is identified by specific human and nonhuman practices, which took place in the past, produced specific losses, and anticipate further uncertain and unknown/unknowable environmental problems.

Based on this (dis) continuity<sup>23</sup> and entanglement, I argue that climate change conditions are the embodiment of human-nonhuman entangled practices of the past.<sup>24</sup> Dealing with them requires us to re-turn and re-member these practices, which happened in the past by taking responsibility and engaging differently with the nonhuman nature to re-shape the future. Barad (2007) points this out when they contend that “the past is never left behind, never finished once and for all, and the future is not what will come to be in an unfolding of the present moment; rather the past and the future are enfolded participants in matter’s iterative becoming” (181). For Barad (2007) “memory and re-member-ing” (63) are about re-visiting and re-shaping actions of the past in their attempt to achieve possible justice and accountability “for the devastation wrought” (63) opening new possibilities for future new promising relationalities.

However, some scholars reject the posthumanist aspect of the Anthropocene narrative since they insist upon the centrality of humans and their agency in taking full charge and controlling nature. Philosopher and public ethics scholar, Clive Hamilton denies the posthumanist perspective of the Anthropocene, arguing instead for a different form of anthropocentrism. Contrary to my argument, inspired by Barad and Haraway, for the importance of de-centering humans by emphasizing human-nonhuman entangled existence and their joint agency in shaping and reshaping the world, Hamilton (2017) argues that the Anthropocene requires a “new anthropocentrism” (39). He asserts that “denying the

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<sup>23</sup> By (dis) continuity, I do not mean to imply a separation between continuity and discontinuity, rather I mean to underscore the existence of discontinuity within continuity and vice versa as they mutually constitute one another. Barad (2007) argues that “the relationship between continuity and discontinuity is not one of radical exteriority but rather of agential separability, each being threaded through with the other” (236).

<sup>24</sup> I am using climate change, following John J. Morrell, as “an omnibus term signifying species extinction, ocean acidification, pollution, habitat loss, ground water depletion, deforestation, desertification, soil loss, as well as other ecological consequences ... [as] a genuine systems crash” that characterize the Anthropocene (Morrell 2012 qtd. by Hollinger 2018, 567).

uniqueness and power of humans becomes perverse” (41). Instead, Hamilton suggests that the only way to deal with the Anthropocene is to admit that only humans have dominion and power, which they should deploy responsibly (39). Controversially, Hamilton (2017) rejects human immersion in the earth system and asserts that the cause of the Anthropocene is universal when he argues that the “responsibility for bringing on the Anthropocene is increasingly shared between North and South” (80). In this assertion, Hamilton neglects to localize the cause of the environmental crisis and unjustly blames everyone. According to Crutzen (2002), countries that represent only 25% of the earth’s population caused the Anthropocene (23). In a review of Hamilton’s (2017) book, *Defiant Earth: The Fate of Humans in the Anthropocene*, Sarah-Louise Ruder (2018) expresses deep concern about Hamilton’s assertion that confirms the responsibility of a universal undifferentiated Anthropos for the Anthropocene. Ruder (2018) argues that Hamilton’s stance “dismisses global systems of power and decision-making” (131). She explains that these systems and “paradigms [that] perpetuat[e] the Anthropocene, namely, patriarchal-colonial capitalism, were devised to benefit a small group at the expense of the majority world and the Earth” (2018, 131). In doing this, Ruder (2018) reveals the violence embedded in Hamilton’s (2017) universalizing account.

Another group of critical thinkers offered a balanced stance in their approach to the Anthropocene. One example is Jeremy Davies (2016) who agrees that the Anthropocene got its name from humans, “Anthropos,” because of the influence that human societies had on the physical world. However, Davies (2016) argues:

[I]t is not the case that human interventions in the earth’s organic makeup, or in the processes governing its soil or water or atmospheric cycles, are still dwarfed by any mightier forces that transcend humankind’s paltry strength ... Human societies are now among the most powerful of the

ecological forces that operate on, above, and below the surface of the earth.  
(10)

Similar to Bonneuil (2015), Davies argues for the intertwined nature of the human “biological and geological phenomena” (61) asserting that they “are not two different kinds of being upon which two different regimes of politics might be founded” (61). Davies (2016) asserts that the Anthropocene “change[s] the way in which the forces of life and of geophysics are arranged” (61); however, “it does not affect their underlying unity” (61). In this context, Davies argues for a stratigraphic<sup>25</sup> approach to the Anthropocene by contending that stratigraphy “introduce[s] the word as the name of a new interval in the geological timescale [and] provides a way of thinking about power relations as they exist both among human beings and between all kinds of geophysical forces” (41-42). In this view, Davies agrees with posthumanist scholars, such as Haraway, Barad, Tsing, and Braidotti, who argue for de-centering the Anthropos in the Anthropocene and the entanglement of the material and discursive practices (without pre-existing notions about the superiority of one over the other) that produce meaning and allow us to understand the current environmental crisis. While Davies (2016) argues that, in the Anthropocene, “humans ... [are] the primary drivers” (75), he denies that this should mean that humans are to be considered “masters” of the global systems (76). Hence, Davies’ (2016) argument balanced the intensively immersive view submitted by Bonneuil (2015) and other posthumanists and the forceful anthropocentrism advocated by Hamilton (2017).

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<sup>25</sup> Stratigraphic approach follows the stratigraphic systematics of the Geologic Time Scale maintained by the International Commission on Stratigraphy, which describes “how humans’ global physical environmental impacts produce an unambiguous and permanent signature in Earth’s lithological and sedimentary records” (Bauer & Ellis 2018, 211). Based on Davies’ argument, the Anthropocene could be seen as the product of, what he terms, the “neocatastrophist turn” where human actions that affected the earth and ecosystem are just an addition to a long list of other “geomorphological upheavals, “such as volcanoes, asteroids, ocean currents ... that destabilize and re-shape the earth.



#### IV. Another Narrative for the Anthropocene! The “Capitalocene”

##### i. Situating the “Capitalocene”

As mentioned earlier, as a controversial narrative, the “Anthropocene” provokes scholars to create different narratives to ground the current geological epoch. The alleged universality of the “Anthropocene” has caught the attention of scholars from different disciplines who argued for other terms addressing different narratives. Julia Bee (2020) explains that “[t]he proliferation of many *-cenes* [for example: Capitalocene, Plasticene, Gynocene, Plantationocene, Thermocene, Thanatocene, and others]<sup>26</sup> ... demonstrates the controversial nature of conceptualizing climate catastrophe as challenging already existing concepts of human-Earth relations” (191). This section will explore one of these proposed narratives, namely, the Capitalocene. The Capitalocene offers a narrative that is preferred by scholars, such as Moore, Haraway, and Malm, to critique the Anthropocene’s original narrative, which, according to them, places a universal undifferentiated humanity at the center of a planetary crisis and ignores the role played by capitalists and other nonhuman entities, such as coal and other fossil fuel reserves, in the current environmental crisis along with different forms of inequalities and violence.

Malm (2013) was the first among scholars to use the term “Capitalocene.”<sup>27</sup> Malm argued that the original narrative of the “Anthropocene” was misleading because it used

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<sup>26</sup> T. J. Demos, in *Against the Anthropocene* (2017), suggests “Gynocene” that offers “a gender-equalized, feminist-led, anti-anthropos environmentalism, which locates human-caused geological violence as coextensive with patriarchal domination, linking ecocide and gynocide” (89); Heather Davis offers the “Plasticene, the age of plastic,... [which] figures as ... the most exemplary material substrata of living and dying in contemporary capitalism” since “there is so much plastic in our landfills, waste dumps, rivers, and oceans that micro polymer particles...have become omnipresent” (Davies qtd by Demos 2017, 95).

<sup>27</sup> Haraway (2015) points out that Capitalocene is “Andreas Malm’s and Jason Moore’s term” (160) before she starts using it.

global warming as a social and historical process to mask the politics behind the Anthropocene. Instead, Malm argues that “Capitalocene” better describes the current epoch. Instead of Crutzen’s and Stoermer’s (2000) assertion that the Anthropocene is triggered by James Watt’s invention of the steam engine in 1784, Malm argues that “mechanical energy” (Malm 2013, 18) produced by coal combustion to operate the steam engine is the main cause for the current climate crisis. According to Malm, the reason is that coal combustion saturated the atmosphere with CO<sub>2</sub>, causing the global warming crisis: “Only by coupling the combustion of coal to the rotation of a wheel could fossil fuels be made to fire the general process of growth” (18). In his critique of the Anthropocene narrative, Malm (2012) argues that the Anthropocene is a “scientifically inaccurate product of the separation between natural and social sciences in the study of climate change” (120). In doing this, Malm (2012) associates the original narrative of the Anthropocene with the rhetoric of modernity.

ii. *Accessing the “Capitalocene”*

According to Malm (2012), the steam engine satisfied capitalists ’and governments ’ desire for control and domination of labor and objects. The selling tactics associated with the steam engines also appealed to capitalists ’and the government’s ambitions to wield power over people and means of production (raw materials). Circling back to an earlier quotation, “I sell here, Sir, what all the world desires to have – POWER” in *The Times* (1859), Malm reiterated the writer’s comments on Boulton’s (Watt’s business partner) words, saying that “a new era had dawned ... when power could be sold upon this scale, and its creators and vendors might deem themselves princes and kings of powerless men” (*The Times* 1859 qtd. by Malm 2012, 108). This assertion signals the entanglement of specific material-discursive

practices that results in the emergence of a new co-constituted class system, in which the class discourse is reshaped by technological advancement and the use of new source of power.

In associating Anthropocene with the operation of the steam engine fueled by coal as a fossil fuel reserve, Malm shifts the original narrative of the Anthropocene from being grounded in a fixed point in time, which was the invention of the steam engine, to dynamic continuous processes of extraction, combustion, exploitation, and pollution, which would culminate in the current environmental crisis. Thus, Malm's (2013) account of the Anthropocene specifies the creation of "fossil economy" as the action that started the Anthropocene. Malm defines fossil economy as "an economy characterized by self-sustaining growth predicated on growing consumption of fossil fuels and, therefore, generating a sustained growth in emissions of carbon dioxide" (2013, 17). According to Malm (2013), the "fossil economy" transformed Britain by 1850 into the "single country ... responsible for more than 60 per cent of global CO<sub>2</sub> emissions from fossil fuel combustion" (17). Drawing on Dipesh Chakrabarty's assertion that the Anthropocene is the "unintended consequence of human choices" (Chakrabarty 2009, 210), Malm (2013) argues that global warming is the "unintended" effect of the "cotton manufacturer's" actions when they decided to replace waterpower with the steam engine in the cotton industry:

Global warming is the unintended by-product par excellence. A cotton manufacturer of mid nineteenth-century Lancashire who decided to forgo his old water wheel and, at long last, invest in a steam engine, erect a chimney, and order coal from a nearby pit did not, in all likelihood, entertain the possibility that this act could have any kind of relationship to the extent of Arctic sea ice, the salinity of the Nile Delta soil, the intensity of the Punjab monsoon, the altitude of the Maldives, or the diversity of amphibian species in Central American rainforests. (Malm 2013, 16)

Malm demonstrates how the use of the steam engine in the 19<sup>th</sup> century resonated in time and space as it affected places, people, and cultures and caused the Anthropocene.

Despite the fact that fossil fuel was being used before the invention of the steam engine, its destructive consequences appeared with the Industrial Revolution. Malm (2013) explains that when steam power replaced waterpower through coal combustion, the problem started to occur. In addition, he asserts that steam replaced waterpower “in spite of water being abundant, at least, as powerful, and decidedly cheaper” (31). The motive behind the supremacy of steam power, as explained by Malm (2013), is that “steam was a ticket to the town, ... [giving] access to exploitable labor” (33). Thus, the steam engine was instrumental in the process of dominating labor and other nonhuman means of production, such as coal, in favor of the producers (capitalists). Thus, the steam engine created a chasm between humans and nonhumans and amongst humans.

The social effects of this shift from water to steam power were pointed out by Malm (2013). He maintained that steam power affected labourers' lives and livelihoods by allowing the substitution of labour with machines, which “offered [capital] superior power over labor” (44). Through this power, the “cotton capitalists sought to defend their positions against [striking] workers and each other by further mechanizing production, introducing self-acting mules for spinning and power-looms for weaving” (38). Franz Mauelshagen (2020) points out that the “fears of unemployment and structural loss of jobs through mechanization have never gone away since the early days of industrialization” (67) to emphasize the moral struggle that the workers had to experience due to mechanization and the dependence on fossil fuel, which rendered them disposable.

As it touches the lives of capitalists and labor alike, the shift from water to steam power invokes notions of necessity and freedom. Reminding us of Marx's suggestion that labor conditions act as a "barometer of all relations between the realms of necessity and freedom," Muelshagen (2020) underscores the paradox between necessity and freedom within the context of automation, which he describes as presenting a sort of "utopian vision" (67). According to this vision, Muelshagen (2020) explains, workers dreamed to be liberated from "the pains of physical labor – a vision that included freedom and better education for increasing numbers of the population of a nation, which was supposed to become the source of never-ending scientific progress" (67). Furthermore, this utopian vision saw capitalists easily extracting fossil fuel, transporting it to factories, and using it without the impediments of natural cycles of seasons or weather conditions or costs of hiring labor, paying competitive wages, and building "factory colon[ies]" (Muelshagen 2020, 67; Malm 2013, 35) near streams where the factories could use water power, as well as, house and educate the laborers and their families.

However, the utopian vision, pointed out earlier by Muelshagen (2020), unfolded differently for the workers and the capitalists. Fossil fuel reserves liberated the capitalists at the expense of the laborers. For the laborers, the shift to steam power proved the impossibility of utopia for them. In fact, the use of steam power contributed to class stratification, social frustrations, inequalities, and political unrest. At the same time, the sustained and widespread use of steam power in production and transportation was gradually creating an environmental existential crisis (68). On the other hand, the capitalists, Malm (2013) recalls, had the ability to "call [coal and other fossil fuel reserves] into being as energy deposits by mobilizing its own resources: labor power and means of production" (57).

This “call[ing] into being” (57) is significant because it emphasizes the power capitalists have on both human and nonhuman material resources. Within this construct of extraction and consumption where profit is generated at the expense of human (labour) as well as nonhuman (nature) resources, consumers appear to be complicit. Furthermore, this form of extractive capitalism unsettles the category of “human” within the modern Cartesian human/nonhuman duality as we shall see shortly.

Considering this differential access to utopian vision, the fossil economy appears to have created further divisions and hierarchy. Malm’s (2013) narrative implied that the capitalists were elevated and described as having divine powers as they were able to control coal and other fossil fuel reserves and use them to subordinate and exploit the laborers and other means of production. Further, steam power generated by fossil fuel combustion is described in paradoxical terms “–powerless power” (44) – in its subservience and potency. Fossil fuel reserves are humanized when described by admirers, such as Charles Babbage in 1835:

[O]bedient to the hand, which called into action its resistless powers ... could “be obtained on the spot” and “its mighty services are always at our command, whether in winter or in summer, by day or by night – it knows no intermission but what our wishes dictate.” ... [have] “powers so great and so energetic as to astonish us at their immensity, while they are at the same time perfectly docile,” ... James Watt and the other modern improvers of the steam engine had, ..., “rendered it capable of very rapid movements and put its powers so completely under control that it is now the most tractable, as well as, the most active, laborer we can employ.” ... Here were the reasons to glorify “the creator of six or eight million laborers, among whom the law will never have to suppress either combination or rioting.” (Babbage 1835, 45)

Indeed, fossil fuel reserves are personified and employed to serve the capitalists and satisfy their ambitions for control, power, and wealth. In addition, as “strikes hit water mills with full force in the early 1830s” (Malm 2013, 36), fossil fuel reserves became a way that

enabled the capitalists to replace the labourers and extinguish their movements to defend their rights.

Due to the power residing in the fossil fuel reserves, awakened by the capitalists to operate the steam engine, the appeal of further expansion, domination, and exploitation expanded beyond the national borders and spread and gained success on a global scale. Malm (2012) argues that “British merchants were scrambling to equip new steamboats and lay their hands on the treasures suddenly made accessible [in far places like Africa, India, or China]” (117). Therefore, in Britain, steamboats “marked a turning point in the consolidation of colonial control and the expansion of the cotton trade” (Malm 2012, 117). On an international level, Britain embarked on its imperialistic journey – mastering the seas, claiming lands, making colonies, and bringing back exotic goods. Malm cites an article from *The Observer* (1842), describing the British military equipped with steamboats as having divine powers:

Steam, even now, almost realizes the idea of military omnipotence and military omnipresence; it is everywhere, and there is no withstanding it. [...] With a steam navy, complete in all its appointments, England may be mistress of the world any hour she likes. No nation, nor any union of nations, could resist her. She may be omnipotent. (The Observer 1842 qtd. by Malm 2012, 117)

As pointed earlier, the original narrative of the Anthropocene is critiqued for its modernist tendency to separate humans from nature by implicating humans for creating the Anthropocene as well as finding the solution. I argue that Malm’s narrative of the Capitalocene rethinks this narrative by approaching the dynamic relationship between human and nonhuman entities differently. Reading Malm’s Marxist account through Barad’s lens of agential realism, the mechanism of ‘fossil capital’ creates divisions within society and on a

global level so that capitalists and nations are elevated to the level of a deity while laborers and colonies are exploited, objectified, and dehumanized. Conversely, coal and other fossil fuel reserves are agentic and praised for their supreme power; their subserviency, which enables them to please their owners and their agency in allowing the capitalists to replace the laborers and squash their resistance. Hence, following Barad's model, the categories of "human" and "agency" are rethought, reconfigured, and reworked. As pointed out earlier, according to Barad, "humans 'emerge as having a role to play in the constitution of specific phenomena, ... as part of the larger material configuration, or rather the ongoing reconfiguring of the world. ... 'Humans 'are emergent phenomena like all other physical systems" (Barad 2007, 338). Based on this, we can read Malm's account as a narrative that redefines what constitutes "human" and "non-human" since it assigns agency to specific classes of nonhuman entities (e.g., fossil fuel resources) and specific classes of humans, such as the rich and the influential assembled within specific apparatuses<sup>28</sup> (see glossary, p. xiii; this concept is discussed in details in chapter two).

Thus, according to Malm's (2012) account, coal and fossil fuel resources have agency, whereas, the laborers are rendered with limited or partial agency in terms of their place within capitalism as material-discursive phenomenon that constitutes capitalists, resources, labourers, consumers and more. This phenomenal aspect of capitalism offsets the human-centered understanding of the Anthropocene, as presented by Crutzen and Stoermer (2000), since neither one of its components can operate without the other, which makes consumers complicit in the labourers predicament.

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<sup>28</sup> "Apparatuses" is a term used by Barad (2007) to describe specific setups that co-constitute different and differential (human and nonhuman) entities intra-acting to produce distinct agencies, power relations, new meanings and other possibilities that shape a phenomenon.



iii. *Rethinking the Anthropocene and “Capitalocene”*

As demonstrated in the preceding section, Malm places agency and culpability at the door of a dynamic relation which includes humans and nonhumans – capitalists, governments, labor, and fossil fuel reserves – where the categories of “human” and “non-human” are reconceptualized within the combined political, economic, historical, and technological practices, which produced accelerated progress and deep frustrations.

Malm’s Capitalocene creates a different “agential cut” as it reassigns the agencies between human and nonhuman entities involved in the fossil fuel industry. This is an agential realist process, which will be discussed in detail in Chapter 2 and that co-constitutes the human and nonhuman intra-acting entities from which an agentic “subject matter” (Barad 2007, 214), that includes the capitalists, technology and coal, emerges. In Malm’s narrative, the effects of these practices created inequalities and violence at home and abroad because practices, which authorized excessive exploitation of humans as resources and nonhuman entities, engendered classism, racism, and colonialism, among other exclusionary discourses that Haraway (2004) calls “discourses of suffering and dismemberment” (47) by privileging a specific class of humans (rich, business, male, and political) and matter (coal and other fossil fuel resources). However, I argue that, despite this co-constitutive aspect of capitalism, the effects of their practices remain to be universal and, therefore, the “Anthropos” embedded within the “Anthropocene” remains justified. Malm pointed out how the use of the steam engine powered by fossil fuel helped Britain achieve its ambitions locally and globally – locally, by increasing productivity and profits at the expense of remote areas in northern England, such as Lyme, and globally, by achieving its colonial expansion and exploitation of

resources, which belonged to its colonies in Africa and Asia. This chapter explores the local effects of these processes at Lyme Regis in Britain.

Inspired by Haraway (2016) and Tsing (2015), this study will continue to use the term “Anthropocene” for three reasons. First, the Anthropocene narrative is paradoxical; on the one hand, it implicates humans’ exploitative intervention in nature in bringing about climate change and calls upon “mankind” (Crutzen and Stoermer 2000, 18) to “develop a world-wide accepted strategy leading to sustainability of ecosystems” (18). On the other hand, Crutzen and Stoermer (2000) narrative calls upon the scientific community to interfere and solve the problem (18). I argue that this oscillation between criticizing and approving the humanism and anthropocentrism that justify human actions against nature opens up a space where it becomes possible to rethink these age-old values. Second, the Anthropocene is a phenomenon that is (re)shaped by co-constituted human and nonhuman entangled practices through specific intra-actions which produced different forms of violence like racism, classism, and gender. Barad (2007) describes this process as “exteriority within” the phenomenon of the Anthropocene, which is important because it reveals the multiple forces (social, political, economic, ...) at play within the concept that contribute to the emergence of this environmental crisis. Third, Crutzen, one of the two scientists who produced the original narrative of the Anthropocene (2000), later reviewed the initial announcement and made important amendments. Instead of specifying human actions as the main cause of the Anthropocene, Crutzen narrowed his claim to implicate “only 25% of the world population” (Crutzen 2002, 23). Hence, Crutzen responded to the charge of unjust universality embedded in the term. In addition, in 2007, Crutzen, along with Will Steffen and John R. McNeill, retracted the original proposal about the potential usefulness of geo-engineering projects

when dealing with environmental crisis. Deeming the use of geo-engineering as dangerous, they collectively contended:

For the present, however, just the suggestion of geo-engineering options can raise serious ethical questions and intense debate. In addition to fundamental ethical concerns, a critical issue is the possibility for unintended and unanticipated side effects that could have severe consequences. The cure could be worse than the disease. (Steffen et al. 2007, 620)

In an interview with Christian Schwägerl (2013), Crutzen moved from solely entrusting the scientific community, “global research and engineering community” (8), for leading humanity out of the environmental crisis of the Anthropocene to stressing the importance of political, social, economic, cultural, and ethical considerations. Crutzen asserts:

There are so many things that need to be achieved: national and international budgets need to be kept under control, so debt does not increase and burden future generations even more. Also, we can never do enough to enhance freedom of speech and the press, to promote equal rights, and to end racial discrimination. We need to bring much more respect into our lives. Respect for humans, for nature and all animals, for art, culture, and education. We need to place respect at the center of our culture. (2013, 8)

In the preceding passage, Crutzen shifts the focus from “mankind’s” actions as central to causing and solving the problem of the Anthropocene; a stance that was deemed anthropocentric and unjustly universal by some scholars. Instead, Crutzen placed the ethical consideration of “respect, for nature and all animals, for art, culture, and education” (Crutzen 2013, 8) as central to solving the problem. This transformation in Crutzen’s stance is critical since it supports my use of the term “Anthropocene” throughout this study as a proto-posthuman narrative that decenters humanism and anthropocentrism, and makes ethical and political accountability and responsiveness central to how we intra-act with the nonhuman world.

In a similar vein, Haraway and Tsing continue using the term “Anthropocene” despite their reservations. Haraway argues that Anthropocene is “not just a human species act. But the term Anthropocene, by emphasizing the ‘Anthropos’ and ignoring other species, portrays itself as the result of a human species act” (Haraway 2016, 539). Yet, Haraway asserts that she would continue to use the term because it reminds us of past sufferings and exclusions and inspired hope for healing and redemption “—what and whom the Anthropocene collects in its refurbished net bag might prove potent for living in the ruins and even for modest terran [sic] recuperation” (Haraway 2016, 5). Similarly, Tsing (2015) captures what she describes as “promising contradictions” (19) haunting the Anthropocene. These contradictions are suggested by the implications of simultaneous senses of “triumph” (19) and “defeat” (19) since humans are perceived as both a geographical force and as beings capable of destroying the planet, respectively. Tsing (2015) argues that the “Anthropos” in the Anthropocene masks “the shifting assemblages of humans and non-humans” (20). To remedy this, instead of abandoning the term, Tsing argues, we must pay attention to all the things that the “Anthropos” in the Anthropocene kept blocking and “explore the terrain it refuses to acknowledge” (2015, 20). I argue that this is what Haraway later did when she chose the term “Chthulucene,” described by Geerts and Groen (2020) as a “Pimonia Cthulhu spider whose web, metaphorically, stands for the absence of separation between human organisms and their environment” (201), to suggest a relational existence in the world (202). Haraway’s “Chthulucene” emphasizes a “symptotic” form of attunement to different and differential extinctions among other forms of violence that befall different species (202). In *Staying with the Trouble* (2016), Haraway argues that the Anthropocene is the time to think about “rehabilitation and sustainability and the porous tissues and open edges of damaged but

still ongoing living worlds” (33). In this scenario, I agree with Haraway’s (2016) description of Barad’s (2007) notion of agential realism and process of intra-action as “common sense” (34) since they rethink the notion of independent beings and see human and nonhuman co-constitutive practices as the foundation for a world in perpetual becoming. I argue that Haraway’s feverish search for alternative descriptive terms to better capture the current environmental crisis and the nature of human-nonhuman existence could be regarded as a form of engagement with the “Anthropocene” as she calls attention to interdisciplinary concerns, entangled diversities and connections that the Anthropocene (un).masks through its controversiality.

## V. **The Anthropocene: A Dilemma of an Existential Shock**

### *i. The Shock of the Anthropocene*

Before recognizing that there is an environmental crisis brewing, there was a sense of certainty and predictability in the future and the nonhuman world based on accurate calculations, mathematics, and patterns, which guaranteed the continuity of the separation and domination of culture over nature and humans over the nonhuman world. As explained earlier, Barad’s agential realist approach is ethico-onto-epistemological, in which humans are a part of the world and are ethically attuned to what emerges from their entangled existence within the world. Barad (2007) argues that the separation of epistemology from ontology is a product of the “Cartesian (inherent, fixed, unambiguous) subject-object [mind-body] distinction in a way that undermines the very foundations of classical epistemology and ontology” (125). They assert that Cartesian epistemology and “its representational triadic

structure of words, knowers, and things” (2007, 138) and Newtonian knowledge, which perceived nature as “clockwork” (2010, 249) or “machine” (249), upheld a continuity based on accurate calculations, which provided knowledge about the past and accurately predicted the present and the future. In this promise of continuity, knowledge was placed “at man’s feet” (249) giving them a “God’s eye view of the universe” (249) without any responsibility or end, and the universe, perceived as a machine, was neatly organized and managed.

Yet, different entangled human and nonhuman practices yielded different radical existential possibilities, which were unaccounted for when the Anthropocene was first identified by Crutzen and Stoermer (2000). For example, the possibility of the extinction of humans and nonhumans in the Anthropocene challenges the notion of continuity and necessitates a new sense of accountability and responsibility in how humans relate to the nonhuman world. However, in this sense of uncertainty, to face the Anthropocene, new scientific approaches as proposed earlier by Crutzen and Stoermer (2000), would not guarantee a return to the glorious past of predictability, continuity, and human dominion. My position is supported by Steffen et al (2018) who assert:

The challenge that humanity faces is to create a stabilized earth that would steer the Earth system away from its current trajectory toward the threshold beyond which is the Hothouse Earth ... [This] requires fundamental change in the role of humans on the planet. This stewardship role requires *deliberate and sustained action to become an integral, adaptive part of the Earth system dynamics*, creating feedbacks that keep the system on a stabilized Earth-path. (8254; my italics)

This assertion shows the need to steer away from a human-centered form of hope through which humans adapt by resorting to scientific references to stabilize the earth. However, instead of “God’s eye view” (Haraway 1988, 592) of the past, humans now need to recognize that they are part of the earth system. This notion recalls Haraway’s (1988) philosophy of

situatedness whose concept of “situated knowledges” calls for the object to be perceived as an “actor and agent” (592) rather than a resource under the mercy of its human master. Like the earth system, as Steffen et al. (2018) argue, human actions, in their encounter with the nonhuman nature, need to be monitored for feedback and adjusted to stabilize the earth system, offering no guarantee that such precautions and careful monitoring would return the earth to the way it used to be more than 200 years ago. Steffen et al. (2018) argue that

Social and technological trends and decisions occurring over the next decade or two could significantly influence the trajectory of the Earth System for tens to hundreds of thousands of years and potentially lead to conditions that resemble planetary states that were last seen several millions of years ago, conditions that would be inhospitable to current human societies and to many other contemporary species. (8253)

This passage emphasizes the dilemma created by this monitor and feedback approach highlighting the fact that this is no guarantee that the earth will be habitable for us and other species. In addition, once again, humans would be responsible for monitoring and interpreting these changes and would assume adequate knowledge to take full control of human and nonhuman practices.

This uncertainty associated with the Anthropocene condition is expressed by critics, such as Patricia Clough, who argued that, in its assertion that the scientific community and research would guide humans out of the current environment, the original narrative of the Anthropocene reveals that there is always “a chance for something else, unexpected, new” (Patricia Clough qtd. by Gregg and Seigworth 2010, 13). The idea of a “chance” marks a shift from the confidence associated with certainty based on accurate calculations and prior knowledge to a sense of uncertainty and desperation. This uncertainty would shift humans’ claim to scientific knowledge from absolute and precise expectation of outcomes to thinking in terms of possibilities and contingencies, which would only be knowable through practices.

So far, I have demonstrated how the Anthropocene transforms our access to knowledge from certainty to uncertainty. The unsettling effects of climate change on humans and nonhumans produce affective reactions of different forms. In their original narrative of the Anthropocene, Crutzen's and Stoermer's (2000) word choice reveals the affective aspect of the Anthropocene when they contend that "an exciting, but also difficult and daunting task lies ahead" (18). The excitement arising from the difficult and challenging effort required to deal with an existential environmental crisis, such as the Anthropocene, is heightened by the uncertainty and mystery shrouding it and expressed in "terra incognita" (Crutzen 2002, 23). This assertion, I suggest, expresses an existential shock because it questions the way we have been living and relating to other entities within the eco-system, our knowledge of this system and our place within it. Furthermore, Crutzen's (2002) use of the expression "terra incognita" (23) in describing the unknown and mysterious aspect of the current environment crisis is significant. In his paper, "Terra Incognita/Terra Nullius: Modern Imperialism, Maps, and Deception" (2005), Alex Zukas explains that "Europeans (and later Euro-Americans) mapped *terra incognita* and cited *terra nullius* as a rationale for conquest even in cases where lands were clearly not uninhabited" (45). Building on this context, Crutzen's assertion recalls the language of colonialism embedded within scientific knowledge. This language enabled the violence of conquest, colonization, and enslavement, which is an issue my project will engage with in chapter two when I discuss Saartjie Baartman.

ii. *Dwelling in the Anthropocene*

Given the preceding reflection on the notion of human-nonhuman relationality in the Anthropocene, I argue that the Anthropocene presents us with the issue of how to dwell on



earth amongst nonhuman entities. One way to engage with a world rife with extinction and imminent environmental and existential losses is to mourn them. Scholars, such as Haraway, Plumwood, and Van Dooren advocate grieving, mourning, and remembering as a response to the violence of the losses experienced in the Anthropocene. Haraway (2015) argues for mourning as a way “to live and die well as mortal critters” (160). Plumwood (2009) saw our detachment from nonhuman entities as self-harming asserting that “human-centered conceptual frameworks are a direct hazard to nonhumans, but are also an indirect prudential hazard to Self, to humans, especially in a situation where we press limits” (4). To destabilize anthropocentrism and humanism, Van Dooren (2014) sees mourning as important as a response to species extinction “respect for the dead ... undoes any pretense towards exceptionalism by drawing us into an awareness of the multispecies continuities and connectivities that make life possible for everyone inside our shared world” (275-6). I argue that Van Dooren’s (2014) assertion about mourning as a possible way to unsettle anthropocentrism makes mourning and embodied affects like compassion agentic as they create the possibility to constrain anthropocentric discourses and their effects.

Barad also recognizes the importance of acknowledging losses as a way to relate to the nonhuman world. However, Barad approaches losses differently; for them, losses are “not absence but a marked presence, or rather a marking that troubles the divide between absence and presence” (Barad 2017, 106). In this Baradian (2017) sense, memory or presence allows us to “reconstitute [ourselves] around an actively present germ of the past” (59), which motivates and activates our “tendencies towards the future” (59) in a manner that the future would acquire an “affective presence” (60) as we mind how we intra-act with our surrounding to adapt to climate change. Barad’s “spacetime mattering” allows me to explore

memory and history as affective and active processes in which neither the “past nor the future is ever closed ...; rather, what is at issue is the intra-active generation of new temporalities, new possibilities, where the ‘new ’is the trace of what is yet to come” (Barad 2007, 383). Barad (2019), in their approach to “spacetime mattering,” is influenced by Derrida’s “hauntology”<sup>29</sup> or (the French) *hantologie* and his understanding of force as *différance* (*différée-différente*) or different and deferred forces (548, n 24). Whereas Derrida (1968) focuses on language and linguistic meaning, explaining that *différance* is “the spacing/temporalizing ... movement” (278) that asserts difference between two entities while, simultaneously, promises a deferred possibility of being the same, Barad (2010) focuses on the entangled nature of material and discursive practices, through which the material world emerges “hold[ing]” (216) memories and traces of past (unjust and violent) relations. In this sense, the world becomes memories in its materialized form or congealed memories (261). Memories are congealed because they manifest as material effects. However, this aspect further explains how the subject is always in a process of becoming as the tension between “past” and “present” contribute to the subject’s/object’s continuous “unfolding” as these memories are reworked in the present. This aspect of Barad’s philosophy, along with their diffractive methodology, will be discussed in detail in chapter two.

Not only are species and biodiversity at stake in the Anthropocene, but also human civilization itself is at risk. Critical thinkers, such as Tina Besley and Michael A. Peters,

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<sup>29</sup> Derrida uses the notion of “hauntology” in *Specters of Marx* (1993) to demonstrate how Marx thought haunts and disrupts the linear conceptualization of time that aims to “stabilize .... disturbance [dérèglement] by installing ... hegemony” (62); he argues with Marx that “idealization ..., is a production of ghosts, illusions, simulacra, appearances, or apparitions” (55-6). This notion connects Derrida’s hauntology to aspects of media studies and theorists like Baudrillard especially when he argues that different forms of media disrupts and masks the political and therefore describes them as “neither living nor dead, present nor absent: it spectralizes” (63).

underscore the “possible collapse of our civilization in the near future” (Besley & Peters 2019, 1347) as a result of climate change. Ryan LaMothe explains how the notion of being homeless became different in the Anthropocene. Instead of signifying poverty, homelessness signifies the current state of the earth as it is now “on the tragic trajectory of becoming uninhabitable [and] ..., in the process of unhousing ... [us], as well as other species” (LaMothe 2020, 2). Hence, instead of invoking shelter and security, the notion of dwelling becomes a source of anxiety since the fate of humanity is intertwined with the fate of the earth and nonhuman entities. Therefore, the Anthropocene presents us with the issue of how to dwell on earth amongst nonhuman entities.

In the second part of this chapter, I situate Lyme within this broad narrative of the Anthropocene and explores the struggle of the people to co-exist as a part of an unpredictable, hazardous, and dynamic earth system. Thus, it will explore the effects of the Anthropocene on Lyme as a phenomenon and demonstrate the entangled human and nonhuman practices that shape and reshape Lyme.

## Part Two

### Lyme Regis: Progress and the Anthropocene

*What if it is only in the encounter with the inhuman – the liminality of no/thingness – in all its liveliness, its conditions of im/possibility, that we can truly confront our inhumanity, that is, our actions lacking compassion? Perhaps it takes facing the inhuman within us before compassion – suffering together with, participating with, feeling with, being moved by – can be lived. How would we feel if it is by way of the inhuman that we come to feel, to care, to respond? – Barad (2012, 216)*

In this part, I review the historical, strategic, and economic significance of Lyme Regis to demonstrate what Barad (2007) terms the “exteriority within” (93) Lyme as an agential phenomenon (re) shaped by multiplicity of forces over time intra-acting within Lyme to re-shape life. Although human and nonhuman practices should not be perceived as separable, based on the Baradian agential realist model that I follow, for analytical reasons, I will start by reading them separately and later uniting them. Thus, first, I will examine the natural material practices, which do not include humans, and which shape the landscape and life at Lyme. Then, I will explore the current relational ontology at Lyme by examining human-nonhuman (nature) entangled practices against the background of the current environmental crisis. Based on this human-nonhuman relationality at Lyme, I argue that examining Lyme through a relational ontological perspective, informed by Barad’s philosophy, allows me to rethink the dilemma of dwelling at Lyme as part of a coast at risk of being lost to the sea. Dwelling at Lyme becomes a form of temporality that is constantly unfolding, open-ended, and indeterminate since it is founded upon a dynamic and affective exchange between humans and nature inhabiting Lyme.

## I. Historical, Strategic, and Economic Significance

Lyme Regis has a rich historical, strategic, natural, and cultural significance. The term “Regis” connects Lyme to royalty, particularly the reign of King Edward I in 1284. For Edward I, Lyme represented a strategic port for his ships from where he embarked upon his wars against France. Because of King Edward I, Lyme gained its historical association with the British navy (Graham 2008, 27-8). In addition, Lyme became politically significant when, in 1284, King Edward I gave Lyme “a royal charter” (Graham 2008, 27), which allowed it to elect and send two local members to the British Parliament (Fowles 1982, 7). In 1588, Lyme contributed three ships, *Jacob*, *Revenge* and *Bonaventure*, in the fight against the Spanish Armada (Wanklyn 1927, 96). Despite the Royal support that Lyme enjoyed over the years, the majority of its population were Puritans and anti-royalists. Therefore, in 1644, Lyme was attacked and besieged by the royalist forces. Yet, due to Lyme’s strong representation in the parliament and its strategic and economic importance, it was able to withstand the attack and the siege (Fowles 1982, 21-2).

Economically and strategically, Lyme’s Cobb was an important pier, wave breaker, and “channel port” (Fowles 1982, 11). It provided an export point for places, which depended mainly on the sea as an outlet, namely, Somerset, Devon, and Bristol, part of whose channel suffered from pirates’ raids (12). According to Lynch (2004), when rebuilt in 1826, the Cobb was believed to be “one of the modern architectural wonders of England” (239-40), which confirms Lyme’s reputation as a home for skilled local builders (Fowles 1982, 10). Places, such as Dover and Hastings, lacked access to skillful builders and, therefore, borrowed Lyme’s local builders to help building their pier and other sea structures (10).

Fossils are part of Lyme's past, present, and future. Lyme carries a geological significance pertaining to its reputation as a "treasure trove of fossils on account of several spectacular finds in the strata of its continually eroding sedimentary sea-cliffs" (Graham 2008, 29). Between the late 18<sup>th</sup> and early 19<sup>th</sup> century, "geology" and "paleontology" emerged as new disciplines, which changed the way people and scientists view fossils and the earth in general so that "organic fossils and minerals were no longer just curious stones, but archival evidence of pre-Adamic world. The animals to which large bones and teeth, now found in caves and gravel, had belonged, were interpreted as the inhabitants of the earth before man had acquired civilization" (Rupke 1990, 241). Hence, fossils and fossil tourism became an important part of Lyme's history and an important source of income.

Paradoxically, for fossil hunters, the instability of the land at Lyme is a blessing, since frequent landslides reveal buried fossils, washed by the sea water (Fowles 1982, 39). Thus, ironically, the instability of the cliffs appears to (re)shape Lyme's indeterminate future by creating the circumstances that could contribute to its flourish as well as its disappearance equally.

## **II. The Industrial Revolution and Fossil Fuel at Lyme Regis**

As explained earlier, the beginning of the Industrial Revolution and fossil fuel economy are marked by the shift from waterpower to steam power (Malm 2013).<sup>30</sup> Coal was brought to Lyme from places like Newcastle since the eighteenth and nineteenth centuries (Wanklyn 1927). Because of the precarious nature of the land at Lyme, geologists warned against endeavors to dig for coal. Yet, these warnings were ignored by businessmen who dug

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<sup>30</sup> Malm argues that "the foundation of the industrial town, ..., was fossils" (Malm 2013, 39).

anyway and failed to find any coal (see Jukes-Browne 1902; Bull 2010). These practices not only wasted resources as businessmen directed manpower and funds toward a failed project, but also further unsettled the land.

The invention of the steam engine operated by coal combustion negatively affected Lyme. Wanklyn (1927) asserts that mechanization “kill[ed] the town’s [Lyme] prosperity” (87). The steam engine and its use of coal ended Lyme’s strategic significance as an important port, as well as its ship-building industry (95). The steam engine made it possible to melt iron and use it to build huge ships (86). The increasing size of the ships made it hard for the harbor at Lyme to accommodate it. Malm explained that in England, “manufacturers were yearning for new lands as sources of raw materials and markets for their surpluses” (Malm 2012, 116). Consequently, in 1832, England sent expeditions to explore Africa and other places using “steamboats” for this purpose. Yet, these ships would not be sailing from Lyme’s port as they used to do in the past (116).

In the late 1800s, Lyme’s population reflected its deteriorating economic and strategic status. Lyme became a place that harbored both smugglers and fishermen (Graham 2008, 28). Fowles (1982) explains the hardships faced by the workers in the coal business. In 1890, workers involved in the sailing trade would “jump (unload) coal at West Bay” (48). Fowles (1982) writes that to earn their living, the workers would “walk the nine miles over the cliffs ..., work a long day’s backbreaking shift, then walk home again ... memories of such inhuman conditions are manifold” (48). This practice indicates the cruelty and hardships involved in the coal business for the laborers at Lyme.

With the invention of the steam engine (1764) and its use to operate the power loom in 1820, the weavers, as an important class of laborers and an important source of income for

Lyme, suffered a great blow. Lyme's main interest was weaving, as asserted by historian, Wanklyn. He writes that at Lyme "hand-loom and water-power were required for the process of cloth manufacture" (Wanklyn 1927, 88). Used as a tool to weaken the bargaining power of the handloom weavers, the power-loom, explains Malm, allowed the manufacturers to withstand competition. This development contributed to making labor disposable:

[I]n the climate of fierce competition and rampant embezzlement, manufacturers installed powerlooms in their factories *en masse*, dooming the handloom weavers to ruin. In the place of spinning factories and arrays of small weaving cottages, there arose the combined factories, ... tended by a domesticated labor force – chiefly young women. (Malm 2012, 111)

At Lyme (1750-1890), weavers excelled in the lacemaking industry. Wanklyn recalls how "a lace dress for Charlotte, Queen of George III, was the high-water mark reached by Lyme in lacemaking, and [how] that order was probably given by the Royal Family to encourage [the] local industry" (Wanklyn 1927, 98). Nevertheless, by the mid-19<sup>th</sup> century, the weaving industry disappeared from Lyme. The competition with lace smuggled from Belgium, together with John Heathcoat's invention of the "bobbin net machine" in 1808, contributed to the demise of the industry (Bull 2010, 1). Over time, artisans of all sorts, "workers in wool, as wool-combers, weavers, shearmen, thread-spinners [and others]" (Wanklyn 1927, 81) disappeared from Lyme. Ships, which used to sail from Lyme with "wool, hides, tallow, salt" (Wanklyn 1927, 81) and brought back "wines with cloth and silk goods" (81) and other "whole cargoes of goods direct from [and to] European ports or the colonies" (81) started to bring in goods and products "piecemeal from London" (99). This demonstrates Lyme's shrinking significance from being a center for "wholesale" trade to sufficing with "retail trade" (99).



Nevertheless, Lyme's situatedness on the coast, its fossil richness, and its beautiful scenery helped its transformation into a seaside resort with "bathing machines, invented by Ralph Allen and sent down from Bath" (Graham 2008, 28). Fowles (1982) argues that, by the early 19<sup>th</sup> century, Lyme offered its visitors "indoor baths, bathing machines, a circulating library, a private school, and a small passenger vessel ... many boarding houses, ... houses, and furnished apartment to rent" (34). At the same time, Graham (2008) declares that Lyme became a place for "stranded naval men to perch in peacetime or when they were otherwise between ships, and sustained the expected maritime assortments of boatbuilders, fisherfolk, wreckers, and smugglers" (28). This assortment of classes and the tension between them was captured by Jane Austen, a frequent visitor of Lyme, in *Persuasion* (1817). In the scene in which Louisa Musgrove fell off the stairs of the Cobb and Henrietta fainted, Austen writes:

By this time the report of the accident had spread among the workmen and boatmen about the Cobb, and many were collected near them, to be useful if wanted, at any rate, to enjoy the sight of a dead young lady, nay, two young ladies, for it proved twice as fine as the first report. (Austen 1817/2004, 98)

Even though the rise in population is one of the reasons that gave rise to the Anthropocene, the population at Lyme has remained constant. Wanklyn (1927) asserts that "in the last hundred and twenty years the number of inhabitants has never been less than 1400 or more than 2900" (260). According to the city population website, in June 2020, Lyme's population reached 4892. This fact is important since it illuminates the differences embedded within the Anthropocene narrative. As explained above, the Anthropocene narrative has been criticized for its universalization: Whereas Crutzen and Stoermer (2000) sees human action in general as the culprit in bringing about climate change, Lyme is an example of places that did not contribute to these actions. In fact, Lyme suffered at the hand

of industrialization that utilized coal to power machines and replaced man-power and industries like lacemaking that Lyme was famous for, as shown earlier.

In *Lyme Regis: A Retrospect* (1927), Wanklyn laments Lyme's fall from grace as a result of industrialization, fossil capital, and progress when he writes:

[C]onsider what Lyme has lost in the picturesque alone by the triumph of steam over sails. For beauty there is no sight on earth equal to a fully rigged sailing-vessel going before the wind. No more can Lyme see an Armada being driven up-channel by the English Navy; no more does a squadron of the fleet manoeuvre close at hand with the King on board; no groups of vessels of uncertain nationality are sighted and reported to London as bearing in this direction or that; no longer is there the frequent chase alter or from the privateers of Dunkirk or Ostend ... in the channel; never again will Lyme see such a fleet moored off the town as was there for several days during the siege; or the Grand Fleet from Spithead going with a light breeze up to Portland. All this Lyme has lost, but the setting of the town remains the same. (260)

Wanklyn's lament underscores the affective aspect of the loss that has befallen Lyme with regard to its strategic, political, and economic significance. Lyme's history invokes frustrations associated with the use of the steam engine, which allowed machines to replace people. As pointed out in part I, mourning and loss are important affects experienced by the weavers and the artisans who lost their craft over generations. This effect would stimulate them to physically act through protests and certain acts of violence committed due to desperation and loss of livelihoods, as explained by Fredrick Burwick (2015). Hence, loss marks a discontinuity of legacy, creativity, and livelihood. Loss and fear haunt Lyme even now as the locals fear the loss of their homes and town to the sea. Yet, there remains the hope invoked by the final sentence of Wanklyn's lament. The setting of the town affords it access to the cliffs and fossils.

Excitement and wonder are affects associated with the discovery and interpretation of the significance of the fossils and cliffs at Lyme. These fossils and cliffs embody, what Barad

terms, “spacetime mattering” – the possibility of new embodied meanings or knowledge, which emerge from entanglements between space, time, and matter – where the fossils and the earth strata, revealed when the cliffs collapse, represent a space where the actions of the past materialize and are rethought and reworked in the present. Thus, the affects created by the deteriorating significance of Lyme reveal how human and earth history are inseparable since the fate of the people and the fate of their town are firmly intertwined. To protect the stability of one, the stability of the other must be accounted for. This will be demonstrated in my discussion of nature-nature and human-nature entanglements.

### III. Lyme Regis: Nature-Nature Entanglements

The dynamic nature of the nonhuman natural world challenges the anthropocentric understanding that nature is a static resource, a world of appearance, which humans, through their superior mind and reason, can control and shape. In fact, the active nonhuman nature at Lyme emphasizes how humans are not in control and how nature carries its own agency, which emerges in the way it materializes (described later in this section). In this section, I discuss how natural forces, such as wind, falling cliffs, and the movement of small nonhuman creatures, contribute to (re)shaping life at Lyme. Lyme is situated on one of the most unstable lands in the UK. Strong storms relentlessly batter the coast, such as the storm of 1377, the “Great Gale” of 1824, and storm Ellen in 2020. Fowles recalls testimony by Lyme’s 19<sup>th</sup>-century historian, George Roberts,<sup>31</sup> who noted the violence of the waves and the gales. Roberts recorded that the “fields and houses [used to be] standing where now only

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<sup>31</sup> George Roberts wrote a book titled *History of Lyme Regis, Dorset* (1823). John Fowles and Cyril Wanklyn draw from this book.

crabs and oyster-catchers are happy” (Roberts qtd. by Fowles 1982, 13). Roberts remembered seeing “thirty yards of cliff-meadow near the church disappear in thirty years of his own lifetime” (13). According to Lyme museum, the “Great Gale” of 1824 (Fig. 2) washed away three houses on “Coade’s Wall.” Moreover, the Cobb was breached, and its buildings were drenched with sea water (Bull 2015, 14).



*Figure 2. The Great Gale on November 23, 1824, at Lyme Regis*

Most recently, a strong storm, Ellen, struck in 2020. James Loveridge captured the threatening position of Lyme in his award-winning photograph (Fig. 3). Matthew Pontin (2021), a creative director judging the award, describes Lyme in this shot as “fragile compared to the sea” (Pontin qtd. by South West Coast Path Association, 2021). He adds that this photo could serve as a reminder of the climate crisis threatening Lyme and its inhabitants (Pontin qtd. by South West Coast Path Association, 2021). Hosking and McInnes (2002) confirm that climate change could transform coastal areas as it raised “temperature, rainfall, wind, waves, and sea level” (381).



*Figure 3. James Loveridge. Photograph of Lyme Regis during storm Ellen. 2020*

Lyme has always been a prey to the elements, yet, the Anthropocene makes for a different experience. Climate change associated with the Anthropocene signals a shift from being exposed to harsh, unstable weather conditions to experiencing severe threatening conditions. In a report prepared by the Dorset Coast Forum, Tony Flux and Mark Fortune (coast and marine advisors), explain that “sea levels in the English Channel have risen by some 10 cm since 1900. They are rising at an accelerating rate today and, on average, sea surface temperatures locally have risen by 0.7°C since 1980” (Flux and Fortune 2012, 3). Flux and Fortune (2012) expect that sea levels around “the south west coast [will rise] by 18-25 cm by 2050, [and] ... 30-44 cm by the 2080s” (3). Furthermore, in their report, based on the information submitted by meteorologists, the two advisors argue that as long as the temperature keeps on rising and “more energy enters the sea/air system, then the frequency and intensity of storms [will] increase ... [and] the proportion of rainfall falling as heavy rain will [also] continue to increase” (7), which will consequently “increase the frequency of coastal flooding events ... [and the] damage and erosion at Lyme Regis” (7). This statement

suggests the indeterminate and open-ended aspects of the Anthropocene as a phenomenon in an ongoing unfolding.

Apart from the violent sea waves and storms, the cliffs and rocks at Lyme have always been unstable and prone to landslides entrapping Lyme “between eroding cliffs” (Fowles 1982, 10). Black Ven-Spittles and the Undercliff are the largest cliffs in the area, formed of layers of “Jurassic rocks and Cretaceous sediments” (Alison 2020, 201), which have suffered the biggest landslides in Europe. Overtime, Gallois (2008) explains that landslides result as “an old, probably Pleistocene, complex of interacting coastal landslides ...[is] reactivated as a result of a combination of man-made works and marine erosion” (Gallois 2008, 101). Alison (2020) explains that marine erosion occurred as a result of the strong sea waves beating at the edge or the “toe” of the cliff.

The different strata that form the cliffs are not static. In fact, the different layers composing the cliffs are in continuous movement without any human intervention. Alison (2020) explains that the Jurassic rocks are composed of different layers of limestone, ranging from hard to fine and grainy, namely “lower Lias, ... Middle Lias ... The base of the Lower Lias is marked by the Blue Lias, a shale limestone” (202). The Cretaceous sediments are “sandier and therefore of a higher permeability than the underlying Lias” (202). The difference in nature between these two layers causes landslides activated by “water mov[ing] down through the permeable Cretaceous sediments until it meets the impenetrable Lias” (202). Moreover, the underlying impenetrable Jurassic layer already has, what geologists term, “faults” (Moore et al 2017, 63). Figures 4(a) and (b) show a landslide from April 2021 from two different angles.

(a)

(b)



Figure 4. A cliff falls in the Jurassic Coast at West Dorset, April 2021. (Photographed via a drone by James Loveridge, 2021)

Figure (5) below shows another landslide that took place the same year in November.



Figure 5. Falling section of a cliff at West Bay, Dorset, November 2021. (Photograph by Getty images)

This crumbling part of the cliffs is met by sea waves and tides. Doody (2017) explains how the “material deposited at the base of the cliff is removed by alongshore drift, wave and tidal action and storms, leading to further cycles of erosion” (186). This erosion

and collapse emerging from intra-actions within nature capture a form of “aliveness” (Barad 2007, 235) that is particular to the nonhuman world, which makes it agentic as it plays an important role in (re)configuring the earth and therefore life at Lyme.

In addition, there are other creatures in this nature who bring about this movement or energy of the landscape, as it erodes, and the cliffs, as they fall. Since the rock cliff at Lyme is mostly soft, the rate of change is faster. Doody (2017) explains that the cliffs support a variety of plants and animals. Plants, such as orchid species and species of wildflowers, “colonize [the] bare grounds, providing nectar for bees and wasps” (187). In addition, there are “twenty-nine rare species” of invertebrates that generally live on the coastal soft cliffs in Britain, including at Lyme (187). The activities between these creatures shape and re-shape the landscape at Lyme. For example, bees and wasps make their nests by “burrowing into the bare soft cliff” (187). Ground beetles, such as *Nebria livida*, use the bare ground for hunting activities (187). In addition, small ponds formed by seeping rainwater offer a hospitable environment for animals or insects with “an aquatic stage in their life cycle, such as water beetles, soldier flies, and crane flies. They also provide mud for some bees and wasps to construct nests” (187).

Hence, I argue that Barad (2007) articulates the intra-acting natural nonhuman creatures and elements as agents that shape the environment, the land topology, and scenery. Oppermann (2018) explains the ecological process of “bioturbation” and how “living organisms affect the substratum, in which they live” (2). Oppermann explains bioturbation in this manner:

[A]nimals that mound soil produce a biomantle topsoil and tree roots that break up bedrock transport soil downslope. Due to their large impact on their environment and because they structure subsurface ecosystems, considerably modifying their contours, they are called “ecosystem engineers”



and also “scenic designers, which not only set the stage, but also decide on the play to be performed, and select the potential players that enter the stage.” (2018, 2)

As described above, the different life forms that inhabit the soft cliffs of Lyme actively shape the landscape and contribute to the town’s economic significance as a tourist destination by improving the scenery through bioturbation activities. Thus, the landscape at Lyme has its own energy and dynamism. In this iterative intra-action between different strata, animals, and the sea, there is no central agency. Hence, it would be safe to say that the nonhuman world shapes the human world. This cyclical open-ended process reveals our shared world, as always in a state of becoming. Given prospects of extinction and other environmental catastrophes presented by the Anthropocene, destruction could be a possible mode of becoming.

#### **IV. Lyme Regis: Human-Nature Entanglements**

The notion of human-nonhuman interdependency at Lyme is depicted in a painting (Fig. 6) by J.M.W. Turner (1814), engraved by W.B. Cooke, which depicts a fisherman, sailing boats, and bathers at Lyme. This painting, I would argue, captures the energy of the place – cliffs, the moving clouds, the wind, the sea waves, and birds in flight. Like the fisherman, the birds appear to partake in the fishing activity. Oppermann (2018) argues that the story of the Anthropocene is the story of “natures and cultures continuously coalescing in the changing landscapes of intersecting biological, geological, chemical, climatic, economic, political, and historical forces” (3). Hence, Turner’s painting captures the encounter between human and nonhuman entities inhabiting Lyme where human and nonhuman activities intra-act within different iterative phenomena, which would shape the way they dwell and co-exist. Indeed,

Turner's painting is buzzing with the temporality embodied in the entangled human-nature activities.



Figure 6. Painting by Joseph Mallord William Turner, engraved by W.B. Cooke, *Lyme Regis* as part of “*Picturesque Views on the Southern Coast of England.*” (1814)

One form of exchange between humans and nature at Lyme is the effort to mend the damage done by the natural forces to the town's infrastructure and properties. As early as medieval times, the Cobb was built “to create a harbor for Lyme and to protect the town from storms” (Lynch 2004, 239). The Cobb was destroyed by violent sea waves and restored several times. Fowles (1982) explains how the strong storm of 1377 destroyed the Cobb and “nearly 80 houses were totally destroyed [and] over 50 ships and boats lost” (12) ruining businesses overnight. To restore the Cobb, the builders piled “rows of oak-tree trunks” into the sea floor and used “massive boulders called cowstones [sic] and cobbles [to] fill the gaps” (Graham 2008, 28). In the process, Fowles (1982) asserts that 61 trees “had to be brought from up to eight miles away” after all “suitable trees nearer Lyme had ... been exhausted” (10). Moreover, the historical use of the land at Lyme caused a considerable part of the town to disappear into the sea. Around the 1820s, Lyme engaged in “sea-quarrying”

(Fowles 1982, 48). Fowles (1982) elaborates that businessmen at Lyme started “shipping [Blue Lias limestone]” (48) to manufacture “hydraulic cement” (48) and for other construction purposes. He asserts that “so much had been taken off Broad Ledge and elsewhere that coastal erosion ... markedly worsened. All efforts to control this rape of the ledges failed, and the sea-quarrying continued until the First World War” (49-50). This practice contributed to “artificial” erosion for two reasons. First, the friction produced as the raw material from Monmouth factory was pushed down the side of the cliff. Second, a truck way was constructed along the shore that further destabilized the land (50).

The tense relationality between natural forces and human activities may activate more landslides. To explain the exchange between nature and human practices, Alison (2020) asserts that rivers, such as river Char (Fig. 7), which flow rapidly in this area, push away the sediments that support the base or “toe” of the slopes or “cliffs” (204). Consequently, the lower part of the cliffs become weak, causing landslides (204). These landslides cause “the appearance of cracks and undulations in the road surface, tilted fence posts, and occasional road blockages from earth material moving down-slope” (205). Thus, engineering works are needed to fix these cracks and fences, build protective structures, and add warning signs to protect people from the falling debris.

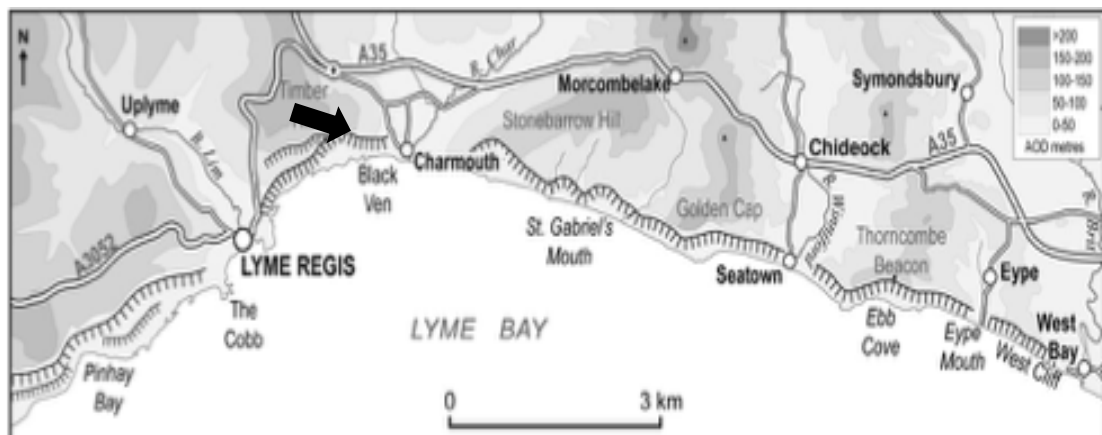


Figure 7. Lyme Regis, Charmouth, and River Char (Map copied from Alison 2020, 202, Fig. 11.1)

Construction works involve “road widening, slope undercutting, vibrations from passing vehicles, and interrupted natural drainage” (204). All this movement, in turn, activates further landslides. Due to these engineering practices and the adoption of new technologies to mitigate the effects of Lyme’s precarious terrain, Goudie (2020) argues that “human-induced climate changes are likely to have a profound influence on both future landscapes and land-forming processes” (69). This statement underscores the downside of human intervention to save a collapsing nature, revealing its hubris and casting the shadow of self-doubt (where the ‘self’ is the subject in a human-centered understanding) as traditional systems of knowledge are not working anymore.

Furthermore, the presence of a landfill site in the area contributes to the natural crisis and intensifies the environmental effects of climate change. The Spittles are eroding cliffs prone to landslides. The landfill site, which contains “a mixture of waste types,” exposes the town to pollution (Nicholls et al. 2021, 5). Nicholls et al. (2021) explain that “as sea levels rise and the shoreline retreats, these sites are increasingly at risk of leakage” (5). Focusing on the Spittle cliffs, they provided an account of the collapse of 2008, which resulted in “releasing waste from the landfill to the cliff face and ultimately the beach below. The waste release raised concerns about potential contamination and pollution ... lead and PAHs were found in the sediments together with fragments of asbestos or asbestos-containing materials” (6). In addition, Nicholls et al. (2021) present the dilemma associated with human intervention to deal with this issue as “[R]emoval of the *in-situ* waste and geotechnical stabilization of the site is one approach that could be considered, but these works could destabilize the cliff and increase the risk of further landslides” (6). Thus, Lyme is left with

the option of monitoring the beach and removing any potentially poisoning debris during landslides.

Given the combined destructive agencies of nature and humans, it is not surprising that the added radical climate change associated with the Anthropocene has become an existential threat to Lyme, which necessitate urgent attention. Wanklyn (1927) notes that land on the east of Lyme and south of the Church was historically lost to the sea (99). According to Wanklyn, 1844, 1849, and 1862 were disastrous for Lyme in this respect. Wanklyn explains:

The action of sea and weather from the outside and the action of fresh springs of water and underground watercourses from within mean that the coast-line is subject to continual disintegration. This disintegration is sometimes shown in the form of simple erosion or eating away and sometimes by the collapse of layers of cliff from above when the foundation on which they rest has been undermined from below. To these destructive influences must be added the hand of man. The traffic in limestone, which averaged 20,000 tons annually [in] about 1850, was continued on a large scale from 1850 to 1900 and even into the first decade of the twentieth century. (1927, 99-100)

Due to the combined actions of nature and humans, parts of Lyme continue to be reclaimed by the sea to the extent that “human remains [have emerged] from old graves” as the churchyard has consistently been exposed to violent sea assaults (100). Thankfully, the Church was saved in 1901 when “a timely subscription of £2,000 saved the Church-yard [sic] and Church. Trenches filled with rubble, a system of drainage and reinforced concrete have done what is necessary” (100). Yet, with the current severe conditions and challenges presented by climate change and, given the new “aliveness” this study has underscored in the natural nonhuman world, the dilemma still exists: would the traditional understanding of the human (as intelligent knower) intervention save Lyme?

Recently, a community project was started in cooperation with the Lyme Museum and supported by the Heritage Lottery Fund to investigate the actions needed to achieve a balance between protecting nature, the town's infrastructure, and the people's homes, properties, and livelihood. The documentary and interviews, conducted by students, revealed the financial and emotional costs associated with life at Lyme. The Dorset Council spent £60 million over 20 years on maintenance and construction works to build seawalls, rock armors, and defenses to protect people's properties and land at Lyme. Since Lyme's coast is a heritage site, the constructions are partially funded by the DEFRA (Department of Environment, Food and Rural Affairs) and partially by the European Union. However, the council is debating how to best use the allocated funds and whether it would be wise to spend it on something that is destined to disappear in time or use it to develop other social programs. With a service life of approximately 60 years, the council would need to re-do these constructions after 60 years.

Despite its importance, achieving a balance between protecting nature and the people of Lyme Regis appears to be difficult. The locals live in uncertainty about the safety of their homes, livelihood, and properties. The town lives in the fear of losing tourism, which represents its main source of income; hence, investors may lose confidence in the town's stability and refrain from investing in Lyme. In addition, Lyme lives within the indeterminacy of losing funding, which allows it to push back violent forces of nature and co-exist. In this "dance of agency" (Pickering 2010, 9) between human and nonhuman actions, as described by Pickering (2010), humans are not fully in control. In a place like Lyme where the ecosystem challenges human inhabitants, humans would hope for a

machine, technology, or even a miracle that would help them expand their power and bend the forces of nature to their will.

In facing and living with this dilemma, people are immersed in the changes taking place in the earth's system. They understand the meaning of loss and grief through experience. The community project and documentary showed how people lost their homes in the landslides. One resident explained how his mother's hair, literally, "turned white" the day her home, where several generations had lived for a long time, was wrecked by a sudden landslide. In addition, the documentary showed how people experienced excitement due to the landslides because they uncovered new fossils. This contradiction demonstrates the difference between immersion in and detachment from the natural world. However, as explained earlier, it appears that human detachment from nature has caused humans to lose their ability to share the suffering, empathize, and mourn the loss of homes, species, and nature. Based on Barad's (2012) perspective on the possible transformation inspired by inter-species connectivity and human-nonhuman (inhuman) co-constitution, the meaning of 'inhuman' becomes "the very condition of possibility of feeling the suffering of the other, of literally being in touch with the other, of feeling the exchange of emotion in the binding obligations of entanglements" (219). In this context of human immersion amongst the nonhuman (or inhuman) as opposed to the Cartesian constructed 'human' as separate and superior to the nonhuman other, I argue that the idea of becoming "inhuman" has lost its negative connotation of being insensitive and unfeeling. Instead, becoming "inhuman" becomes a necessity to connect with the nonhuman world, feel the suffering of the other, and act or respond ethically to the obligations that emerge from these entanglements.

At Lyme, the Anthropocene conditions and the possibility of land loss and extinction have created a collective sense of anxiety and fear amongst people who have lived in Lyme for generations and understand the meaning of loss. Their struggle now is to make Lyme a collective home and ensure the survival of human generations alongside the nonhuman natural species and land. It is this notion of ‘surviving with’ as opposed to ‘surviving off of’ nature that guides the inhabitants’ choices; their historical naturalcultural entanglements create this posthuman relationality. Lyme’s nature, in this scenario, “holds” the memory of all traces of past relations and becomes memories in its congealed materialized form (Barad 2010, 261). When interviewed in the documentary, people appeared to be ready to postpone crucial programs, such as adult and children social services that prioritize human needs over nonhuman nature. Instead, they choose to allocate the funds to save their town from being devoured by the sea as it will save their private homes and memories. I argue that this is an instance of “spacetime mattering” because it emphasizes the entangled nature of space (Lyme), time (past/history and different generations), and matter (people, cliffs, and other nonhuman natural entities at Lyme), whereby, a change in one will lead to a corresponding change in the other to reflect attunement, responsiveness, and future open-ended becomings. For example, a drastic environmental crisis, which materializes in the form of ruination and extinctions, is met by an invocation of the past in the form of Lyme’s history and family histories at the same time.

Circling back to the Anthropocene narrative Crutzen’s and Stoermer (2000) call for the “global research and engineering community to guide mankind towards global, sustainable, environmental management” (18). I argue that this is an example of another intervention, which seeks to control nature through science and mathematics by which “the



process is always decided from the start” (Chandler 2018, 5). Barad describes this situation as “a priori” (2007, 216) and warns that “it is a mistake to presume an a priori distinction between humans and nonhumans and foreclose the drawing of boundaries between the human and the nonhuman” (216) because boundaries and distinct agencies emerge from relationalities as explained earlier and will be discussed more in chapter two. Further, Barad (2007) argues that any “new political collective” (59) that seeks to govern the dynamics of human-nonhuman relationality must take account of the different and differential practices that co-constitute the material and discursive practices including the social, political, cultural, and geopolitical, economic, and more (59). Thus, I argue that if political responsiveness does not heed this differential co-constitutive aspect, it risks re-inscribing dualistic values that re-instate injustice.

Given Lyme’s unstable circumstances, I argue that Lyme’s community is bound by a compassionate understanding and acknowledgment of its interdependence with nonhuman entities. Thus, Barad’s notion of co-constituted material-discursive intra-actions gain wider importance due to the added ethical dimension, which seeks to unite the people and the land, humans and nonhuman nature, in a relationship based on respect and attunement, as opposed to reinstating a human-centric hubris way of life.

## **V. Lyme Regis: A space of possibilities in the Anthropocene**

As explained earlier, the Anthropocene re-situates us in the world by allowing us to be attuned to the changes and losses of nonhuman actors; it announces the possible loss and destruction of the earth’s ecosystem and biosphere and of people’s dwellings and livelihoods. In addition, it prophesies further loss and destruction if humans do not relate differently and

responsibly with the nonhuman world as part of its process of becoming with the world. The Anthropocene reveals the cracks embedded within our hubris-filled approach to the world objectifying, controlling and viewing the nonhuman world as a resource. By rethinking this process through Baradian lens, I argue that human and nonhuman actors at Lyme along with time and space emerge as co-constitutive components that (re)shape Lyme as an agential phenomenon or an “intra-activity between the world and its subjects” (Geerts 2016, n. p.). In their original narrative, Crutzen and Stoermer (2000) urged the scientific community to guide humanity out of this ecological dilemma (17-18). Yet, human intervention in the workings of the nonhuman world, manifested in crumbling cliffs, rising sea levels, and erosion, only aggravates the problem and endangers humans and nonhumans alike. This is because human intervention recreates negative dualities, such as human/nature, and government/governed, among others, which ignore nature’s dynamism.

To respond to this dilemma, approaching life dynamics as specific intra-actions that co-constitute human and nonhuman embodied practices could be a way to achieve attunement to specific differential changes that shape and (re)shape the world, creating new possibilities for a differential open-ended becoming (Barad 2007). This understanding finds resonance in what Barad calls the “politics of possibilities” (225) that opens up a space for the emergence of distinct agencies that are not necessarily tied to humans (see chapter two), in which “the dynamic intra-play of indeterminacy and determinacy reconfigures the possibilities and impossibilities of the world’s becoming such that indeterminacies, contingencies and ambiguities co-exist with causality” (225). Following Barad, I argue that one possible way to approach this human-nonhuman dynamics is to be “attentive to the nature of specific entanglements” (2007, 233) and to adopt politics that is open and responsive to

contingencies, indeterminacies and ethical considerations embedded within the emerging phenomenon.

## **VI. Conclusion**

This chapter closely examined Lyme as a place threatened with being lost to the sea because of rising sea levels and an eroding coast. I discussed the process of “spacetime mattering” at Lyme, in which history, generational connections to the land, and memories intra-act with the place to create new creative possibilities for Lyme’s inhabitants, human and nonhuman. I situated Lyme within the broader context of the Anthropocene and argued for the capacity of the Anthropocene to invoke interdisciplinary debates, which would interrogate anthropocentrism, universalism, and dualism. I approached Lyme as an agential phenomenon, which constitutes material and discursive practices that include human, nonhuman entities, laws, policies, histories, and culture; all intra-acting in an ongoing human and nonhuman act of becoming. I argue, finally, that Lyme, as a home for both humans and nonhuman nature in the Anthropocene, must be redefined and reconfigured to reflect a human-nonhuman agential realist relational ontology, which is essentially one of changing, becoming, uncertain, and open-ended.

## Chapter Two

### Diffractive Methodology: Lyme Regis as Agential Phenomenon

#### **I. Introduction**

Chapter one discussed Crutzen's and Stoermer's (2000) Anthropocene narrative rethinking the anthropocentrism and universalism embedded within it and revealing its agential realism's posthumanist nature that emphasizes human entanglement, embeddedness, and interdependency with the nonhuman natural world. Within this context, I situated Lyme Regis and discussed the human-nonhuman entangled practices that recast Lyme as an agential phenomenon shaped and reshaped by their specific co-constitutive intra-actions.

Drawing on theoretical particle physicist and feminist scholar Karen Barad, I claim that, to navigate the existential dilemma in which Lyme's inhabitants, humans and nonhuman, are threatened with extinction, we should be attentive to the "nature of entanglements" (Barad 2007, 233) between material and discursive practices, including political, economic, cultural, machines, technology, among others. Thus, to secure Lyme as shared home for both humans and nonhumans in these threatening conditions, we must consider the entangled nature of their practices in the sense that they are bound through a relationship that is essentially interdependently evolving, becoming, indeterminate, and open-ended. This form of relationality would possibly affirm a sense of attunement and ethical accountability necessary for the survival of humans and nature.

This second chapter offers a closer examination of what constitutes Lyme as an agential phenomenon, rethinking its set identity as a World Heritage Site earned for its contribution to earth science and geology and how this scientific discourse contributes to the violence of marginalization and dehumanization. I argue that Lyme's framing as a World

Heritage Site is problematic for three main reasons. First, this status captures the violence of privileging the scientific over the social. Second, this status creates a duality that favours Lyme over other places that do not have the same privileged position. Third, Lyme's heritage status ignores and hides the challenges and nature of contribution of vulnerable categories in Lyme's society and history, such as women, indigenous, people of color and children, particularly and historically the enslaved who are treated as nonhuman other and/or dehumanized. In this context, my approach will underscore the nature of contributions by figures like Mary Anning and Saartjie Baartman to the apparatus of scientific knowledge production at Lyme. Hence, through this lens, instead of perceiving Lyme only in terms of its general contribution to the earth sciences, as declared by the UNESCO World Heritage Convention, Lyme emerges to be a place of "multi-pli-city," as Thiele (2014, 208) sums it up, where "thought [and] practices" (208) allow for different and differential agencies (human and nonhuman) to materialize. In this way, my study aims to activate an ethical dimension embedded within the embodied knowledge emerging from the different and differential co-constitutive practices at Lyme that calls for political responsiveness by accommodating differential nature and challenges associated with emerging knowledge in extending such designations. I use Barad's philosophy of agential realism as a framework because it, first, destabilizes what being "human" entails and, therefore, furnishes an affirmative space where the nonhuman and dehumanized can assert their agency, as we shall soon see.

Second, agential realism destabilizes the notion of linear time as it "enables genealogical analyses of how boundaries are produced" (Barad 2007, 30). Barad's diffractive methodology allows me to illuminate and make visible the differences that

constitute Lyme's identity. In other words, Barad's diffractive methodology allows me to make visible the differences that constitute the (re)making of Lyme's identity as a World Heritage Site. Guided by Haraway's feminist notion of situated knowledges that informs Barad's philosophy and recognizes the knowledge produced by "those ruled by partial sight and limited voice-.... for the sake of the connections and unexpected openings" (Haraway 1998, 590), I examine the heritage politics in relation to Lyme, situating Anning's and Baartman's embodied practices in relation to its apparatus of knowledge production.

This chapter unfolds in two parts: Part I discusses Barad's agential realist framework and its corresponding diffractive methodology. First, drawing on the work of critical thinkers, like Rick Dolphijn and Iris van der Tuin, Barad, Tsing, and, Kathrin Thiele, among others, I discuss how the Anthropocene is the product of modernity's negative dualities and anthropocentrism. I integrate Barad's work within that of theorists like Niels Bohr, Foucault, Butler, Derrida, and, Haraway.<sup>32</sup> Next, I discuss Barad's posthumanist performativity that challenges modernity's representationalism and furnishes the foundation upon which they base their philosophy of agential realism. I then discuss diffraction as a scientific phenomenon and a metaphor, which integrates insights, illuminates difference and its effects, and opens up a space for ethical and political responsiveness. Finally, I respond to the critique directed at Barad's philosophy regarding power relations, nonhuman agency and emerging ethics by focusing on Barad's (2007) approach to the ultrasound technology as an apparatus of different and differential bodies and knowledge production.

In light of my discussion of agential realism and diffractive methodology, part II will closely examine the entangled material and discursive forces intra-acting within Lyme Regis

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<sup>32</sup> Described as feminist science studies posthumanist scholar in Barad (2007, 410, 414) and Ferrando (2013, 28).

to better understand the nature of the apparatus of scientific knowledge production, which earned Lyme its status as a World Heritage Site. This approach will help me highlight the power relations embedded within the apparatus of scientific knowledge production at Lyme and underscore their implications. To this end, I read insights provided by the (hi)stories of the two figures, Anning and Baartman, in connection with Georges Cuvier, the scientist whose name is linked to geology and scientific research on fossils discovered at Lyme. I argue that Lyme's Heritage Status reflects a form of objectivity that Barad and Haraway sought to rethink. This form of objectivity hides the biased reasoning and sees knowledge as the realm of the male and white knower and is, therefore, essentially racist and objectifying (Haraway 1988, 581). Instead, I argue for a feminist form of objectivity in accordance with Haraway (1988) and Barad (2007), for whom objectivity emerges from a "politics of location, positioning and situating, where partiality and not universality is the condition of being heard to make rational knowledge claims" (Haraway 1988, 589), in addition to a "politics of possibilities"<sup>33</sup> (Barad 2007, 225) where space, time, and matter are reconceptualized in "a space of agency" (225). This notion could be promising as it might unsettle power relations (see Barad 2007, 246). Based on this, my study illuminates a necessary ethico-political demand for integrating racial and gendered differences and agencies that are rendered silent and invisible especially if their valuable contribution in the apparatus<sup>34</sup> of scientific knowledge production at Lyme results in the emergence of scientific knowledge, which is key to Lyme's distinguished status.

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<sup>33</sup> Barad uses "politics of possibilities" (225) following Ruth Wilson Gilmore. Also, Barad's unique approach to agency will be discussed in detail later in this chapter.

<sup>34</sup> The concept of "apparatus" will be discussed soon in this chapter.

## Part I

### Agential Realism and Diffractive Methodology

*We are part of that world that we seek to understand*

- Barad (2007, 248)

#### **I. The Anthropocene and Modernity**

Following Crutzen (2013, 5), the Anthropocene has become a “metaphor” about the nature of the relationship between humans and the nonhuman world in which both stand to lose if humans practice and maintain their excessive power and domination over the nonhuman world. Critical thinkers like Chandler (2019); Head (2015); and Feichtinger (2019) describe this human, nonhuman, and more-than-human relationality differently. For instance, Chandler (2019, 2) emphasizes our affective and visceral experience of the Anthropocene, which does not involve the human mind, pointing out how modernity, with its emphasis on epistemology and the superiority of the human mind, ruptures and breaks down from within. Chandler writes that “the Anthropocene is a time of high emotional intensity, an affective release of the energies and frustrations pent up during the slow implosion of modernity” (2). On the other hand, Head (2015, 316) emphasizes our material, ontological, historical, and biochemical embeddedness in the “processes of the earth” (Head 2015, 316) as an important aspect revealed to us through experiencing the Anthropocene. Based on this affective, visceral, historical and ontological immersion amongst the nonhuman world, I argue with Feichtinger (2019) for the importance of accommodating a relational ontology that includes “objects and things, nonhumans, matter and materiality [...], emotions, spirituality, feelings, and so forth” (86) rather than merely focusing on epistemology.



Describing Western modernity's understanding of the human subject, humanity, and what constitutes humanism, Haraway writes:

Humanity is a modernist figure; and this humanity has a generic face, a universal shape. Humanity's face has been the face of man. ..., I believe, we must have feminist figures of humanity. They cannot be man or woman; they cannot be the human as historical narrative has staged that generic universal. ... Feminist humanity must, ..., both resist representation, resist literal figuration, and still erupt in powerful new tropes, new figures of speech, new turns of historical possibility. For this process, ..., we need ecstatic speakers ... the figure of a broken and suffering humanity, signifying-in ambiguity, contradiction, stolen symbolism, and unending chains of non-innocent translation – a possible hope. (2004, 47-8)

In this passage, Haraway exposes the racist and sexist aspects of Western modernist humanism. She reveals it to be the property of “male” humans sheltered from the struggles of those deemed nonhuman in the world. Haraway argues that this modernist narrative must be resisted by focusing on the embodied experiences and struggles of those others and deemed nonhuman. Thus, Haraway redefines humanism to be a site or an entity marked and shaped by the struggles associated with experiencing the world physically and mentally. For example, the struggles of women and women of color in particular, the marginalized classes, the extinct species, and so on, as well as those subjected to historically normalized discourses that justify and support these struggles and suffering. Haraway (2004) and Barad (2007) identify this issue with modernity because it reduces the different and complex phenomena that constitute life to hierarchical dualities.

The existential challenges presented by the Anthropocene, in which human civilization, along with the nonhuman world, are threatened with extinction, are the product of old rigid modernist dualities, which lulled humans into a false sense of certainty. DeLaughrey (2019) and Giraud (2019), among others, argue that modernity's negative dualities and representationalism are structures of hegemony, which support political and

ideological agendas and engender violence as they justify practices, which are damaging to those deemed nonhuman (DeLaughrey 2019, 135; Giraud 2019, 5), such as slavery, racism, classism, sexism, and so on. This chapter discusses Anning and Baartman as two examples that highlight the violence embedded within institutions like the World Heritage Convention, which hide their valuable contribution to the apparatus of scientific knowledge production at Lyme. Hence, the Anthropocene draws attention to the anthropocentric aspect that advocates a rigid human/nonhuman separation, which hides, what Tsing (2015) describes as, “the divergent, layered and conjoined projects” engaged in forming the world (22). By implicating human actions as the central cause for the current climate crisis (Crutzen & Stoermer 2000, 17-18), the Anthropocene narrative draws attention to the importance of rethinking this age-old belief in human superiority over the nonhuman world as it reinforces this sense of superiority since we appear to be the only species capable of such a deed. This hierarchical relationality was cemented by the modernist rigid separation between humans and nonhuman nature, matter and meaning. In this sense, this relationship was constructed upon domination, exploitation, negation, and dismissal and, therefore, left unexamined and unpacked.

Instead of the modern Cartesian cut that separates entities and emphasizes negative differences, Barad underscores human-nonhuman entangled existence and argues for the lack of conscious intentionality based on prior fixed understanding or references as key factors that define human relationship with the nonhuman world. They write that humans remain “responsible to the others with whom or which we are entangled, not through conscious intent but through various ontological entanglements that materiality entails” (2007, 393). Instead, Barad underscores an agential cut that “do[es] not erase differences; ... [but] entail[s] differentiatings, ... [and] entanglings. One move – cutting together-apart” (2014, 176).

Hence, we need to rethink the world as constitutive of entangled human-nonhuman practices. According to Barad, the boundaries between these practices are iteratively reproduced through different intra-actions. The subject or object emerge as distinct agencies through these intra-actions; they materialize marked<sup>35</sup> by these intra-actions where discourses get to be re-shaped by its encounter with material relations and forces. We see this, for example, in the mark of culture or human history on objects, bodies or nature in the Anthropocene; and the mark of the environment or climate change on human social, cultural and political life that prompts a change to accommodate the co-constitutive nature of life and respond ethically and politically to climate change. The notion of marks on bodies, enacted as a result of agential cuts, will be explained in detail.

## II. Agential Realism and the Nature of Material-Discursive Practices

Barad proposes their philosophy of “agential realism” as a theoretical framework founded upon a posthumanist performativity that rethinks modern representationalist theorizing. Before proceeding to delve into the specificities of agential realism, I shall first discuss the concepts of representationalism and Barad’s posthumanist performativity that provides the foundation for their agential realist philosophy.

### i. Representationalism

Representationalism is defined in *Britannica Encyclopedia* as the “philosophy of knowledge” (“representationalism,” n. p.), in which the human mind is seen to have access only to “mental images” or representations of material things in the outside world instead of

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<sup>35</sup> By “marked,” I mean physically reflect these struggles or intra-actions. Barad argued that “What is a ‘cause’ and what is an ‘effect’ are intra-actively demarcated through the specific production of marks on bodies” (Barad 2007, 236).

the things themselves, which questions human knowledge and its ability to accurately capture the external material things (“representationalism,” n. p.). Barad (2003) argues that representationalism is the “belief in the power of words to represent preexisting things” (802) and locates the roots of representationalism in Cartesian thought where “the belief in the ontological distinction between representations and that which they purport to represent; ... is held to be independent of all practices of representing” (804). Representationalism, in this sense, Barad (2003) points out, assumes the existence of three separate entities “–the knowledge (i.e., representations), ... the known (i.e., that which is purportedly represented), ... [and the] knower (i.e., someone who does the representing)” (804). Hence, the representation (which is fixed) mediates the object and the observer, creating an “ontological gap” (804). An idea that, I suggest, perceives humans as the only agents capable of speaking for the nonhuman world.

ii. *Posthumanist performativity*

Instead, Barad argues for a posthumanist performativity, which sees “meaning” and “matter” as “mutually articulated” (2007, 152) and, thus, rethinks the representations and references that mediate meaning and matter as a way to understand “the empirical world” (152). Drawing on Foucault’s and Butler’s assertion that subjects are (re)produced by discourses of power representing them (see Geerts and van der Tuin (2016, 174)), Barad’s posthumanist performativity grounds the subject or object formation in the process of “intra-action” from which the subject, object, knower, agency, and so on co-emerge and are co-constituted, or, as Lemke (2021) puts it, “intra-action ... capture[s] a relational dynamics defined by processes of co-constitution and mutual emergence” (61). Therefore, instead of

having a gap between the observer (agentic) and the object or subject (unchangeable and lacking agency) that affects the accuracy of the representation or knowledge generated, we are immersed in complex relationships within the world (human and nonhuman) and are constantly in a state of becoming with it. Further, Barad's posthumanist performativity, in this sense, emphasizes the inseparability of epistemology, ontology, and ethics (2007, 364). This aspect allows us to rethink traditional negative hierarchical dualities in terms of a relational ontology, which has performativity, ethico-onto-epistemology at its core and, thus, as Geerts (2016) points out, rethinks important concepts like agency, subjectivity, and what constitutes the human and the nonhuman.

iii. *Agential realism*

Agential realism is concerned with destabilizing the boundaries between humans and nonhumans through emphasis on intra-actions within phenomena. Thus, according to agential realism, it is through "material-discursive practices, ... [that] different distinctions get drawn, including those between the 'social' and the 'scientific'" (Barad 2003, 816). As stated earlier, drawing on Barad's work, Rouse (2004) explains that "phenomena" are "constitutive of the natural world (reality)" (146). Here, it is important to note that Barad's use of the concept of phenomena first started within a scientific context in reference to experiments and apparatus set-ups, as pointed out by Rouse (2004, 146); however, it later evolved to refer to causal relationships in general (158). For Barad, activities, such as observing, contemplating, and thinking, are material practices that signify human entanglement with the nonhuman world or "material practices of intra-acting within and as part of the world" (Barad 2007, 90-1),

through which new meanings about the human and nonhuman world emerge. Barad explains that agential realism:

[D]oes not fix the boundary between “human” and “non-human” ... but rather enables (indeed demands) a genealogical analysis of the discursive emergence of the “human.” “Human bodies” and “human subjects” do not pre-exist as such; nor are they mere end products. “Humans” are neither pure cause nor pure effect but part of the world in its open-ended becoming. (2003, 821)

Barad’s agential realism allows us to revisit the originary histories, which constructed and legitimized such enduring separations and the injustice and inequalities, which consequently followed from them as an implication of this “genealogical analysis” (821).

An important aspect of agential realism is how it redefines agency. In an agential realist ontology, the traditional, modernist understanding of agency as the human capacity to act is destabilized by associating it with human and nonhuman entangled performances in the world. Therefore, agency is no longer something that belongs to humans, rather it emerges according to the role each (humans and/or nonhumans) plays in an encounter. Barad (2003) describes this notion when they write, “agency is cut loose from its traditional humanist orbit. Agency is not aligned with human intentionality or subjectivity. Agency is a matter of intra-acting; it is an enactment, not something that someone or something has” (822-23). In this sense, agency emerges as co-constitutive of human and nonhuman entangled practices.

Barad’s philosophy of agential realism rests upon two important tenets. First, the notion of intra-action that Barad (2007) uses in place of “interaction” to negate “prior existence of independent entities” (33). In their effort to reconsider the binary thinking established by modernity, as well as decenter the human and integrate differences, Barad approaches the world as a phenomenon in which the human, nonhuman, dehumanized, and more-than-human co-emerge and are co-constituted (384). Thus, contrary to the fixed

construct, which separates what entails being subject or object, human or nonhuman, and so on, Barad (2003) sees the boundaries between these dichotomies as not fixed; they get to be re-enacted and re-configured iteratively within the phenomenon while shaping and reshaping this phenomenon (817). This process, Barad elaborates, creates the conditions for objectivity as a matter of what they call “exteriority-within-phenomena” (2007, 234) and a sense of accountability for what materializes as a part of the process of intra-action essential to the differential co-constitution and co-emergence in an ever-changing (becoming) world (Barad 2003, 815). In this sense, Barad’s (2007) notion of objectivity as “exteriority within phenomenon” (234) is significant to my argument as it underscores how concepts (like Heritage Status, in this chapter) gain specific meanings by virtue of “our [direct] participation” (Rouse 2004, 146) where the boundary (re)making dynamics of intra-action attaches “ethical and political responsibility” (146) to what emerges.

Agential realism, in this sense, is a radical philosophy because it emphasizes our participation “within and as part of the world” (Barad 2007, 180) recognizing that matter is agentic and dynamic in its “ongoing historicity” (151) as a site of relations. As a key process in agential realism, specific “intra-action” sees human and nonhuman specific practices entangled and what emerges becomes a temporarily defined entity or concept (or meaning) that is always in the process of evolving and becoming as it re-enters another intra-action until the end of life. Causality and agency for what emerges from these intra-actions are distributed amongst the intra-acting components according to the role each played. Barad asserts that “specific intra-actions ... [enact] a differential sense of being ... in the ongoing ebb and flow of agency” (2003, 817). Therefore, intra-action reworks “the traditional notion of causality” (826), which sees agency “aligned with human intentionality or subjectivity”

(826). Hence, agential realism does not privilege culture by perceiving it as the cause of all change and meaning, while “denying nature any sense of agency or historicity” (Barad 2007, 183); instead, matter is perceived as a “doing, a congealing of agency” (184). Humans, in this context, are only “accountable for the role we play” (136) in what materializes as a result of intra-action, “constitution and ... positioning ... among other creatures” (136). Furthermore, agential realism attaches an ethical imperative to what emerges from such intra-actions because of its emphasis on “ethico-onto-epistemology” (Barad 2003, 821). This notion affirmatively rethinks modernity’s representationalist depiction of matter as passive and non-agentic (Barad 2007, 150).

The second important tenet that supports agential realism is the notion of “agential cuts.” As explained above, meanings, agencies, knowledge, and bodies emerge through intra-actions where boundaries between intra-acting entities get to be rearranged enacting, what Barad (2007) terms, “agential cuts” (139). Agential cuts are instances where “the boundaries and properties of its [phenomenon] components become determinate [temporarily – because intra-actions are iterative] and particular concepts [or meanings, or identities]” are formed (Barad 2007, 139-40). For example, the human (in terms of subjectivity), in agential realism, emerges as a product of the effects of material-discursive entangled practices physically marking them (Rouse 2004, 153). Rouse explains that the ability of one component of the intra-action within a phenomenon to “cause” a specific “effect” is measured by the marks exhibited upon the other component (158). An example of these marks would be the physical marks left by human actions on the earth strata, in the Anthropocene, causing extinctions, climate change, and environmental crises. In this sense, I argue that the world, as a phenomenon, is shaped and (re)shaped by the capacity of one component to cause an effect



or mark upon its surroundings. Rouse (2004) further explains that the marked position “characterize[s] the entire arrangement” (148) within the phenomenon and not just the marked component (148). According to Rouse, “adaptation” (148) is an instance of trade-offs, which takes place during intra-action with the surroundings. Barad (2007) showed this trade-off instance when they present the case of the brittlestar (discussed shortly). Similarly, the second part of this chapter reads the (hi)story of Saartjie Baartman, the Indigenous South African enslaved woman to show how marks on the body display specific exclusionary agential cuts that are material and discursive and that paying attention to the nature of this intra-relationality could translate into meanings, give voice and make visible her dehumanizing experience as well as her agency in the scientific knowledge produced.

Barad’s philosophy aims to rethink matter and meaning affirmatively and inseparably. Barad (2003) argues for the inseparable nature of intra-acting material and discursive practices that take place within “apparatuses” (822). They define apparatuses as not just “observing instruments” (822), but rather as “boundary-making [material-discursive] practices” (827), which shape and re-shape phenomena. For Barad, phenomena are “the ontological inseparability/entanglement of agentially intra-acting ‘components’ [or intra-acting agencies]” (815). The human mind is perceived as a “specific material configuration of the world, not necessarily coincident with a brain” (Barad 2007, 379).<sup>36</sup> To prove this, Barad uses the example of the brittlestars, brainless sea creatures, that “intra-act with their ocean environment and respond to differential stimuli made intelligible through these intra-actions, adjusting their positions and reworking their bodies to avoid predators or find food

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<sup>36</sup> The notion of phenomena for Barad in her posthumanist performativity model is different from Kant’s modernist understanding of phenomena, which is epistemological.

or shelter, all without brains or eyes” (379). The brittlestar’s practices are embodied in the form of the changes, which happen to its body during its risky maneuvers to protect itself from predators. The brittlestar can separate a body part, being attacked by a predator, and regrow it later. This practice is iterative, embodied, and unintentional since, as explained earlier, conscious intent emerges from human nonhuman co-constitutive participation in the world.

Importantly, in addition to being onto-epistemological, agential realism is also an ethico-political philosophy as it sees the entanglements between human and nonhuman, and epistemological and ontological practices as an ethical issue and a matter of social justice. The epistemological knowledge-making aspect of agential realism lies in the fact that “different intra-actions produce different phenomena” (Barad 2007, 58). In addition, Barad (1996) underscores the ontological aspect of agential realism when they emphasize human “participation within” (176) the nonhuman world and argue that “we are not outside observers of the world. Neither are we simply located at particular places in the world; rather, we are part of the world in its ongoing intra-activity” (2007, 184). In this sense, knowledge production, being and becoming with the nonhuman world are inseparable practices.

Moreover, the ethical issues at stake in agential realism are linked to the knowledge that emerges from specific human-nonhuman intra-actions that differentially (re)configure and (re)shape our knowledge about the world. Barad points out the aspect of accountability and responsiveness involved in her philosophy when they argue that “the point of challenging traditional epistemologies is not merely to welcome females, slaves, children, animals, and other dispossessed Others ... into the fold of knowers but to better account for the ontology of knowing” (Barad 2007, 378) through which the other “is not just in one’s

skin, but ... in one's past and future" (393). Thus, agential realism could entail political remodelling and change to respond to emerging knowledge that invoke issues like injustice not only in the present but from the past as they unfold in the present time such as in the case of the Anthropocene. Barad (2007) expresses this when they point out the "marked historicalities ingrained in the body's becoming" (393) where the body or marked matter is perceived as an embodied "memory" (393); and, the process of accounting for injustice is perceived as an act of "re-membering" (393).

Looking at Lyme Regis as the case under study from this perspective, time appears to be embodied. The fossils, the strata, and the ancient Victorian waste uncovered by the falling cliffs (explained in Chapter 1) are examples of the entanglement and intra-actions of space and time; they are, what Barad terms, "congealing of agencies" (2007, 183-84) that converse with us every time the cliffs fall and prompt us to rethink and hear the voices of the material forces and discursive practices involved in shaping Lyme phenomenon. Hence, they are reminders of the past that haunt the present. These congealed or embodied agencies affirmatively constitute the paradox of forgetfulness and remembering simultaneously, and the possibility of achieving justice as both practices intra-act to activate new meanings and new ethical political actions. Based on Bohr's and Derrida's writings, Barad argues that "every concept is haunted by its mutually constituted excluded other" (Barad 2019, 535), which allows us to affirmatively revisit and rework discourses of separation, suffering, and dismemberment, as Haraway calls them, by being attentive, respectful, responsive, and responsible for the different and differential entangled agencies involved in these actions (Haraway 2004, 47).

### III. Sources of Inspiration and Barad's Contribution

Barad bases their philosophy of agential realism on the works of critical thinkers such as Bohr, Butler, Foucault, Derrida, and Haraway, paying particular attention to weeding out any “remnant anthropocentric and representationalist assumptions” (Barad 2007, 27) that might haunt their theories.

Due to Bohr's deep influence on Barad's work, I will expand on particular aspects of Bohr's philosophy, which will contribute to understanding agential realism. Agential realism builds upon Bohr's radical challenge to representationalism underlying Newton's physics and Descartes's rationalist “epistemology” (Barad 2003, 813). Bohr rejects the idea that “things ... have inherently determinate boundaries or properties, and words, ... [or] have inherently determinate meanings” (813). In addition, he rejects the separation between “subject and object and knower and known” (813), which sustained Descartes' philosophy. In her article, “Meeting the Universe Halfway” (1996), Barad explains that Bohr believes that “theory ... must itself be embodied in practice and cannot abstract itself from these issues” (166), arguing that in a scientific experiment, “the ‘object’ and the ‘agencies of observation’ form a non-dualistic whole” (170) where “measurement and description entail one another” (172); Bohr, furthermore, gives the term “phenomenon” to a “particular instance of wholeness of the observer and the observed” (170) and argues that:

The importance of physical science for the development of general philosophical thinking rests not only on the contributions to our steadily increasing knowledge of [the] nature of which we are [a] part, but also on the opportunities, which time and again it has offered for examination and refinement of our conceptual tools. (Bohr qtd. by Barad 1996, 177)

Here, Bohr's emphasis is on human ontological embeddedness as a “part” of the world. In addition, Bohr underscores the aspects of repetitiveness, indeterminacy, and the difference

associated with each time an experiment or practice gets repeated to achieve a certain result. Bohr focuses on the quality of knowledge, rather than only the quantity. His philosophy promises new possibilities, which would adjust our knowledge about the nonhuman world and makes us attuned to the changes, which take place within nature. Bohr's contribution to "realism" is based upon his practice of science and his reaction to the paradox of the "wave/particle duality" experiment (177). In this famous scientific experiment, called the "complementarity experiment" (Barad 2019, 535), light rays behave once as particles and once as waves under certain conditions, despite the classical understanding of light as consisting of particles. Bohr concludes that this behavior proves that the "concepts of 'wave' and 'particle' are mutually exclusive" depending upon how apparatus and observers are situated (Barad 1996, 177-8).

Agential realism expands Bohr's philosophy beyond the realm of epistemology and physics to include both epistemological and ontological aspects at its foundation. Thus, agential realism describes "our participation [entangled ontology] in the world" (Barad 1996, 176). This is significant because, as Barad indicates, the importance of relating representationalism to performativity arises from the need to link theorizing to practicing through iterative observation and engagement with nature so that knowledge production is perceived to be always in flux and attuned to a changing world (Barad 2003, 805). The ongoing emergence and change in produced knowledge that, in turn, would allow for revising and rethinking the humanist fixation on existing knowledge, representations and references to accommodate a differentially (human and nonhuman) entangled becoming and respond accordingly to issues like climate change. To be in flux is significant because, as explained by Hancock and Fontanella-Nothom (2019), it suggests the ability to be

“constantly ’becoming anew ... changing, growing, and evolving” (82) and, therefore, underscores the perpetual dynamism of the process of making and re-making, which reworks fixed representations and references .

Barad’s philosophy stresses the inseparability of material and discursive practices in shaping phenomena within the world. Regarding materialization and material practices, Barad (2003) rethinks Foucault’s approach to the notion of materialization in his discussion of power, history and the body in *The History of Sexuality*, vol. 1:

[D]eployments of power are directly connected to the body – to bodies, functions, physiological processes, sensations, and pleasures; far from the body having to be effaced, what is needed is to make it visible through an analysis in which the biological and the historical are not consecutive to one another ... but are bound together in an increasingly complex fashion by the development of the modern technologies of power that take life as their objective. Hence, I do not envision a “history of mentalities” that would take account of bodies only through the manner in which they have been perceived and given meaning and value; but a “history of bodies” and how what is most material and most vital in them has been invested. (Foucault qtd. in Barad 2003, 809)

Based on this account, Barad expands Foucault’s approach pointing out the importance of showing the way the body is constructed through different discursive and historical practices. In other words, Barad (2003) finds it important to rethink the ways by which the “biological and the historical” are “bound together” (809) by suggesting their co-constitutive intra-relationality. Accordingly, Barad emphasizes the “body [material] historicity in which its very materiality plays an *active* role in the workings of power” (809). In this narrative, Barad extends agency to include both the material and discursive, for example, the significant role played by technological and scientific practices that affect the human body (Lemke 2015, 7).

However, Barad’s (2003) understanding of discursive practices resonates with Foucault’s approach to discursive practices and Bohr’s account of the role played by

apparatuses in the materialization of both bodies and meanings. According to Barad, Foucault argues that discursive practices are “local socio-historical material conditions that enable and constrain disciplinary knowledge practices, such as speaking, writing, thinking, calculating, measuring, filtering, and concentrating ... [which] produce ... the ‘subjects ’and ‘objects ’of knowledge practices” (819). These “conditions” are seen to be “immanent” and “historically situated social conditions” (819). In a similar vein, Barad explains Bohr’s argument that “apparatuses are particular physical arrangements that give meaning to certain concepts to the exclusion of others; they are the local physical conditions that enable and constrain knowledge practices, such as conceptualizing and measuring” (819). Drawing on both Foucault and Bohr, Barad rethinks the meaning of discourse, arguing that it is not “a synonym for language ... signifying systems, grammars, speech acts, or conversations” (819) because this understanding would reinscribe the representationalism, which they seek to rethink (819). Instead, for Barad, discourse is “that which constrains and enables what can be said” (819) and; therefore, discursive practices are “statements and subjects [that] emerge from a field of possibilities ... [that] is not static or singular but rather is a dynamic and contingent multiplicity” (819). In this sense, agential realism is about what emerges from a dynamic, entangled, iterative, and unintentional relationality/performativity between discursive and material practices. This material-discursive dynamic inseparability allows us to continuously rethink and re-adjust how we relate to the nonhuman world.

Barad’s approach to performativity builds upon Butler’s work. Butler, a major theorist of post-structuralism, discusses the concepts of the material and discursive practices framed by performativity. Butler (1990) argues that “judicial systems of power ... represent women as ‘the subject ’of feminism” (2) and, in doing this, they represent a “discursive

formation and effect of a given version of representation politics. And the feminist subject turns out to be discursively constituted by the very political system that is supposed to facilitate its emancipation” (Butler 1990, 2).<sup>37</sup> Hence, Butler depicts gender as performative or “a doing” or “a kind of becoming or activity ... [instead of] ... a substantial thing or a static cultural marker, but rather as an incessant and repeated action of some sort” (Butler 1990 qtd. by Barad 2003, 808 n. 8). Performativity for Butler (1990) is more than just a performance because it explains how gender connects to practices of sex assignment and sexuality.

In their approach to performativity, like Barad, Butler rejects the assumption that a subject pre-exists its discursive construction. Butler (1990) argues that this construct represents an “obligatory frame of reproductive sexuality” (173) in which repeated gender norms reproduce the subject’s identity (Rak 2021, 1). Butler (1990) criticizes this process as they find that it promotes “a norm that can never be fully internalized” (179) and, therefore, what is performed and reproduced becomes oppressive ideas. This makes Butler’s ideas important for cultural studies as they criticize traditional power structures that seek to control and confine the people within socially accepted gendered space. Further, in their critique of representationalism, Butler forms a theory of materialization that sees matter “in its historicity” (821) rather than a “passive blank site awaiting the active inscription of culture” (822). To explain her approach to performativity, Butler argues that the subjects materialize through contexts with which they are “intimately entangled .... as performative materializations of social values” (Davis 2012, 881) and, therefore, they represent a

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<sup>37</sup> Butler drew on Foucault who argued that “judicial systems of power produce the subjects they subsequently come to represent ... But the subjects regulated by such structures are ... formed, defined, and reproduced in accordance with the requirements of those structures” (Butler qtd. in Barad 2007, 804).



“(re)materialization of its social environment” (881) or a performative reproduction of social construct.

Yet, Butler’s theory appears to carry some limitations that, according to Barad, agential realism can account for. Barad (2003) argues that Butler’s gender performativity theory only managed to “reinscribe matter as a passive product of discursive practices rather than as an active agent participating in the very process of materialization” (821) or, as Geerts explains, to focus on the “linguistic frame of reference” (2016, n. p.), which makes it an “incomplete assessment of important causal factors ...[and an] incomplete reworking of ‘causality’” that undermines the productivity of the material and discursive practices (Barad 2003, 822). Furthermore, Barad (2003) argues that Butler’s theory of materiality focuses only on the “materialization of human bodies” (821-22). Hence, Butler reinstates modernity’s anthropocentrism (822). Agential realism, which is founded upon posthumanist performativity, reworks the limitations in Butler’s approach to include the social and the material as it “acknowledges the existence of important linkages between discursive practices and material phenomena” (821-22), avoiding the element of anthropocentrism.

To verify Barad’s understanding of Butler’s approach to materialization process, I will demonstrate the difference between Barad’s and Butler’s performative approaches to gendering politics as an example. Butler’s theory focuses ;on speech act and interpellation Butler writes" ,a speech act brings the subject into being...interpellation is the discursive act by which subjects are constituted” (Butler and Bell 1999, 165). Barad (2003) argues that this focus on interpellation “undermines the productivity of the material and discursive practices” (Barad 2003, 822) since the discursive, for Butler, is only cultural (Davis 2009, 78). The

body in Butler's approach can only be known through a cultural act like naming, which animates the body (Davis 2009, 78).

Alternatively, Barad (2007) approaches gender through the ultrasound technology used on pregnant women. This apparatus constitutes the mother, the baby, the technology, the observer, and more human and nonhuman entities. Barad's approach illuminates the violence of racialization, classism, or gender discrimination that emerge through specific human-nonhuman intra-actions involved in the apparatus. Gender interpellation, for Barad, is linked to "relations of production" (194) where "girled" fetuses are in some situations aborted for economic considerations. Thus, for Barad, exclusionary power relations start to be visible very early through this apparatus that integrates different and differential material and discursive practices. The political and social significance of their inseparability is that the material practice of "seeing" (105) the fetus "makes an aspect of nature – the very early fetus – agentic" (105) because, in its materialization, it becomes exposed to discursive political and social power that (re)produce the violence of not only gendering but also classism, sexism, racism, etc. Decisions or actions that emerge from these intra-actions are ethical and political, which in turn can shape and re-shape discourses of race, gender, class as pointed out by Hekman (2008).

Barad's agential realism extends the notion of materialization to include the human and nonhuman other through the process of intra-action and thus opens up a space for the dehumanized other to be included. The significance of agential realism within the context of the Anthropocene, I argue, is undeniable as it allows us to be attuned to the working of nature and adjust accordingly because knowledge about past injustice can no longer be perceived as fixed; it is always in flux without the possibility of closure.

This impossibility of closure can be better explained by examining the exclusions (excluded entities or concepts or meanings) that emerge as a result of the shifting boundaries between intra-acting entities (human and nonhuman). Barad finds inspiration for her approach – spacetime-mattering – in Derrida’s notions of “hauntology” and “différance.” Barad is interested in Derrida’s understanding of force as “différance” (différée-différente) or as different and deferred forces (Barad 2019, 548 n. 24). As Derrida (1968) explains, “différance” is both “the spacing/temporalizing ... movement that structures any dissociation” (278) because it asserts difference between two entities and simultaneously promises a deferred possibility of sameness. Schrader (2006) sees Barad’s agential realism and Derrida’s hauntology as useful in constructing a form of “spectrology” that closely examines “questions of justice in the responsible practice of science” (Barad 2007, 475 note 71). As explained earlier in chapter one (p. 39 note 27), Derrida (1993) demonstrates how linear conceptualization of time hides systems of hegemony (62). For example, different forms of media disrupt and mask the political and, therefore, they “spectralize” (63). Furthermore, Derrida uses the notion of “hauntology” seeking to unsettle language and linguistic meaning. Just as Derrida (1993) associates “hauntology” or (the French) *hantologie* with ontology, Barad (2010) associates “différance” with “intra-activity” (241) of space and time so that what emerges from specific intra-actions is spacetime-mattering where the material world “holds” the memory of all traces of past relations. Hence, the world becomes memories in its materialized form or congealed memories (Barad 2010, 261). Based on this understanding, I argue that the effects of the Anthropocene, in the form of climate change, rising sea levels, extinctions, and other physical aspects that affect humans and the nonhuman other physically, are symptoms of a present that is haunted by past human violent actions against

nature and those deemed nonhuman. This re-appearance of the past in the present opens a space for the possibility of restitution and justice as an open-ended process.

Indeed, the practice of dating the Anthropocene constitutes finding what geologists describe as “signatures of human activity in sediments and ice cores” (Waters et al. 2016, 137) or traces of human actions in the past. According to Barad (2007), this manifestation of the past in the present “queers our presumptions of continuity” (182) or, as expressed by Geerts (2016), “queer[s] spacetime matter” (15-16) in such a way that it is the indeterminacy of continuity or dis/continuity, as Barad puts it, that constitutes the entanglement between space, time, and matter. In other words, I argue that the manifestation of the past in the present, as is the case with the Anthropocene, disrupts and troubles the way we experience the present and the future. Thus, past violent human actions return to haunt the present where they get reworked. The significance of this assertion is that time loses its sense of linearity and closure. Hence, we can perceive this as another chance to right the wrongs committed in the past and attend to past injustices, which materialize in the present and harm us (e.g., the Anthropocene). We become accountable to what emerges from this entanglement between space, time, and matter.

Barad points out the limitations of Derrida’s approach as they find it more focused on meaning as the prerogative of language and expands it to include matter (Barad 2019, 547 n. 24). They argue that Derrida’s approach to hauntology is essentially transcendent since his focus is on the linguistic forms of violence as opposed to the physical or material forms (537). For example, in “After the End of the World: Entangled Nuclear Colonialisms, Matters of Force, and the Material Force of Justice” (2019), Barad argues that Derrida denies the existence of a “nuclear war” and describes it as “an anticipatory fantasy” (537), which

recalls the issue associated with representationalism where “the destruction of literature, the archive, the name, and not the planet itself” (537) is the main concern. Barad (2019) describes Derrida’s denial as a “reification of violence of nuclear colonialism in its practices of erasure” (538). Whereas Derrida is concerned about past violence that haunts the present and sees this haunting as a way to achieve long lost justice, Derrida remains to focus on the text and language rather than inseparable material and discursive practices. Moreover, Derrida’s focus appears to be on human experience of language, meaning, and violence. Agential realism, I argue, fills this gap in Derrida’s theory as it is concerned with the nonhuman (nature) experience and intra-actions with their surroundings, and the violence committed against nonhuman beings. This notion relates well to the Anthropocene conditions that form the context of my study. Barad (2019) reintroduces Derrida’s hauntology and the notion of “justice to come” (539) to the field of immanence as hauntings and asserts that these hauntings are “not mere subjective remembering of a past (assumed to be) left behind (in actuality), but rather, *hauntings are the ontological re-memberings, a dynamism of ontological indeterminacy of time-being in its materiality*” (539 – italics in original). Remembering, in this context, is not just about nostalgia, but also about going back to the moment (revisit in memory) of injustice and rethinking it in terms of accountability by responding responsibly.

#### **IV. Diffraction Methodology**

As explained above, agential realism is a philosophical framework, which emphasizes a relational ontology in which boundaries between intra-acting different and differential entities (subject and object, human and nonhuman, meaning and matter, etc.) are re-enacted. Diffraction is the methodology, which enables this interdisciplinary or diverse “critical

rethinking” (Barad 2007, 93) in its relationality. Barad, here, draws on Haraway’s use of diffraction. In her philosophy, Haraway uses “diffraction” as a “counter-point to reflection” (Barad 2007, 71). For Haraway, diffraction “does not produce ‘the same’ displaced, as reflection and refraction do” (1991, 300); instead it maps “interference ... [and] where the *effects* of difference appear” (300 – italics in original). Haraway coined the notion of diffraction by drawing on the work of Trinh T. Minh-ha on difference. In “Not You/Like You: Post-Colonial Women and the Interlocking Questions of Identity and Difference” (1988), Minh-ha argues that the “Other” emerges as an “inappropriate/d” other (428). She discusses the ambiguity that arises when one’s identity is used as a defining boundary between the self and the other; especially in instances of racialization. In this context, Minh-ha (1988) argues that being an “inappropriate/d other” means being situated in “that undetermined threshold place where ... [one] constantly drifts in and out. Undercutting the inside/outside opposition, [their] intervention is necessarily that of both not quite an insider and not quite an outsider ... reminding us [that] ‘I am different’ while unsettling every definition of otherness” (Minh-ha 1988, 418). Minh-ha’s approach resonates with the diffraction methodology, as explained by Geerts and van der Tuin (2021), because “her philosophical approach toward identity and difference is relational” (173-74), which rethinks the violent separation that defines modern Western tradition.

Haraway perceives Minh-ha’s (1988) understanding of the inappropriate/d other as the ideal understanding of posthumanism based on diffractive understanding. The reason is that the inappropriate/d other, as described by Minh-ha (1988), is the site, in which modernity’s negative hierarchical binaries become unsettled. Accordingly, Haraway argues that the inappropriate/d other is free from “the available maps specifying kinds of actors and

kinds of narratives ... to be neither modern nor post-modern but to insist on the amodern”<sup>38</sup> (Haraway 2004, 69-70) where the “amodern” is a “permanent and multi-patterned interaction through which lives and worlds get built, human and unhuman” (77). Haraway’s approach to diffraction is essentially one of “politics and epistemologies of location” that are “partial” to women’s material (embodied) experience as active players in the apparatus of knowledge production (Haraway 1991, 195). Haraway is seen to have “planted the seed of ... feminist new materialisms” (van der Tuin 2015, p.21; Rogowska-Stangret 2018, n. p. ), which informs Barad’s agential realist philosophy that seeks to unsettle boundaries and argues for co-constitution and co-emergence through intra-action. Haraway’s (1988) use of diffraction rethinks modernity’s binary assumptions and specific positionalities or situatedness, which offers only partial views (590) and presents them as truths or facts (576). Haraway wants to underscore the role and situatedness of women and other racial influences behind the embodied knowledge produced and the knower who produced this knowledge (598-99). Building on Haraway’s approach to diffraction, Barad is interested in diffraction as a “relational ontology,” which takes into account the inseparable different and differential practices of knowing and being. Barad (2007) argues that diffraction is “impossible to explain in any classical way” (341) because it accounts for entangled epistemology and ontology.

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<sup>38</sup> Haraway (2004) borrowed the term “amodern” from Bruno Latour in *We Have Never Been Modern* (1993). Haraway explains that the amodern “refers to a view of the history of science as culture that insists on the absence of beginnings, enlightenments, and endings: the world has always been in the middle of things, in unruly and practical conversation, full of action and structured by a startling array of actants and of networking and unequal collectives” (77). Haraway argues that her version of the amodern would include “permanent and multi-patterned interaction through which lives and worlds get built, human and unhuman” (77), since she believes that Latour’s approach to the amodern failed to pay attention to the “non-machine, other nonhumans in the interactions ... feminist inequality ... [and] sets parameters of reproduction of scientific practice, artifacts, and knowledge” (115-116).

Building on this notion of situatedness, diffraction is a process that disrupts “the onto-epistemology of classical physics” by “queer[ing] the binary” (Barad 2014, 174) that resides in the knowledge that everything should behave as either particle or wave. Barad defines diffraction as both a scientific methodology and, at the same time, as a metaphor that stands for integrating differences. Barad writes that diffraction is:

[A]physical phenomenon that lies at the center of some key discussions in physics and the philosophy of physics, with profound implications for many important issues ... Diffraction is also an apt metaphor for describing the methodological approach that [Barad] use[s] to read insights through one another in attending to and responding to the details and specificities of relations of difference and how they matter. (Barad 2007, 71)

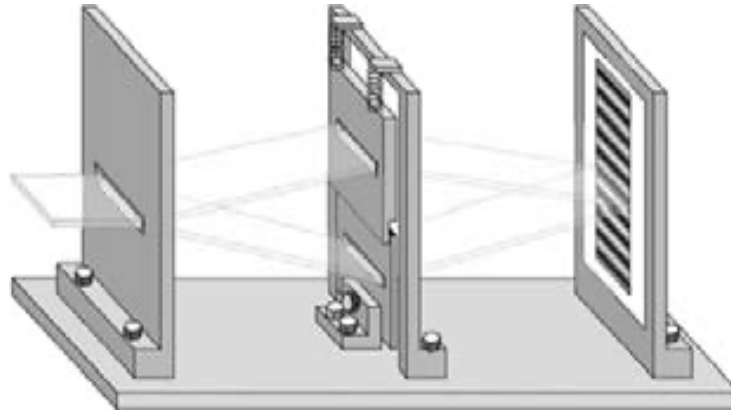
As a physical phenomenon, diffraction produces different patterns when light, water, or sound waves combine, spread, overlap, or bend when they meet an obstacle (Barad 2007, 28).

For example, in the case of water, Barad describes diffraction patterns as follows:

If two stones are dropped into a calm pond simultaneously, the disturbances in the water caused by each stone propagate outward and overlap with each other, producing a pattern that results from the relative differences between the overlapping wave components. The waves are said to interfere with each other, and the pattern created is called an interference or diffraction pattern. (Barad 2007, 76-7)

For light, Barad shows how diffraction patterns are produced in the famous two-slit diffraction physics experiment based on Bohr’s diagrams (Figure 1).





*Figure 8. The famous two-slit diffraction or “interference” experiment, based on the original diagrams sketched by Bohr (Barad 2007, 82).*

Barad explains that the findings of this experiment indicate that light (as well as water and sound) could behave as particles by passing through either one of the slits, or as a wave by passing through both slits simultaneously. The way light behaves, according to Barad, reveals ontological indeterminacy, which opens different possibilities about its future behavior. Therefore, every time this experiment is conducted, it amounts to a process of “rethinking anew” (Barad 2014, 181).

As a research methodology, diffraction is a metaphor, which allows us to move beyond power-producing binaries that arrange differences into hierarchical polarities, such as mind/body, culture/nature, subject/object, animate/inanimate, social/physical, white/black, male/female, colonizer/settler, or adult/child, by illuminating and integrating the differences underlying these dichotomies and engaging with them to produce new meanings and knowledge. In terms of language, diffraction means “to break apart in different directions” (Barad, 2014, 168). In practice, diffraction demonstrates that different and differential effects can occur when different and differential entities or components intra-act iteratively, shape, and reshape each other and the phenomenon they inhabit. Within the Western modern discourse that sees females and nature as nonhuman others, demonstrated through the above

negative hierarchical dualities, I would argue that within the set-up of diffraction, when the opposing entities within these dichotomies undergo performative intra-action, an entity emerges that is marked or shaped by how the discourse constrains or enables matter and vice versa. Any change in this set-up would change the kind of human subject or nonhuman subject matter that emerges, such as the suffering, prosperous, cyborg, or the dehumanized, and how we respond to them.

Thus, as Barad (2014) explains, based on Minh-ha and Haraway, diffraction reveals and reworks the “colonized logic” (169) and the workings of power behind modernity’s dualities, which unsettles fixed identity and negative difference where the “self maintains and stabilizes itself by eliminating or dominating what it takes to be the other” (169) and this “other” becomes the “foreign” entity on whom “the self maintains its hegemony” (169).

#### V. **Diffraction: Rethinking Traditional Critique**

Barad (2014) argues that despite being indebted to the works of Marx, Nietzsche, and Foucault, diffraction is a form of critique that reworks the classical notion of critique (187 n 63).<sup>39</sup> Barad (2014) notes that both diffraction and critique are concerned with the “(material-discursive) conditions of possibility in their historical-social-political-(natural-cultural) contingency” (187 n 63). However, Barad points out that whereas critique is “a mode of disclosure, exposure, and demystification” (187), diffraction is viewed as “a form of affirmative engagement ... an iterative practice of intra-actively reworking and being reworked by patterns of mattering ... [and that] work constructively and deconstructively (not

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<sup>39</sup> Barad (2003) argues that “agential realism is an account of technoscientific and other practices that takes feminist, antiracist, post-structuralist, queer, Marxist science studies, and scientific insights seriously” (810-11); they draw on Nietzsche’s warning about “tak[ing] grammar too seriously: allowing linguistic structure to shape or determine our understanding of the world, believing that the subject and predicate structure of language reflects a prior ontological reality of substance and attribute” (802).

destructively) in making new patterns of understanding-becoming” (187 n 63). In other words, diffraction is an affirmative methodology, which inhabits dualities, mapping both differences and its effect in an effort to co-constitute the two ends of the dichotomy. This aspect makes diffraction productive because integrating insights from both components in a dichotomy can open up the possibilities for new ways of being in the world, which carries ethical considerations of accountability and responsiveness for what materializes. Thus, whereas diffraction loosens the boundaries between the two poles of duality, critique deepens the opposition and creates new hierarchies. Thiele (2014) defines diffraction in a way that collapses diffraction and critique. Thiele (2014) argues that diffraction is a “new criticality ... [that] no longer base itself on reflexivity and reflection” (204) involved in traditional critique “but aims at the multiplication and dissemination of differential other, unexpected, and ... less violent interference patterns” (204).

Due to its attention to difference and its effects in an affirmative manner, diffraction is important to this study. I use diffraction to understand and highlight differences that (re)shape Lyme as a phenomenon. My goal is to uncover different layers of meanings, practices, contributions, and relationalities suppressed by fixed hierarchical binary vision that favours males, white, and educated elite practices over those of the female, indigenous, Black, and poor. Barad (2012) argues that this binary vision historically “exclude[d] women, people of color, people from the global south, and a host of indigenous Others” (14). Barad argues that diffraction is an affirmative critical methodology that reworks these binaries. However, traditional critique, Barad (2012) explains, ignores the mutual exclusivity between the two sides of the dichotomy and, therefore, instead of integrating and co-constituting them, critique blocks any chance for the emergence of something creative and different (14).

In doing this, Barad (2012) maintains, critique deepens “separateness and exteriority” – an aspect that does not allow for productive engagement with the other (14). On the other hand, diffraction, as Geerts and van der Tuin (2021) argue, “read[s] [different texts] diagonally through one another to engender creative, and unexpected outcomes” (175). In this sense, diffractive methodology, which entails “close respectful responsible and response-able ... attention to details ... [and] working carefully with the details of patterns of thinking” (Barad 2012, 13) for an illuminating, creative, and productive outcome, reveals critique to be an insufficient analytical tool because of its “presumed exterior and ... superior positionality” (14). In addition to co-constituting polarities, diffraction will allow me to revisit past exclusionary and unjust events, discuss them, and explore their implications in reconfiguring the present and the future.

## **VI. Critique for Barad’s Philosophy and Diffractive Methodology <sup>40</sup>**

Barad’s views about the inseparability, dynamism, and agency of all entities, human and nonhuman, that constitute the world draw the attention of different critics who offered different perspectives. In his review of Barad’s book, *Meeting the Universe Halfway* (2007), Schweber (2008) asserts that despite Barad’s insistence on the inseparable nature of human and nonhuman, material and discursive, and natural and cultural practices, the fact is that “the universe is carved into separate domains identified with different length scales with different sets of physical laws ... for each” (881). For example, Schweber (2008) explains that “recent cosmological findings indicate that ... ‘dark energy ’contributes 75 percent, ...

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<sup>40</sup> In this section I am not opting for a traditional critique but rather demonstrating and pointing out that Barad has been exposed to traditional critique to respond to this critique by drawing on Barad’s work. Hence, I am trying to integrate Barad’s insights into this critique, which is a diffractive stance.

‘cold dark matter ’21 percent, and .... ‘ordinary matter ’... 4 percent of the energy content of the universe” (881).

Responding to Schweber’s (2008) critique, I argue that the current Anthropocene epoch and the ensuing environmental crisis provide strong evidence that humans are not separate from the nonhuman world. I would point out Crutzen’s and Stoermer’s (2000) description of the Anthropocene in which they assert that humans are now perceived as “geological forces” (17) capable of wreaking havoc with the earth system.<sup>41</sup> Gellers (2021) points out how injustice committed by humans against the earth system “result[s] in ... [its] destruction, exploitation, and the oppression of vulnerable humans [...] and oppression of the non-human world” (1). In the Anthropocene, human-nonhuman relationality and interdependency are underscored to the extent that humans are indeed called upon to “forg[e] new alliances ... [with] non-humans” (Morton 2013, 108). This is an urgent demand that has become essential in a relational ontology as a way of survival. Further, thinkers like Chakrabarty (2018) argue for the inseparability of humans ’and earth’s history when he writes that because “the narrative of world [human] history has now collided with the much longer-term geological history of the planet ... or the Earth system” (23), the issues of “habitability” (25) and life on earth need to be re-examined. Hence, Barad’s contention regarding the inseparability of the human and nonhuman world becomes justified since, the effects of the current anthropogenic context draw our attention to the fact that “parts of the world are always intra-acting with other parts of the world, and it is through specific intra-actions that a differential sense of being – with boundaries, properties, cause, and effect – is

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<sup>41</sup> The Earth system acknowledges the inseparability of the various entities that constitute the world that are affected by the Anthropocene. Joshua C. Gellers explained that “all human and nonhuman entities, components and processes making up the entire Earth system, from the local to the global sphere, are vulnerable” (Gellers 2021, 2).

enacted in the ongoing ebb and flow of agency” (Barad 2007, 338). In this sense, it is this dynamic inseparability of different and differential systems that shape and reshape the world.

Susanne Lettow (2016) presents a three-pronged argument, critiquing Barad’s approach to the human nonhuman form of, what I would describe as, intra-relational dynamics. First, Lettow argues that Barad’s philosophy,<sup>42</sup> which recognizes both human and nonhuman agency, ignores “relations of domination, power and difference within and among human societies” (2016, 2) because it creates “a strong posthumanism that equates all forms of a material agency like worms, bacteria, bicycles, humans, or matter itself” (2). Second, Lettow argues that when Barad replaces “things” with unstable, unfixed phenomena, which are “ontologically primitive” (4), they risk turning epistemology into a “cosmological logic of anonymous forces that shape the world” (4).<sup>43</sup> Third, Lettow argues that the ethical imperative associated with Barad’s philosophy is “hardly ... adequate with regard to global socio-economic and political realities, including ecological devastation” (2016, 6) because it invokes the question of “who the subject of ethics is” (6), which makes Barad’s posthumanism, in Lettow’s opinion, “an abstract negation of the human” (6) as it conceals the “differences among humans and among human societies” (7).

To respond to Lettow’s (2016) critique, I shall use Barad’s discussion of ultrasound technology as an apparatus that underscores power relations as it illuminates the political, economic, and social implications that materialize as a result of material-discursive intra-acting practices. Alice Adams (1994) describes ultrasound technology as “channels of

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<sup>42</sup> Lettow’s critique is directed at other new materialists too, such as Braidotti, Bennet, and post-structuralist thinker, Deleuze.

<sup>43</sup> Lettow argued that the same logic applied to Deleuze’s “vital materialism,” Bennet’s “material vitalism,” and Braidotti’s “intelligent vitality” because life was understood as a “primordial,” “meta-historical,” and “anonymous process” respectively (4).

economic as well as informational and ideological exchange” (Adams qtd. by Barad 2007, 193). Barad (2007) discusses the differential impact of ultrasound technology as an apparatus, in which the “objects of observations” (195) are inseparable from “agencies of observation” (195). Focusing on the use of ultrasound technology on pregnant women, this apparatus constitutes the mother, the baby, the technology, the observer, and so on. Through their specific intra-actions, emerge the violence of racialization, classism, or gender discrimination. Right from the beginning, Barad emphasizes the differential access to ultrasound technology where a certain class (poor) of women is excluded from benefitting from such technology in certain countries. In this sense, Barad (2007) points out the power relations imbedded in this technology by drawing attention to the fact that not all women could access this technology due to affordability. Furthermore, Barad (2007) emphasizes the agentic role that ultrasound technology plays in these practices when they point out the differential impact on those who can access it (193). For example, Barad demonstrates the power this technology and its operation have on pregnant women for different reasons drawing on Farquhar’s (1996) explanation of how specific categories of women are viewed by physicians, legal experts and ethicists as:

[L]iable for causing prenatal harm, to impose criminal or civil sanctions on them after the birth of a sick or disabled infant ... These interventions treat the mother as a mere maternal environment relative to a rights-bearing fetus that is analogically compared to a pediatric case. The targeting of poor, relatively disenfranchised pregnant women of color who are drug abusers is clearly a wedge for moralist state regulation of all women’s bodies in a symptomatic displacement of social amelioration from one of its principal sources – exacerbated conditions of racialized poverty. (Farquhar qtd. by Barad 2007, 193-4)

This example demonstrates how technology (material) intra-acts with discourses that marginalize and dehumanize women based on race, class, and gender. Women of color are

objectified as they are being used as a “maternal environment” to ensure the fetus wellbeing; they are stereotyped, criminalized and held liable if any harm befalls the fetus.

Furthermore, Barad (2007) cites Teresa Ebert’s case study that describes the discriminating practices against girls and women in poor areas in India that constitute technology and discourse in a manner such that “gender interpellation [becomes linked to] ... relations of production” (194):

[Moving] beyond the privileged boundaries of the upper-middle class in the industrialized West ... especially among the impoverished classes in India ... [t]he “medical interpellation” ... of ... fetuses, particularly through the use of the sonogram, immediately places “girled” fetuses not only in discourse but also in the gender division of labor and unequal access to social resources. About 60 percent of the “girled” fetuses are being immediately aborted or murdered upon birth ... because the families cannot afford to keep them. The citational acts, rituals, and “performatives” by which individuals are repeatedly “girled” ... are not simply acts of discourse but economic practices. (Ebert 1996 qtd. by Barad 2007, 194)

This passage shows how different and differential components intra-act; it also “maps geopolitical, economic, and historical factors” (194), in which assigning a gender generates an economic practice. Thus, when considering both the material and discursive components together, power relations start to be visible, which makes approaching technology as an apparatus that integrates the material and discursive a useful practice in understanding the process of materialization of exclusionary politics. Susan Hekman (2008) explains the political and social significance of Barad’s (2007) focus on the inseparability of material and discourse practices. Hekman (2008) points out that the technology makes the fetus visible at very early stages of its development. The notion of “seeing” (105) the fetus as a result of technology (material) and theory (discursive) “makes an aspect of nature – the very early fetus – agentic” (105). The reason is that the fetus materializes as real matter and, therefore, can now engage in the discursive political and social constructs of power and (re)produce the



violence of classism, sexism, racism, etc. Agential realism focuses on intra-actions between material and discursive practices as opposed to fixed constructs and, therefore, emphasizes that decisions or actions that emerge from these intra-actions are ethical and political.

Lettow's (2016) second concern is related to the fact that Barad replaces "things" with "relations" and phenomena, a move that Lettow sees as destabilizing and that would risk turning epistemology into an anonymous logic shaping the world. Barad (2007) describes the material component of intra-action as "relations rather than things" (35) to underscore the fact that matter is a "dynamic and shifting entanglement of relations" (35). Circling back to my initial example that draws on Barad's discussion of the ultrasound technology, the machine as well as the practitioner constitute what Rouse (2004) describes as "agencies of observation" (150) and are perceived as "material components of a phenomenon" (150). The materiality of this setup, I argue, negates the possibility of having anonymous being shaping the phenomenon.

Not only does the materiality of the apparatus shape the phenomenon, but also the discourses with which it engages. Barad (2007) highlights this aspect when they write that the discursive "constrains and enables .... [what] emerge from a field of possibilities" (146-47). Sari Irni, in "Indeterminate Matter" (2010), comments on the notion of "phenomena" in Barad's philosophy as unstable entities. Irni (2010) explains that Barad's phenomenon (reality) can only be produced and shaped through those that constitute it. She asserts that "the description of the phenomenon requires an account of the apparatus of its production" (54) because their borders are destabilized by, what Barad calls, "agential cuts" that are (re)enacted between the different and differential agencies constituting them. In the ultrasound example, Barad (2007) argues that the identity of the fetus as subject or object,

emerges when agential cuts are enacted through intra-actions between the fetus and its environment (the womb) in a phenomenon, which constitutes “the pregnant woman (her uterus, placenta, amniotic fluid, hormones, blood supply, nutrients, emotions, etc.) and her ‘surroundings’ and her intra-actions with/in them” (217). According to Barad (2007), identification depends upon “historically and culturally specific intra-actions of material-discursive apparatuses” (217). In this sense, the identification of the fetus constitutes not just scientific and environmental aspects but also historical, cultural, economic, class and other social considerations.

Building on this, cultural, historical, social and other discourses are able to manipulate technology. To satisfy their agendas, Barad (2007) points out the instance when, even though “epidemic infertility” (217) is mostly a problem among “non-white and poorly educated” women, it is presented as a problem of “white, affluent, highly educated women” (217) to justify using technology to produce more white babies. Barad argues that using reproductive technologies to produce fetuses in a particular race is another way to mark women’s bodies as “maternal environments” (217). In this sense, the unstable aspect of the phenomenon underscores Barad’s motive to accurately describe reality as we experience it or, in their own words, “reality of which we are a part and with which we intra-act, rather than some imagined and idealized human-independent reality” (207). This human-nonhuman, material and discursive, relationality reveals the working of power among humans in an embodied manner.

Lettow’s (2016) final concern relates to the ethical dimension of Barad’s philosophy and how it is assigned. The material and discursive intra-acting practices within the apparatus produce distinct agencies that Barad describes as “congeal[ed]” or embodied. Accountability,

according to Barad (2007), lies in how we react to this materialization (194). Thus, focusing on the ultrasound technology example, Barad argues that the acknowledgement of nonhuman agency does not undermine human accountability. Instead, it draws our attention to the “existing power asymmetries” (219), such as access to technology, unequal wealth distribution, gender inequality, violence, and social injustice. For example, Barad points out that the differential exclusions highlighted by the use of ultrasound technology should lead us to question aspects like “inadequate health care and nutrition apparatuses in their effects on particular pregnant women” (218) instead of just blaming the mother. Sharing accountability with the nonhuman is an ethical act because, for Barad, human and nonhuman accountability means “engaging responsibly within and as part of the world and understanding that we are not the only active being” (218). Stacy Alaimo and Susan Hekman (2008) argue that Barad’s human and nonhuman ethical stance is important because it allows us to “compare the very real material consequences of ethical positions and draw conclusions from those comparisons” (7). This way, fixed notions about ethical principles are rethought in terms of embodied and situated practices (7) and political responsiveness is entailed.

## Part II

### The Multiplicity (Re)Shaping Lyme Regis

*“Questions of space, time, and matter are intimately connected, indeed entangled, with questions of justice” – Barad (2007, 236).*

#### **I. Introduction**

Lyme Regis is part of the Dorset and East Devon Coast and is a World Heritage Site. The UNESCO World Heritage Convention explains that Lyme and its area are included on the World Heritage list because

[Lyme carries] outstanding combination of globally significant geological and geomorphological features. The property comprises eight sections along 155 km of largely undeveloped coast. The property’s geology displays approximately 185 million years of the Earth’s history, including several internationally important fossil localities. The property also contains a range of outstanding examples of coastal geomorphological features, landforms and processes, and is renowned for its contribution to earth science investigations for over 300 years, helping to foster major contributions to many aspects of geology, paleontology and geomorphology. This coast is considered by geologists and geomorphologists to be one of the most significant teaching and research sites in the world. (“Dorset and East Devon Coast”)

Ian Donnachie (2010) explains that this status helps generate a sense of pride in the community by drawing attention to the natural and scientific significance of the place “internationally, regionally, nationally, and locally” (131). In addition, this status protects the site from inappropriate development and generates sufficient funding to manage it and improve tourism. Accordingly, the heritage status contributes to Lyme’s economy by attracting more visitors (132). The UNESCO statement emphasizes the strong potential for knowledge production that resides in the site because of the diverse and differential natural formations found in it that invite further research. The benefits of such a designation, as

explained by Donnachie (2010), are directed toward celebrating national identity and generating income. However, the different and differential entangled material and discursive practices underlying the discovery and generation of scientific knowledge at Lyme and, consequently, the potential for future knowledge that builds on it and sustains this pride of place remain absent from this picture. Thus, Lyme's World Heritage Site status and the benefits incurred by such a designation draw and sustain an "agential cut" that excludes the different and differential components that constitute the apparatus of knowledge production at Lyme like scientists, collectors, indigenous, Black, women, the enslaved slaves, fossil hunters, the cliffs, fossils, tools, and history in an ongoing process of intra-action and merely underscores the site in terms of static "objects" awaiting more human actions and representations.

In this part of the chapter, I offer a diffractive reading that sees Lyme as a node of relations of difference and illuminates the possibility of enacting different "agential cuts" by highlighting the different and differential relationships that contribute to (re)shaping Lyme as an agential phenomenon. In order to do this, I show how the past, present, future, human, nonhuman and dehumanized intra-act to (re) shape our knowledge about Lyme. First, I discuss the role played by power in heritage politics to show how the violence of marginalizing and dehumanizing discourses hides important contributions by women and people of color in the apparatus of scientific knowledge production that makes Lyme unique among other places. Second, I read Lyme Regis as a site, onto which the histories of figures like Mary Anning, Saartjie Baartman (also known as the Hottentot Venus) and Georges Cuvier converge, highlighting the crucial role played by Anning and Baartman in the apparatus of scientific knowledge production at Lyme. This entails a close examination of the

entangled material and discursive forces intra-acting within Lyme to better understand the nature of the apparatus of knowledge production that earned Lyme its status as a World Heritage Site. This approach will help me highlight the power relations embedded within the apparatus of embodied knowledge production at Lyme and underscore its effects on (re)shaping different “identities and subjectivities” (Barad 2007, 35) like that of Anning, Baartman, and Lyme. The purpose is to illuminate the differences and exclusions within Lyme’s identity as a World Heritage site. This declaration underscores the scientific knowledge, the scientists (all male and Europeans as we shall see) as well as the place. Yet, this declaration does not take into consideration the constraints faced by the people who enabled those scientists to make these discoveries, analyze them, and generate this knowledge like Anning and Baartman. This study endeavors to make their constrained contributions and agency visible as a commitment to ethical and political change that accounts for and respond to past injustice.

## **II. Heritage Politics and Power**

My analysis uncovers the dynamics of power and politics involved in the process of designating a location as a World Heritage site. The World Heritage Site status sets Lyme apart from other places and, therefore, confirms and fixes both its identity and difference at the same time. As I pointed out earlier, in the introduction (p. xxvi note. 2), I refer to “differences” or “distinctions” as “multiplicity” or “multilayers” that include inseparable components that (re)form and (re)shape Lyme. In this understanding, I am drawing on Gunnarsson’s (2013) explanation of the difference between “differences” and “dualities”. I do this by reading insights from the (hi)stories of Anning and Baartman to make visible their

constrained contribution to scientific knowledge production at Lyme, directly or indirectly. At the same time, I highlight the material and discursive practices that generate the violence of their marginalization and dehumanizing erasure.

As described in chapter one, since the beginning of the Industrial Revolution, Lyme has been a sea resort and a tourist destination for the British people who could not travel abroad because of the Napoleonic wars. The study of fossils and minerals started as a practice much before geology became a science in the late 18<sup>th</sup> century (Rupke 1990, 242). As explained in chapter one, Lyme is a resort town that relies on tourism to generate income. To host more visitors and generate more income, Lyme's World Heritage status enables it to get funding needed for making improvements to fix the damage done by the harsh weather conditions (Donnachie 2010). Therefore, for Lyme, economy, heritage and memory are intertwined. The economy is important to maintain the crumbling nature at Lyme, as explained in the previous chapter. Memories are also an important part of the tourism experience as well as part of the generations inhabiting Lyme. Thus, Lyme is an agential phenomenon (re)shaped by human and nonhuman social and economic practices that are entangled in time and space. Yet, in UNESCO's statement, I argue that Lyme's vulnerability as a place of memory threatened with disappearance (as explained in chapter one) is ignored (*World Heritage Datasheet* 2001, n. p.). Indeed, nothing is mentioned about a community and nature that are rendered vulnerable by their exposure to violent weather conditions and land erosion, intensified by the current environmental crisis. Lyme's vulnerable nature as a result of land movements, falling cliffs, and eroding coast accelerated by the Anthropocene possibility is described in terms that suggest marvel and a great advantage as opposed to vulnerability and danger: "The site's landslides make its geomorphology of international

interest as textbook formations. Much of the site displays well developed examples of unconformity between different strata especially between the Jurassic rocks and the overlying Cretaceous layers which have created conditions for notable landslides and undercliffs where fossils are continually being exposed” (*World Heritage Datasheet* 2001, n. p.). This is significant as it presents an example of the detached and misleading nature of the statement. In this sense, I argue that, according to the UNESCO statement, memory and heritage at Lyme are merely important selling points. In doing this, my contribution to Lyme’s cultural and heritage discourse is to highlight the way by which the UNESCO statement ignores the material and discursive constraints and challenges facing the vulnerable categories and are embedded in Britain’s industrial, colonial, racist, classist, and sexist past and the role Lyme played in it. In this agential realist approach, my discussion analyzes the material and discursive practices that gave rise to scientific knowledge at Lyme to create a space, through which the suffering voices of marginalized and dehumanized figures like Anning and Baartman can emerge and, yet, have been suppressed.

The power and politics involved in the Heritage process dictate which identity and difference are fixed by such a designation. Harrison (2010) explains that the process of including sites on the World Heritage List “involves an assessment of the ways in which a place meets a particular set of criteria for inclusion” (7). These criteria are set by the governments, which oversee the site. Such a nomination allows the site to be considered for higher management and conservation fund allocation (8). In relation to history, Harrison defines heritage as a “dynamic process” that involves an ongoing debate about “whose version of the past, and the associated moral and legal rights which flow from this version of the past, will find official representation in the present” (8). On one side of the debate,



Harrison contends, “objects of heritage are embedded in an experience created by various kinds of users and the people who attempt to manage this experience” (10). He explains that both, the agential material aspect of heritage (landscapes, buildings, etc.) and practices of heritage (language, memories from the past, practices, literature, songs, customs, stories, etc.), help “shape our ideas about the past, present, and future” (9) and make decisions about “what to conserve from the past and what to discard” (9), including “which memories to keep and which to forget” (9). An opposing side of the debate is proposed by historian, David Lowenthal, who argues that “heritage is not history at all; it is not an inquiry into the past, but a celebration of it ... a profession of faith in a past tailored to present-day purposes” (Lowenthal 1997 qtd. by Harrison 2010, 10). Hence, according to Lawrence (2010), governments have the power to “include and exclude various histories from national story” (102) to accommodate political agendas, assert power, and support the economy. This review shows the selective nature of heritage practices. I argue that heritage is a phenomenon (re)shaped by political, economic, scientific, and social practices of the people (male, female, and other) and land. In this way, the intra-acting practices of each and every category of beings co-constitutive of Lyme as an agential phenomenon over time emerge. This process is ethico-political since accountability and responsiveness become an integral part of what emerges.

Drawing on this tension that belies the politics of heritage, I invoke Barad’s diffraction as a “rethinking of notions of identity and difference” (Barad 2014, 171) at Lyme. I argue that there are racial, cultural, class-based, gendered, and colonial discourses of violence involved in (re)configuring Lyme as an agential phenomenon shaped by intra-actions between these discourses and other material practices. These practices are blurred, overlooked, and lost due

to the rigid boundary drawn by its World Heritage status that sets it apart and above other sites, excluding the different and differential vulnerabilities embedded within it. By highlighting these differences and their effect in shaping Lyme's past, present, and future, I attend to the ethical call for accountability and responsiveness to the injustice and violence produced by such exclusions. This call is also political because it constitutes a demand for change in the way heritage practices and policies are articulated.

### **III. Illuminating Difference at Lyme: Reading Mary Anning and Saartjie Baartman Histories through one another**

This chapter endeavours to produce an account that recognizes the entangled nature of epistemological and ontological, material and discursive, and scientific and social practices involved in the apparatus of knowledge production at Lyme. When examining Lyme diffractively within the context of the Anthropocene that is laden with discourses of violence and suffering, the entanglement of space and different instances of time produce different stories – a multiplicity – that haunt Lyme as a phenomenon. This multiplicity allows me to rethink Lyme's identification with scientific achievements and income generation – an identity that is fixed by the Heritage Convention statement in order to recognize the agency of the land and those deemed nonhuman, like Anning and Baartman, in (re) shaping Lyme in the Anthropocene where Lyme is now threatened with disappearance because of climate change.

Important scientists, such as Henry De la Beche, William Buckland, and Georges Cuvier (1810-20), studied the fossils at Lyme over 200 years ago. The discoveries and the

knowledge created by their work was celebrated and Lyme was declared a World Heritage Site. Yet, certain stories remain left behind; hidden behind the glory of discovery, and some voices remain silenced. By closely examining these hi/stories, I aim to illuminate the violence of colonialism, sexism, classism, and racism embedded within scientific discourse. This study revisits Georges Cuvier, Mary Anning, and Saartjie Baartman as three important figures integral to the apparatus of scientific knowledge production<sup>44</sup> for which Lyme gained its prestigious status. I begin by telling their stories to map their place and role within the entangled material and discursive practices that shaped the apparatus of knowledge production at Lyme. Next, I will read insights from their stories to reveal the workings of power, agency, causality, discourse, and matter in the production of knowledge at Lyme. This will allow me to create a space where it becomes possible to hear the voices of these silenced figures (Anning and Baartman) and see the substance underlying their ghosts that haunt these scientific practices. The goal is to activate the ethical dimension embedded within the embodied knowledge emerging from these co-constitutive practices and being politically responsive by accommodating differential nature of the emerging knowledge in extending such designations.

*i. Silenced Voices at Lyme Regis*

This study approaches Anning as a phenomenon in which science, society, and myth get entangled and what emerges is the specter of a young female orphan who haunts Lyme. Anning, a poor young woman from Lyme Regis, was born in 1799. Anning contributed to

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<sup>44</sup> As I pointed out earlier, there are other scientists and important figures involved in the scientific discoveries at Lyme Regis. However, this study focuses on Georges Cuvier, Mary Anning, and Saartjie Baartman because they meet at the junction of scientific knowledge production and discourses of gender, race, class, and colonialism – all issues evoked by the Anthropocene.

important fossil discoveries at Lyme. In 1810, Anning, along with her brother, Joseph, discovered the first complete skeleton of a creature that looked like an ancient crocodile officially named an “ichthyosaurus” in 1817 (Graham 2008, 29-30). Later in 1823, Anning discovered a “Pterodactyls macronyx” described by William Buckland as “a monster resembling nothing that has ever been seen or heard-of upon earth, excepting the dragons of romance and heraldry” (Buckland qtd. by Graham 2008, 30). Rightly enough, her 1829 discovery of the “Squalor Aja, a fossil fish seen as transitional between sharks and rays” inspired Reverent George Ernest Howman’s painting (Fig. 9) of an “enormous dragon or basilisk spreading its wings over a storm-tossed, ship-filled and rocky Lyme seascape” (Torrens 1995, 266). This review is significant as it shows the effect of Anning’s discoveries, not only on the scientific community at Lyme but also on art.



Figure (9): Reverent George Ernest Howman’s painting depicting Anning’s *Squalor Aja* discovered in 1829 (picture copied from Lyme Regis Museum: <https://www.lymeregismuseum.co.uk/related-article/the-reverend-g-e-howman-and-the-noctivagous-dragon/>)

After her death, Torrens (1995) asserts, Anning became St Georgina of Lyme by virtue of “having slain this mythical fossil dragon” (266). This depiction is significant as, I

argue, it aims to re-enforce the male hierarchy by underscoring Anning's complicity, which is misleading since this same discourse excluded and challenged Anning's inclusion in the scientific community at the time. As a successful woman, Anning is compared to a masculine figure of patriarchy, St George, the patron Saint of England. Becher (1999) explains that "the women who succeed will be those who are male-centered and male-identified; who conform to patriarchal values; and who do not seriously threaten the patriarchal order" (25). Thus, inasmuch as Anning is poor, voiceless, hidden in the background, and speaking through the voices of the male scientists, she is venerated and positioned as an example of a woman who supports patriarchy. This shows how, in her posthumous glorification, Anning is objectified and used as a symbol that represents an ideal of conforming to a structure that sees her contribution as important inasmuch as it upholds the limitations imposed on her by the scientific and social construct. My discussion of Anning's position within the discursive practice of her time illuminates the challenges she endured and negates the complicity implicated in her depiction as St. Georgina.

Like Anning, Baartman is another woman who indirectly contributed to the apparatus of knowledge production at Lyme through her connection with Cuvier. Baartman was a South African indigenous enslaved woman who belonged to the "heterogeneous indigenous group, the Khoikhoi ... labelled as 'Hottentots' by Dutch settlers in the fifteenth century" (Miranda & Spencer 2009, 911). Baartman was taken by the Dutch settlers, whom she was forced to serve, and brought to London (Young 1997, 701). She became an object of interest for Cuvier and his team of scientists who were the leading intellectuals of the scientific world in the 19<sup>th</sup> century in France and Europe (Ruiz 2019, 149). The power relationship between Cuvier and Baartman can be demonstrated in her firm situatedness within the subordinated

polarity in the male/female, white/Black, and master/slave dualities. Moreover, Baartman's vulnerability in relation to Cuvier is suggested in the titles that he bears: According to Ruiz (2019), Cuvier was the Professional Chair of Comparative Anatomy at the Natural History Museum and the Chair of Natural History at the Collège de France as well as the Chancellor of the University of Paris and Councilor of State to the King (149). In addition, Cuvier was known as the father of paleontology, a title that grants him patriarchal privileges and, I argue, would justify the violence of sexism and racism among others indicated in his treatment of Baartman and Anning. Here, I review Baartman's position within the apparatus of knowledge production in order to emphasize the challenges she faced as well as her contribution. Like Anning, Baartman inspired another form of art. Whereas Anning is made to symbolically uphold patriarchy, Baartman is depicted as an object of this patriarchy. Jean Young (1997) explains that, in 1811, during Baartman's terminal illness, Cuvier, commissioned a painting of her in the nude for scientific purposes (705). Thus, while Anning's objectification took the form of being venerated and modeled as supportive and representative of English patriarchy, Baartman's objectification took the form of being desecrated and condemned to perpetual humiliation as she was the object to be studied.

Due to the violence of her objectification, I argue, Baartman remains a spectre who haunts and condemns both violent colonialism and Cuvier's achievements – a reminder of the excessive violence of Western modern understanding of humanism (described earlier through Haraway). Quoting Barbara Chase-Riboud, Miranda and Spencer (2009) explain how Baartman haunts our world to date, which rethinks the notion of linear time and underscores the persistence and re-appearance of past unjust and violent actions in the present. An action that calls for ethical and political accountability.

The Hottentot Venus is everywhere – in every textbook that deals with science, literature, or history: the invisible one – thereby, absence or negation. Thereby her definition of not being there. Yet she is there, a dark despised shadow behind our concept of Beauty, of Womanhood, of Sex, of Color ... Her negation is omnipresent in our publicity and advertisements, our bathroom scales and our obsession with race, our daydreams and our nightmares. (Chase-Riboud qtd. by Miranda & Spencer 2009, 911)

Indeed, Miranda and Spencer's remarks capture how the Venus, examined by Cuvier and depicted as a typical representation of African women's physique, resides within (haunts) practices of stereotyping, racialization, and classification that remain with us till the present. As I aim to examine the intra-acting material and discursive practices to illuminate the multiplicities that (re) shape Lyme's heritage status, I will start with discussing the material practices and contributions then the discursive practices for analytical purposes. Yet, as we shall see, in some instances, it will be hard to articulate the material practices without bringing in the discursive ones. This difficulty underscores the entanglement of material and discursive practices in a world in a perpetual state of becoming.

*ii. Material (Physical) Concerns and Practices*

As a fossil hunter, Anning labored to extract the bones (fossils) from the cliffs of Lyme. Shelley Emling, in *The Fossil Hunter: Dinosaurs, Evolution, and the Woman whose Discoveries Changed the World* (2009) demonstrates the dangers that Anning braved to find and extract the fossils from the cliffs:

Mary *toiled away at the cliff*, hour upon hour, *chipping* away with hammer and chisel, while waves *lashed* at her *hefty* petticoats and *numbed* her fingers. Once she started cutting away at the matrix imprisoning a particularly large fossil, it could take what seemed like forever to make any progress. But she was seeing some results, especially as she likely had others to help her. In the end, after several hours of *jabbing away* at the mud and rock and shale, a skeleton emerged that was about nine feet long and six feet wide, but with a head that was only about four to five inches in length. (Emling 2009, 79 – my italics)

This lively image shows the dynamic relationality between Anning and nonhuman nature. The physical challenges that faced Anning are suggested in her position “at the cliff” and her action of “chipping away” with her tools while standing on top of the unstable cliffs and having the strong winds “lashing” at her. Anning’s clothes are described as “hefty” suggesting restricted movement. The word “lashing” not only suggests the strength of the wind against which Anning is struggling, but also it has violent implications related to the act of whipping that connects Anning to nonhuman beings (animal); it also recalls acts of punishment against women and slaves. This description, furthermore, emphasizes the shared human-nonhuman intra-acting practices that constitute scientific research that marks Anning’s body and is represented in Anning’s efforts to uncover the skeleton and nature’s practices to preserve it all these years in such a good condition. Indeed, nature appears to be resisting Anning’s efforts: The wind is “lashing;” and the earth is “imprisoning a particularly large fossil” while Anning is trying to free it from the earth’s hold. Thus, nature appears to be reluctant to reveal or hand over its hidden fossils and skeletons. The violent waves, hard mud, and rocks appear to be resisting Anning’s efforts. Despite her important contributions to the apparatus of knowledge production at Lyme, Anning’s body bears the marks of her exertions to find and extract the fossils. Knowledge, in this sense, is embodied in Anning’s person. Thus, this dynamic relationship underscores the inseparable nature of epistemology and ontology in scientific fieldwork. Indeed, knowledge about fossils as well as practices of extracting them require inseparable practices that are both material (physical) and discursive (scientific): geologist Jan Zalasiewicz emphasizes this when he explains that “simply finding the fossils may involve sifting through tons of rock and examining acreages of stratal surfaces” (2008, 28).



Scientific practices have contributed to objectification, racialization and dehumanization. Baartman's experience and contribution are written onto her body on two levels – the social and the scientific. Baartman was captured and brought to England. Then, Baartman's body was used as an object to be examined to enhance scientific knowledge by Cuvier; she was also used in shows as an object for entertainment. Maria Isabel Romero Ruiz (2019) asserts that “Baartman's tour around England and France during the nineteenth century, and the scientific debates that the exceptional size of her back and genitals provoked, attracted the interest of a middle-class audience, especially in the freak shows of London and Paris” (2). As for her time with Cuvier, Baartman's body was violated and subjected to Cuvier's male and scientific gaze (Young 1997, 705; Ruiz 2013, 127). Miranda and Spencer (2009) assert that “court records, ads, and Georges Cuvier's racist writing on her anatomy chronicle her time in Europe and among Parisian anatomists” (211) and demonstrate the violence of “imperialism, racialization, and European modernity” (211). In addition, after her death, Baartman's body was dissected, and her brain and “preserved buttocks and genitalia [were displayed] in a jar at the Musée de L'homme in Paris” (Young 1997, 699) serving as “the central model for Black female ‘otherness’ the nineteenth century” (699). This shows that visceral nature of Baartman's experience and how material and discursive practices collapse and become literally written on her fragmented body.

### *iii. Discursive Constraints*

This section discusses the discursive constraints that blocked Anning and Baartman's inclusion as agentic figures in the apparatus of embodied knowledge production and enabled Cuvier and other scientists and philanthropists to be included. Barad (2003) explains

discursive constraints as “specific exclusionary practices embodied as material reconfiguration of the world” (814) produced through “causal intra-actions” (821). To discuss the discursive practices of the time that shaped and excluded Anning and Baartman, I will first draw on Noah Heringman, in *Romantic Rocks, Aesthetic Geology* (2004), to demonstrate the discourses that frame and regulate Anning’s and Baartman’s access to the scientific field. Heringman (2004) points out that the rise of geology as a science was associated with a corresponding rise in the public interest in natural history<sup>45</sup> among other subjects, such as travel narrative, tourism, landscape, and fossils (14). Common people started to read about fossils, favoring publications like *The Spectator*, which made philosophy available to the general public (14-15). Yet, contrary to Anning, the public’s engagement is only epistemological, as they do not physically engage with the fossils. Ironically, the title, *The Spectator*, signals this paradox of distance and engagement and accurately underscores the difference between Anning’s actual participation in the process of geological exploration and the generation of embodied knowledge, and the public’s distant engagement.

Having described the public’s detached engagement in scientific discourse, I now move to analyze the specific exclusionary intra-actions between the social and scientific discourses that shape Anning’s and Baartman’s experiences. Based on this availability of scientific information, the space of engagement between the social (public) and the scientific (geology) was shaped by the tension between public/local and specialized knowledge as well as women’s access to geology. Anning was caught in this tension that, according to Heringman (2004), defies the modern binary that favors the scientific over the social and the

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<sup>45</sup> Natural history refers to botany, geology, and zoology, while natural philosophy refers to physical sciences (Heringman 2004, 15).

male over the female and contradicts the assumptions that “women and dependents are practically and juridically excluded from the political public sphere, even though female readers ... often participate more fully in the literary public than the property owners themselves” (Habermas qtd. by Heringman 2004, 16). Consequently, geology becomes a field that excludes women and becomes exceedingly masculine (Gates and Shtier qtd. by Heringman 2004, 18 n. 41). This background underscores the challenging discursive atmosphere in which Anning and Baartman existed and operated.

Within this tension, Anning, a poor young woman of an unknown level of education,<sup>46</sup> depended on fossil hunting and selling for livelihood. Should any of her discoveries be cast under suspicion for not being genuine, it would have tainted her reputation and caused her to lose her main source of income. Thus, when Cuvier was invited to inspect the “Plesiosaurus” that Anning discovered in 1823, Cuvier decided “on the basis of drawings sent to him ... that it was forged” (Torrens 1995, 264). Yet, after a meeting with the Geological Society of London, to which Anning was not invited, and a lengthy discussion amongst scientists, that included Cuvier, it was decided that Anning’s specimen was genuine and “Cuvier had to admit his mistake” (Eylott, 2003, n. p.). This example shows the vulnerable position of women, such as Anning, in scientific practices.

Just as Anning faces the challenges of sexism and marginalization, Baartman’s experience was also shaped by the scientific discourse, which racialized, enslaved, and dehumanized her. At Lyme, the Burrige brothers were dominant in the slave trade. Nigel Pocock explains that Lyme was a small port and was cheaper than London; therefore, offered “lower port fees, refitting costs, victualling charges, and wages” (Pocock 2016, 20). There

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<sup>46</sup> The accuracy of Anning’s sketches suggests that she had some education since her level of education remains unknown (Torrens 1995).

was one known trip that was done by a ship, ironically called the *Friendship* and headed for Africa and Barbados to bring 130 slaves. Yvette Abrahams explains that Baartman was enslaved “within a wider system of slavery which was justified by, among other things, a system of perceptions about indigenous people of colour as savage beings whose nature was defined by a brute sexuality” (Abrahams 1996, 114). Abrahams explains the difficulties in characterizing this system, quoting Martin Legassick who asserts that two factors contributed to this difficulty:

Khoisan [Baartman’s tribe in Cape Town] was formally enslaved by giving them the identities of dead slaves. In the second place, there was an attempt to impose slavery without ... importation from a distant land and disculturation. The enslavement of the Khoisan ... was conducted on their native land. (Abrahams 1996, 91)

If we look at Baartman’s quandary from an intersectional feminist lens, Baartman’s body is marked by the intersectional violence of racism, slavery, sexism, and practices of “othering” in general, given the fact that her owners in Cape Town were also Black (Ruiz 2013, 141). In this sense, I argue that Baartman embodies the superposition of three materially and discursively marginalized identities: Indigenous, people of color, and female, which compounds her suffering as she consequently experiences dehumanization and discrimination. Baartman’s enslavement started in South Africa at the hands of the Black Dutch slavers before moving her to England. For an Indigenous and enslaved woman of color like Baartman at the time, the story was more complicated because the knowledge about African culture was based on myths and stereotypes.<sup>47</sup> Young (1997) explains that “stereotypes and myths about Black women support the underpinnings of gender-specific ‘Otherness’” (706). This lack of knowledge engendered racial violence and “the positioning

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<sup>47</sup> Saartjie Baartman was a First Nations person from Khoisan in Cape Town (see p. 111).

of Black women as the ‘ultimate other’ allows the overall ideology of domination and race, gender, and class oppression to endure ... and maintain a system of oppression based on oppositional difference” (706). The enslavement of African and Indigenous peoples, as Abrahams (1996) describes in the above quotation, amounts to a process in which their stolen bodies, violently torn from their homes and cultures, and used elsewhere, become impressed with meanings. In this scenario, Spillers (1987) explains that the captive body “becomes the source of an irresistible, destructive sensuality” (67) as it becomes objectified and othered. This system of subordination and exploitation justified and supported the dehumanization of Baartman.

As a slave and an object under study, Baartman’s suffering was marked by an agential cut that, I argue, emphasizes the nature of her presence within the apparatus of scientific knowledge production. Ruiz argues that “the bodies of black women were tormented and insulted in slavery, and most sexual encounters between masters and slave women took place under coercion” (Ruiz 2019, 5). Ruiz explains that Baartman “became the embodiment of black racialized sexuality and deviancy, exemplifying the notion of the ‘exotic’ and the ‘other’ for the white European imagination” (Ruiz 2019, 2). Indeed, as pointed out earlier, Baartman was a victim of slavery “both in South Africa and Europe, she never regained her freedom and represented the spectacle of the primitive when she was alive and beyond her death” (Ruiz 2019, 2). Commenting on the predicament of the women of colour whose bodies were subjected to objectification and (ab)use, Kathryn Yusoff, in *A Billion Black Anthropocenes or None* (2018), argues that the expression “Black Anthropocenes” captures the “proximity of black and brown bodies to harm” (105); Yusoff describes this proximity as “inhuman” and justified by “historical geographies of extraction,

grammars of geology, imperial global geographies, and contemporary environmental racism” (2018, 120). Furthermore, Yusoff connects violence against people of color to violent discursive practices of “imperialism and ongoing (settler) colonialisms” (120) that authorized domination, extraction, and exploitation (120). Thus, Baartman’s body, in this sense, becomes a site where the scientific discourse, which is masculine and elitist, marks her with the violence of racism, sexism, imperialism, and slavery.

Even more than Anning, Baartman was a vulnerable woman whose personhood was literally stripped away because she fits the stereotypical depiction set by the system of representations constructed by Western modernist discourses. Because of the fact that the balance of power was deeply in favor of Cuvier, Baartman was an easy and cheap research specimen that enriched Cuvier’s knowledge about species. Young (1997) asserts that smallpox was the main cause of Baartman’s death (705). Yet, Cuvier misdiagnosed her illness and attributed it to excessive drinking (705-6). Contrary to the case with Anning, where Cuvier admitted his mistake in judging the skeleton as fake, here there was no admission of wrongdoing – Baartman was made into an object devoid of rights. Later, Baartman was dissected and subjected to further examinations after her death by Cuvier and his team. Her body parts were preserved in jars and displayed to the public in the museum in Paris. Baartman was dehumanized and objectified. Her intimate body parts were the object of analysis. According to Ruiz, the purpose of such an examination was to prove racial “inferiority and also woman’s inferiority, [and] establish the differences through the size of the skulls. The fact that women’s skulls were slightly smaller than those of men was attributed to their physical and intellectual inferiority” (Ruiz 2019, 149). After studying Baartman’s body, Cuvier concluded in the harshest and most racist of descriptions that

“Hottentots are Negroes even though their hyper-negroidness [sic] puts them at the bottom of this category and, therefore, at the absolute bottom of the Chain of Being, with the exception of idiots, lunatics and mixed bloods ...” (Cuvier qtd. by Ruiz 2019, 149). The violence of Cuvier’s claim is telling as it brings forth how science racialized, objectified, and engendered a disregard for vulnerabilities like those experienced by Baartman.

#### *iv. Contribution to Science and Economy*

The quality of Anning’s discoveries and the outcome of the Geological Society’s meeting, which confirmed their authenticity, boosted Anning’s reputation (Torrens 1995, 265). Anning, herself, became a point of attraction at Lyme. People would come from Britain and abroad to Lyme to visit Anning. Torrens explains that “the American geologist, George William Featherstonhaugh ... arrived at Lyme ... to collect fossils for ... New York Lyceum of Natural History. He met and purchased many specimens from Mary whom he called a very clever, funny ‘Creature’” (265). In this sense, Anning’s role is significant since tourism played a central role in the history of geology and the Lyme economy, in general. Anning’s fossils were in demand and were sold to tourists as souvenirs. In addition, they were sold to scientists for research and scientific knowledge (Heringman 142). Torrens (1995) points out that Thomas James Birch, a collector and philanthropist who bought most of his collections, including the “ichthyosaur” from Anning, arranged for an auction at Bullock’s Museum in London in 1820:

The sale ... drew a record crowd, with bidders coming from all over Europe. It provided high-profile publicity for the Annings. Some of the best lots went to the Museum of the Royal College of Surgeons in London, ..., the Anning/Birch ichthyosaur, which was sold for £100. A number of specimens also went from this sale to the French anatomist, Georges Cuvier. (261)

Thus, Anning's work was significant on social and scientific levels as she provided fossils as congealed memories of past extinct species as well as objects of knowledge production. As indicated earlier, memories are integral to Lyme as an agential phenomenon: As a scientific interest, through fossils, extinct species are conjured back to be examined in the present and inform the future. Furthermore, tourists buy fossils to remember their visit to Lyme and their encounter with Anning, the famous fossil collector. Fossils, in this way, hold the memories and become the point of entanglement of space and time. Thus, in this context of extinction and memory, by finding, selling, sketching, and living off fossils, Anning becomes timelessly entangled with the narrative of the Anthropocene and the threat of extinction that currently faces Lyme.

The practice of usurping resources and knowledge that belong to Indigenous and people of color benefits colonizers as it allows them to generate income as well as scientific knowledge. Watts (2013) argues Indigenous knowledge has been used by the West as “an abstracted tool” (28) for knowledge production. For example, Baartman was herself an object of knowledge; she was displayed to produce income for her owners in freak shows and, after her death, dissected for the benefit of scientific knowledge. One of the announcements for such shows displaying Baartman read as follows:

THE HOTTENTOT VENUS – Just arrived (and maybe seen between the hours of One and Five O'clock in the evening, at the No. 225 Picadilly), from the Banks of the River Gamtoos, on the Borders of Kaffraria, in the interior of South Africa, a most correct and perfect *Specimen of that race of people*. From this extraordinary phenomenon of nature, the *Public will have an opportunity of judging* how far she exceeds any *description given by historians* of that tribe of the human species. She is habited in the dress of her country, with all the rude ornaments usually worn by those people. She has been seen by the principal Literati in this Metropolis, who were all greatly astonished, as well as highly gratified with the sight of so wonderful a *specimen of the human race*. She has been *brought to this country at a considerable expense*, by Kendrick Cerar [sic], and their stay will be but short



duration? To commence on Monday next, the 24th inst. – Admittance, 2s each. (Lindfors qtd. by Miranda & Spencer 2009, 911 – my italics)

In this announcement Baartman is depicted as a nonhuman representation of specific category of “human race” brought from South Africa. There is a paradox in the way the announcement magnifies the significance of Venus as the embodiment of the South African exotic nature while at the same time denigrating her by describing her as a “specimen” as opposed to a “citizen” or “ambassador” for her culture. The significance of such a paradox is that as a “specimen,” Baartman is deemed as an object and, therefore, it would justify practices that submit her to scientific examination. Whereas, as a “citizen” or an “ambassador,” Baartman can speak for and explain her culture, and even object to the way she was (ab)used. This connects Baartman to the notion of tourism as an important source of income for Lyme. Like the fossils, Baartman’s body becomes a site, in which her memories about her people and her culture intra-act with discourses presented by historians and scientists about her tribe. These intra-actions, I argue, produce knowledge about Baartman that is contaminated and distorted by Western input and claim of objectivity. An input that would articulate Baartman and her culture in subjugating terms. This process entangles Baartman’s experience with the Anthropocene narrative that invokes discourses of violence (explained in chapter one) enacted over time by human actions.

Even though Baartman’s relevance to Lyme is indirect, her story is entangled with the story of Anning and the history of Lyme. As explained in the glossary p. xxii, Barad’s notion of quantum entanglement queers the sense of time and space where it becomes possible for entangled relationships to happen between entities that might not exist in the same space or time (Barad 2007, 74). Baartman existed in the same time as Anning. Through Lyme’s history in slave trade and Baartman’s embodied relationship to Cuvier, who oversaw the

process of fossils discovery at Lyme while at the same time enriched his scientific knowledge by examining and dissecting Baartman's body, viewing her as a specimen of an exotic species (like the fossils at Lyme), I argue that Baartman's story becomes entangled with the unfolding of Lyme's history.

The notions of choice and consent differ in the cases of Anning and Baartman. Even though Anning needed to collect fossils to feed her family, she was the one to choose her career and willingly continued to pursue it. In the process, Anning gained respect and experience, while disseminating knowledge through her discoveries. For Baartman, the notions of consent and choice were not just limited; but rather constrained. Baartman's coerced contribution was more painful than that of Anning. Indeed, Baartman's body was the object to be sold, examined, and displayed to create knowledge and feed into colonial voyeurism. It was the place where the object and its representation collapsed. As she was rendered voiceless, with Cuvier playing the ventriloquist who spoke for Baartman in contempt. Ruiz asserts that the "naturalist Georges Cuvier had a very important role in her [Baartman's] life as a maid and in her death as a specimen that represented female deviancy [in Cuvier's opinion]" (Ruiz 2013, 141). Young (1997) explains the obliteration of Baartman's personhood and the violation of her body. He writes, "given the myth of the Jezebel or Black women's rampant and deviant sexuality. This ideological justification of sexual violence and rape allows the entire history of Black women's sexual subjugation and exploitation, including sexual assault during slavery, domestic abuse, incest, and sexual extortion, to be denied" (706).

Baartman's dehumanization and commodification persisted even after her death. Baartman's pictures continued to generate income for her owners. Young (1997) explains

that “the exploitation of and controversy over Saartjie Baartman has not ended [with her death]. Satirical prints of her published during her ‘tour ’of London and Paris can still be purchased” (Young 1997, 707 n. 1). Moreover, her body parts, preserved in jars after her death, were “labeled *une négresse*, *une péruvienne*, and *la Vénus Hottentotte* ... at the Musée de l’homme in Paris” (707 n. 1). Baartman’s dissection served Cuvier’s purpose of publishing a study, comparing her as a female “of the lowest human species to the highest ape, the orangutan, and to describe the anomalies of the Hottentot’s genitalia” (707, n. 1).

#### v. Emerging Voices

Even though her discoveries were displayed in museums in Britain, Europe, and America, Anning’s work was not extensively acknowledged during her life. Indeed, her discoveries/objects/nonhumans were more valuable than her. For example, as Torrens (1995) writes, in 1832, Roderick Murchison, the president of the Geological Society of London, in his speech, acknowledged “the Fellows ’network [that] had helped others to identify fossils or compare them with modern forms” (281); however, he excluded the class of “fossil hunters” to which Anning belonged because “they were not [considered] Fellows” (281). Torrens (1995) attributes this oversight to the general practice at the time “–When [geologists] published articles based on her find, ..., they routinely failed even to mention her [Mary’s] name ... it was the donors, not the discoverers, of [the] specimens who got recorded” (280). Torrens (1995) explains the problem as “deeply cultural” (280) since traditionally the identity of the finder of the specimen was not seen as important information to record (280).

The recognition came only after George Cumberland, finally, in a letter to the *Bristol Mirror*, acknowledged Anning's efforts and contribution. Yet, I suggest that his language remained guarded, if not apologetic, for his acknowledgment. Cumberland wrote:

[T]he very finest specimen of a *Fossil Ichthyosaurus ever found in Europe*, a specimen that sets at rest all further investigation ... of that remarkable aquatic animal, which we owe entirely [sic] to the persevering industry of a *young female fossilist*, of the name of Hanning [sic] of Lyme in Dorsetshire, and *her dangerous employment*. (Cumberland qtd. by Torrens 1995, 262; my italics)

In the letter, Cumberland was careful to highlight Anning's status as an unmarried female, suggested by a "young female," and as a poor woman, suggested by her need to be in "dangerous employment." Hence, I argue, Cumberland appears to be appealing to the audience's sense of empathy. In fact, in this appeal, Cumberland justified his choice to defy the traditions that specify that only the donor or collector could be acknowledged by pointing out Anning's poverty and, therefore, implied that her choice of work as fossil hunter is out of desperation. The more emphatic description of the extent of Anning's contribution to scientific research was relegated to a footnote in the letter, in which Cumberland adds:

This persevering female has for years gone daily in search of fossil remains of import tide, for many miles under the hanging cliffs at Lyme, whose fallen masses are her immediate object, as they alone contain these valuable relics of a former world, which must be snatched at the moment of their fall, at the continual risk of being crushed by the half-suspended fragments they leave behind, or be left to be destroyed by the returning tide – to her exertions we owe nearly all the fine specimens of Ichthyosauri of the great collections; and, to shew that it is one which rewards industry a single specimen of hers, far inferior to this placed in the Institution was to be later sold to the College of Surgeons [as a result of the publicity of the Birch sale] for the sum of One Hundred Pounds (Cumberland qtd. by Torrens 1995, 263).

Anning's position, as pointed out in Cumberland's letter, shaped her relationship with geologists and other fossil gatherers who appreciated her work, knew of her dire financial

situation, and wanted to help her out. Torrens (1995) quotes an account by Birch, a collector and philanthropist, in which he sympathized with Anning and her family:

... I am going to sell my collection for the benefit of the poor woman [Molly] and her son [Joseph] and daughter [Mary] at Lyme who have in truth found almost all the fine things, which have been submitted to scientific investigation: when I went to Charmouth and Lyme last summer [1819] I found these people in considerable difficulty – on the act of selling their furniture to pay their rent – in consequence of their not having found one good fossil for near a twelve month. I may never again possess what I am about to part with; yet in doing it I shall have the satisfaction of knowing that the money will be well applied, the sale is to be at Bullock’s in Piccadilly the middle of April. (Birch qtd. by Torrens 1995, 261)

Evidently, sympathy was the main element that defined Anning’s relationship with the geologists and collectors – at least from their point of view. By no means was this a democratic society or field that welcomed and appreciated the contribution of a young, poor, female fossil hunter at Lyme based merely on her knowledge. Accepting (and needing) Anning’s contribution is framed as an act of sympathy or charity, which does not acknowledge the value, quality, and impact or agency of her contribution to the apparatus of knowledge production at Lyme.

In the present time of the Anthropocene, I argue, Anning and Baartman represent spectral beings that haunt Lyme, in which material and discursive practices entangles time and space. This is what Barad (2010) calls spacetime mattering where the material world “holds” the memory of all traces of past relations and becomes memories in its materialized form or congealed memories (261). Whereas Anning became the curiosities that she sold, Baartman continues to exist as the object she was made to be. Torrens (1995) sums up Anning’s life and evolution interestingly when he writes that by the time of her death, Anning “had *become as much a curiosity as the specimens* she had sold ... to [the] geologists of Britain, France, and America for so many years” (270; my italics). Hence, I argue that

Anning haunted the fossils she collected. However, Baartman's subjectivity and constrained resistance emerge and materialize through her body and its preserved parts, which remained behind for around two centuries to speak for her until she is put to rest, nearly two centuries later. Mahmood (2001) draws attention to the agentic element embedded within social constraints by drawing on Butler's (1993) conceptualization of these constraints; they argue that "agency is a reiterative or rearticulatory practice, immanent and not a relation of external opposition to power" (Butler qtd. in Mahmood 2001, 211). This notion, I suggest, also concurs with Indigenous studies scholar Vanessa Watts '(2013) approach to agency when she associated it with the spirit; she writes that "if we think of agency as being tied to spirit, and spirit exists in all things, then all things possess agency" (30). In this sense, as spectral beings that conjure up notions of life and death, Anning and Baartman become an "integral part of existing material conditions" (Barad 2017, 74); they (re)materialize as persistent reminders of the wrongs committed. Hence, their apparent submission becomes active rather than passive as it would involve the present call for change and accountability.

#### **IV. Discussion**

As demonstrated, at the time, Anning's and Baartman's experiences excluded them from the "human" category because of the constraints presented by gender, class, and racial discourses. Anning was othered and alienated from the scientific community at Lyme. Baartman was simply dehumanized. By reading Anning's and Baartman's (hi)stories<sup>48</sup> through one another, we understand the nature of their contribution to the apparatus of scientific knowledge production at Lyme (directly and indirectly) and what got lost in the depiction of scientific knowledge, rooted in modernity's negative dualities.

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<sup>48</sup> By (hi)stories, I mean to emphasize the historical aspect of Anning and Baartman's stories.

This reading underscores the material and discursive practices intra-acting within the apparatus of embodied scientific knowledge production at Lyme. The material concerns or forces are represented in the fossils, cliffs, different and differential human bodies (scientists, buyers, Anning, Baartman, etc.), tools and so on, involved in knowledge production at Lyme. These nonhuman entities are not static objects under examination by human scientists; rather they are intra-acting agencies. For example, fossils are embodied relations between the past and the present, humans and nonhuman species, and human history and earth history. Fossils, as explained above, are skeletal remains of extinct species. By appearing in the present, they invite us to contemplate the past and (re)think the future. Within the narrative of the Anthropocene, in which human actions are seen to have brought about a climate crisis, we are presented with the possible extinction of the human race and, therefore, fossils, as a site of embodied relations of death and extinction in time, invite us to re-think our own posterity and how to relate to the nonhuman other with whom we share the earth.

Hence, matter traverses the past and the present. Geologist Jan Zalasiewicz describes fossils as “parcels of time” (2008, 29). According to Zalasiewicz, fossils are:

[D]irect and compelling link between the present and the recent past. Digging or drilling a little further beneath the floor of the sea or a lake reveals yet deeper layers to be found at depths of metres, then tens of metres and then hundreds of metres, each layer older than the one above it, and many still containing fossils. And, so on, deeper and deeper physically, and deeper and deeper into the past. (29)

Therefore, at Lyme, there is no sense of closure; past violence and injustice haunt the present, as explained earlier by the spectral presence of Anning and Baartman that entangles notions of life and death. This notion challenges Lowenthal’s (1997) earlier argument about heritage as different from history and devoid of the need to inquire into the past.

The discursive practices, represented in the prejudices and violence of racialization, gendering, and enslavement, constrained admitting and acknowledging the contribution of the common people, women, and people of color into the scientific field. This exclusion of Anning's contribution points out "particular notions of masculinity and femininity that re-enforces the powers" (Barad 2007, 237) within geology and paleontology as disciplines that are already gendered. Moreover, discursive forces constrain acknowledging the contribution and proximity of black women, such as Baartman, to the violence of racism and harm, in general. Pulido (2018) explains that "colonialism, racism, and gender as important factors contributing to differential vulnerability" (177). These discourses reinforced the dehumanization processes and justified using them as objects to be dissected and scrutinized. Reading Anning's and Baartman's (hi)stories within the context of the Anthropocene highlights how human violent actions against nature and those deemed nonhuman are always in the process of unfolding as climate change persists and prompts us to re-examine our past actions. As demonstrated, the intra-actions between the specific material-discursive practices described earlier make Anning and Baartman appear and matter differently since the scientific discourse contribute to their gendering, racialization, and marginalization.

Based on this diffractive reading, I argue that time becomes queered as we see practices from the past unfolding in the present invoked by the Anthropocene narrative. This spectral presence reminds us of the violence of exploitation committed by modernity, allowing us a chance to rethink the past in the present moment and respond responsibly. As we acknowledge the challenges and constraints that Anning and Baartman face in their role as part of the apparatus of embodied scientific knowledge production at Lyme, we acknowledge their agency in the production of this knowledge. Understanding matter (nature and bodies),



as relations, allows it to claim its agentic role and significance in the reconfiguration of Lyme as an agential phenomenon.

Hence, I argue that the UNESCO statement that declares Lyme a World Heritage site, ignores the multi-layered relationalities that constitute Lyme – or, what Barad calls, “the exteriority within” – when it fails to articulate the intra-acting material and discursive embodied practices that rendered marginalized and dehumanized others like Anning and Baartman silenced. In doing this, I argue that institutions like UNESCO still operate within the modern construct that ordered life into separate hierarchical dualities of male/female, master/slave, white/Black, scientific/social, and so on. This construct constrained women and people of color for a long time. Hekman (2010) confirms this notion when she writes that “feminists want to be able to make statements about reality – that women are oppressed; that their social, economic, and political status is inferior to that of men; that they suffer sexual abuse at the hands of men” (3). Hekman’s statement harkens back to the feminist origin of new materialism and provides an apt description of how discourses produced by social and scientific constructs harm women by materially (ab)using their bodies. In this way, the celebration of national identity, pride of place, and capacity to enrich scientific knowledge implied within Lyme’s heritage status is only one side of the truth. In ignoring the violence embedded in Lyme’s past as a site of entangled practices that co-constitute fossils excavations, scientists, Anning, Baartman, landscape, weather, and more, this status becomes complicit in the violence of marginalization and dehumanization explained above.

This diffractive reading, in which I read insights from Anning and Baartman’s material and discursive practices through one another, reveals the material forces and the

discursive practices<sup>49</sup> that enabled and/or constrained giving voice to the violent past embedded in Lyme's history and revealed with Anning's and Baartman's (hi)stories. Diffraction confronts us with the demand for ethical consideration in which we become accountable and responsible for what materializes. I argue that Lyme should be a World Heritage Site for different reasons. Its heritage status should celebrate its ability to embrace its vulnerabilities and diversity (human and nonhuman) and remedy its violent past.

## **V. Conclusion**

This diffractive reading has examined the material and discursive practices that shaped Anning's and Baartman's experience as part of the apparatus of scientific knowledge production that earned Lyme its status as a World Heritage site by Anning's and Baartman's (hi)stories through one another. I argue that the World Heritage statement did not highlight the constraints that Anning and Baartman encountered; it obscures as much as it throws into light and along the lines of a dominant oppressive ideology. Anning and Baartman are examples of the many voices and agencies at play in the constitution of Lyme as heritage site. My reading thus reveals a multiplicity within Lyme as a place of relations and approaches the differences within, exemplified in different entangled practices that include women, enslaved people, and nature, by "mak[ing] possible a genealogy of the practices" (Barad 2007, 192) where "matter comes to matter" (200). I highlighted the contribution of Anning and Baartman to the apparatus of scientific knowledge production at Lyme. I showed how specific material and discursive practices illuminated the alienation and dehumanization of Anning and Baartman, respectively. I then argued that by making this violence visible, the

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<sup>49</sup> In Barad's agential realism, material and discursive practices are inseparable. I am separating them here for analytical purposes to highlight my diffractive reading by emphasizing the difference within.

heritage convention needs to ethically and politically respond and account for this violence by acknowledging the role of vulnerable classes as exemplified by Anning's and Baartman's contributions within Lyme's World Heritage status. Presently, the Dorset Council has taken the positive step of acknowledging Anning's contribution to science at Lyme by erecting her statue to commemorate her work. Baartman, meanwhile, whose connection to Lyme is shaped by Cuvier's dehumanizing scientific practices and Lyme's involvement in the slave trade at the time, still awaits her recognition.

### **Chapter Three** <sup>50</sup>

#### Lyme Regis in the Anthropocene: Reading a Posthumanist Sublime in Jane Austen's

##### *Persuasion*

#### **I. Introduction**

In terms of my application of Barad's ideas to Lyme, it is critical to reframe Lyme as an agential phenomenon. In the previous two chapters, I examined two important differences that constitute Lyme Regis to rethink Lyme's identity that is fixed and framed within the limited scope of being a tourist destination and World Heritage Site. Chapter one examines Lyme's situation in the Anthropocene as a coastal site threatened with complete disappearance under the rising sea levels. The chapter underscores the inseparable and entangled practices of humans and nonhuman entities (nature) that inhabit and constitute Lyme and whose intra-actions would come to shape and re-shape its future and identity. Chapter two examines a different time segment by going back about two centuries and rethinking the apparatus of scientific knowledge production that gained Lyme its World Heritage status. The chapter underscores and integrates Mary Anning's and Saartjie Baartman's contribution to geological and paleontological discoveries and the knowledge produced – a contribution rendered invisible by social discourses and slavery practices at the time.

To continue with my study that thinks through the multiplicities that constitute Lyme, this chapter rethinks the entangled nature of scientific and literary practices, arguing for an agential realist account of the sublime that celebrates Lyme as a place of transformative human-nonhuman kinship based on Austen's elaborate depiction in *Persuasion* (1817). This

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<sup>50</sup> Hathout (forthcoming Winter 2024).

reading shows science and literature as material-discursive practices operating through the novel and allowing us to rethink Austen's writing as a process in constant flux.

In this Baradian phenomenal perspective, the author, the place, along with the surrounding (historical, social, scientific, etc.) upheavals become inseparable and always in a process of unfolding. This aspect that, I argue, makes Austen's novel relevant now at the time of the Anthropocene. This chapter illuminates the third layer of differences that sees Lyme as a site of sublime nature. I offer the novel argument that Jane Austen's depiction of sublime nature at Lyme in her novel, *Persuasion* (1817), presents a posthumanist agential realist account<sup>51</sup> of the sublime that rethinks the traditional classical notion of the sublime articulated by Edmund Burke and Immanuel Kant. This account is important because it emphasizes the notion of performativity that rethinks human-nonhuman boundaries so that they become co-constitutive of different material and discursive practices. Barad (2007) expresses this notion when they define agential realism as:

[A]n epistemological-ontological-ethical framework that provides an understanding of the role of human and nonhuman, material and discursive, and natural and cultural factors in scientific and other social-material practices, thereby moving such considerations beyond the well-worn debates that pit constructivism against realism, agency against structure, and idealism against materialism. (26).

Therefore, this material-discursive co-constitution would allow me to re-define concepts like the sublime, in which a safe distance and rigid boundary between humans and nature has traditionally been emphasized by Burke and Kant. Austen's writing, in my approach, cannot be articulated without her personal material experience of the violence embedded within economic, political and social discourses of her time, which left its mark on

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<sup>51</sup> As explained in the introductory chapter, Barad's philosophy of agential realism belongs to the new materialist school of thought under the umbrella of the posthuman (see Ferrando 2019).

her work. In other words, Austen's position as a woman and orphan is ontologically complicated by the material and discursive practices of her time which threaten her with the possibility of homelessness and / or a failed marriage and sees her as detached from (masculine) political and economic upheavals of the time. Accordingly, my reading sees Austen's writing as ethically responding to these complex relationalities in a manner whereby ethics is not about choosing to respond correctly to these external changes but about having accountability and responsibility as an integral part of these processes of becoming. Barad's approach is different because we can see the effects of these different and differential material and discursive (political, feminist, colonial, etc) aspects as practices operating at the same time and (re)shaping Austen's life experience as well as Lyme as we see it as a place of transformative kinship with nature.

Whereas modern humanist conceptualizations of 'the sublime' privilege human reason and culture as triumphant forces of transcendence over a possibly violent terrifying nature (see, for example, Kant 1790; Burke 1757), I argue that Austen's writing in *Persuasion* (1817) anticipates an agential realism's posthumanist form of the sublime that attends to an inseparable "natureculture"<sup>52</sup> in Barad's (2007) terms (90) or human-nonhuman practices. In terms of its history, the sublime is perceived by thinkers like Longinus (1554), Edmund Burke (1757), and Immanuel Kant (1790) as a relationship between humans and a "great and awful" (Whyte 1947, 4) nature, in which the human mind is generally superior to nature because of its ability to transcend this fearful nature. This chapter proposes an agential

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<sup>52</sup> To overcome modernity's dualisms, Haraway (2003) coins the term "natureculture" to argue for the ongoing emergence of different and differential forms of existence: "There is no border where evolution ends and history begins, where genes stop and environment takes up, where culture rules and nature submits...instead there are .... naturecultures all the way down. Every being that matters are in a congeries of its formative histories" (2). Barad (2007) builds on Haraway's (2003) "natureculture" argument and expands its focus to include "natural sciences as a whole" (Dolphijn 2016, 3).

realism's posthumanist form of the sublime that rethinks representationalism (see glossary, p. xxiii; also discussed in the introduction, and chapter two) that "lost track of the material realm" (Ferrando 2013, 30) and sees "descriptions and reality ... [as] matters of practices/doings/actions" (Barad 2003, 802). To do this, I examine Austen's novel *Persuasion* (1817) within the context of the Anthropocene and consider how she describes nature at Lyme, where humans (her characters) and nonhuman nature meet.

As explained earlier in chapter one, the advent of the Anthropocene opens up a space for rethinking classical approaches to knowledge making by co-constituting theory and practice. Within this context of the Anthropocene, in this chapter, I rethink some of the classical scholarly approaches to Austen's *Persuasion*, arguing that Lyme's depiction, in the novel, could be read as an agential realist posthumanist account that questions the "givenness of the differential categories of 'human' and 'nonhuman'" (Barad 2003, 808) and enables "a genealogical analysis" (821) that allows tracing the co-constitution and emergence of humans and nonhumans. Drawing on my discussion of Haraway's (2004) critique of humanism (chapter two, p. 65) that sees suffering and compassion as the mark of human-nonhuman non-innocent co-constitution, the emergence of the 'inhuman' embodies a space of possibilities rather than 'inhumanity'. Barad (2012) expresses this notion when they write that "it is the inhuman—which most commonly marks humanity's inhumanity as a lack of compassion—that may be the very condition of possibility of feeling the suffering of the other, of literally being in touch with the other, .... in the binding obligations of entanglements" (219). Focusing on Austen's depiction of nature at Lyme in *Persuasion*, an affirmative posthumanist re-examination would reveal a human kinship with nonhuman

nature that emerges out of such entangled experiences or practices marked with suffering and compassion.

The sublime in this agential realist approach, I argue, is not a celebration of our human mental strength over a terrifying nature; rather, it emerges as an entanglement and co-constitution of human and nonhuman practices that contribute to the ongoing (re)emergence and reconfiguration of both. What also emerges from this reading, I argue, is a new understanding of Austen's philosophical view of life that rethinks modern dualities and advocates for a relational existence. Furthermore, this reading redefines the relationship between Austen, her work, and her environment by revealing Austen's work as her prosthetic that enables her to expand beyond the social limitations of her life and engage with a world beyond her reach. In this understanding, Austen succeeds in summoning a posthumanist understanding of both the nonhuman world (nature) and her novel.

My argument and chapter will unfold in two parts. Part I will provide a review of Jane Austen's place in the Romantic period. Part II will first present an overview of the classical understanding of the sublime. Then, I will discuss *Persuasion* as a point of transition in Austen's philosophy about life. Based on this foundation, the chapter will then discuss the posthumanist reconceptualization of the sublime by analyzing the key section in which Austen describes nature at Lyme. Finally, I shall demonstrate how this posthumanist account of the sublime, as the third layer of difference illuminated by my diffractive reading of Lyme through this dissertation, allows me to re-think both, the human and nonhuman intra-relationality at Lyme and the prosthetic nature of Austen's relationship with her novel, based on re-examining Lyme's depiction in Austen's novel *Persuasion*. The posthumanist sublime, I am proposing, illuminates new aspects of Austen's philosophical view of life.



These aspects have been rendered invisible by the traditional understanding of the sublime articulated by Kant and Burke. This approach forms part of the multiplicity underlying Lyne that my diffractive approach aims to trouble and reveal.

## Part I

### Jane Austen's Place in the Romantic Tradition

Austen's place in the Romantic period has always been precarious (Lau 1999, 237). Critics of the Romantic period oscillate between those who find Austen's writing "un- or non-Romantic" (McGann 1983, 19) and those who see her work as Romantic. The first challenge to Austen's placement lies in her choice of genre. The genre of the novel, which Austen practiced, was assigned the status of a "low form" (Damrosch et al 2012, 31) at the time Austen started writing, to such an extent that Sir Walter Scott opted to have his novel, *Waverley* (1814), published anonymously. In academic institutions, Karl Kroeber (1976) explains that both Austen's and Walter Scott's novels have been assigned and studied in "courses in the history of the novel" (291) and not included in courses about Romantic works, despite the fact that both wrote their work during the Romantic period. The other challenge is that Austen was a woman writing at a time defined by its "Big Six" (Haekel 2017, 1) male poets of Romanticism.<sup>53</sup> Thus, in the next section, I situate Austen in relation to other women writers of the period to show the discursive constraints that shaped Austen's approach to writing.

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<sup>53</sup> William Blake, William Wordsworth, Samuel Coleridge, John Keats, Percy Bysshe Shelley, and Lord Byron.

i. *Jane Austen and Women Writers in the Romantic Period*

Women writers during the Romantic period (1798-1837) in England were excluded from the Romantic canon. Only as late as the 1980s (Binfield 2001, 347) when critics realized that failing to include women's writing in the Romantic canon would "limit ... [their] own understanding of the Romantic period and the rich heteroglossia of literary voices" was more attention paid to their work (Haefner 1993, 55). Male Romantics were inspired by the French Revolution which filled them with dreams of freedom. Their obsession with the French Revolution and its values influenced their work and caused "this sharp cultural, political, or intellectual divide between 1789 and what went before or between 1832 and what came after" (Mellor 2001, 399). Women writers, on the other hand, were influenced differently because the French Revolution "did not bring new freedoms for women, either in France or in England" (398). Since the end of the eighteenth century, women writers were mostly inspired by Mary Wollstonecraft and their writing was dedicated to issues like challenging "the hegemonic patriarchal constructions of gender roles, the miseducation of women, the exploitation of female labour, and the enslavement of women both at home in the British household and abroad in the colonies" (398). Thus, for women writers, as Mellor (2001) contends, "there is no Romantic period" (398), because the freedom they aspired to was to be more than just an object "made to feel and be felt rather than to think" (Wollstonecraft qtd by Damrosch et al. 2012, 29), and, consequently, to reclaim their sense of humanity.

On the other hand, male Romantics aspired to political, philosophical, and social freedom that would allow the people to shape the destiny of Britain. The reason is that, as E. J. Hobsbawm asserts, in the wake of the French Revolution (1793), people dared to think that

“social revolution was possible, that nations existed as something independent of states, peoples as something independent of their rulers, even that the poor existed as something independent of the ruling class” (Hobsbawm qtd by Damrosch et al. 2012, 7). However, all their hopes dissipated as they discovered that the revolution, which appeared to be liberating and levelling, had failed and managed only to repeat the “ancient evils” (McGann 1983, 67) that arose from limiting the rights of individuals. This tension between those hoping for a democracy inspired by Thomas Paine’s “rights of man” and those maintaining the rights of “entailments of wealth and privilege” (Hobsbawm qtd. by Damrosch et al. 2012, 7) sustained Romanticism as an ideology, as described by McGann (1983).

Based on this difference, while mainstream male Romantic writers celebrated imagination and elevated its importance and significance to match that assigned to science by the Enlightenment, female Romantic writers were generally skeptical about imagination and saw it as a “corruption of rational capacity and moral judgement” (Damrosch et al. 2012, 10). Instead, many women writers associated imagination with “destructive passion” (10). In this understanding, female writers of the Romantic period could be seen to be influenced by Mary Wollstonecraft, a female philosopher whose *A Vindication of the Rights of Woman* (1792) outlined a “discourse of natural human rights and universal sympathy” (Damrosch et al. 2012, 10). This treatise provides a stance that is defiant to the contemporaneous “male schemes of gender” (10) and influenced by the Dissenters’ “discourse of rational education ... that included both men and women” (10) as a way of achieving the intellectual reasoned independence much needed to lead a moral life (McKendry 2020, 151).<sup>54</sup> In her treatise,

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<sup>54</sup> The Dissenters are a theological nonconforming group that rejects Calvinism in favor of personal inquiry – a practice seen by Joseph Priestley, an important figure in this tradition, as allowing for a “perfect freedom... impartial debate ...[and] open-minded “candour” (147). In this discourse, the priorities for Wollstonecraft and

Wollstonecraft warns that “the imagination should not be allowed to debauch the understanding before it has gained strength, or vanity will become the forerunner of vice” (10). She argues that women are an oppressed class because they were denied the same education, and legal rights and employments that were readily made available to their male counterparts (29). Wollstonecraft’s skeptical view of the imagination is significant because it suggests both the seductive as well as dangerous aspects of the imagination for women. At the same time, for men, the imagination in the 18<sup>th</sup> Century was controversial because it was both a central source of poetic creativity but also dangerous when interfering with a political life (Taylor 2003, 2) from which women were excluded (208).

Influenced by Wollstonecraft’s ideas, some women writers associated the imagination with negative experiences. For example, Joanna Baillie, in *Plays on Passions* (1798), aligns the imagination with strangeness, trouble, fear, and madness (10). Similarly, Mary Robinson, in *The Sicilian Lover* (1796), sees imagination as “sick’ning, [it] spurns / The sanity of reason” (10). Mary Shelley, on the other hand, describes the imagination differently, arguing that it is “unbidden, possessed” (10) as well as a source of guidance that helped her produce *Frankenstein* (1818) by “gifting [her with] the successive images that arose in my mind with a vividness far beyond the usual bounds of reverie” (10). In *Emma* (1815), Austen describes Emma’s illusions when she imagines a possible inappropriate relationship between Harriet and Frank Churchill as being “imaginist ... on fire with speculation and foresight! – especially with such a groundwork of anticipation as her mind had already made” (Austen, 668). Austen’s subtle rebuke of Emma for her impulsive judgement of the nature of

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the Dissenters were different though because “they [were] ... nonetheless inspired by a different set of cultural memories – for Wollstonecraft that of the oppressed woman, for Dissenters that of the persecuted man” (McKendry 2020, 151).

relationship between Harriet and Churchill shows the influence Wollstonecraft had on Austen's thinking as it demonstrates her inner struggle to distance herself from imagination in favor of reasoned contemplation.

Nevertheless, the statement in which Austen writes "especially with such a groundwork of anticipation as her mind had already made" (668), I argue, suggests a subtle critique of representations and rules that state that a man and a woman left alone without a chaperone would automatically imply an improper relationship between them. This notion, I suggest, would suggest the kind of reason that Austen associates herself with; it is not reason based on already defined references and representations, but a form of reason based on the emergence of embodied actions and practices that would then carry its own ethical imperative. This duality that separates imagination and reason and that, I argue, Austen seeks to subtly critique, could be reconciled when viewed from agential realism's posthumanist point of view. For instance, Barad (2007) argues that our imagination as well as our being and practices are reconfigured through "the entanglements we are a part of" (383) in such a way that we become ethically accountable for what emerges. Braidotti (2013) supports Barad's view as she also argues for an ethical imagination that "rests on an enlarged sense of inter-connection between self and others, including the nonhuman by removing the obstacle of self-centered individualism" (190). In this sense, the boundaries that separate imagination and reason are (re)configured to allow for their intra-action and co-constitution and the emergence of a creative, transformative and ethical experience.

My reading of a posthumanist sublime inspired by Austen's *Persuasion*, I argue, underscores this change in Austen's philosophical view of life regarding reason, passion and love as she appears to rethink her subtle critique of the rigid boundaries between humans and

nonhumans, imagination or passion and reason, the scientific and the social and so on and make literary choices that underscore their intra-relationality, as we shall see in the chapter. Having situated Austen's work in relation to the other women writers of the time, in the next section, I shall place Austen's work within the Romantic tradition in general and in relation to the "big six" who defined the Romantic canon.

ii. *Situating Austen in the Romantic Tradition*

Critics like Leavis (1948), Trott (2005), Morgan (1986), among others argue for the originality of Austen's work and the fact that, "in time and place" (Morgan 1986, 364), Austen is part of the Romantic era. Because of the originality of her work, Austen established her place as the "inaugurator of the great tradition of the English novel" (Leavis 1948, 7; Trott 2005, 94).<sup>55</sup> Leavis clarifies that Austen's relation to tradition can be seen in the way her work constitutes features of great works of authors like Henry Fielding, Daniel Defoe, Samuel Richardson, Fanny Burney among others (1948,7). Furthermore, Austen's novels carry a "moral intensity" (Trott 2005, 95) that, Trott argues, enables her to distinguish between "life and art" (95). In being able to achieve this balance, Austen was declared "the first modern novelist" (98). Austen is associated with the Lake District poets, especially William Wordsworth and Samuel Coleridge, because of her familiarity with the English countryside (Morgan 1986, 364) and her being born very close to them, in 1775 (364).

The uniqueness and originality of Austen's writing style allowed her to carve a special place for herself between 1809-1817, a time that is known as the "era of high

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<sup>55</sup> In his book, *The Great Tradition* (1948), F. R. Leavis starts his book declaring that "the great English novelists are Jane Austen, George Eliot, Henry James and Joseph Conrad" (1). Leavis explains Austen status arguing that Austen, "in her indebtedness to others, provides an exceptionally illuminating study of the nature of originality, and she exemplifies beautifully the relations of 'the individual talent' to tradition" (5).

Romanticism” (see Franklin 2012, 1). In his review of *Pride and Prejudice* and *Emma* in 1826, Sir Walter Scott asserts that Austen introduced a “new kind of novel” (Scott qtd by Waldron 2005, 86), in which she was able to “rid her fiction ... [of] ... well-worn stereotypes... [to] produce sketches of such spirit and originality, that we never miss the excitation which depends upon a narrative of uncommon events, arising from the consideration of minds, manners, and sentiments, greatly above our own” (86). In this sense, Austen’s novels allow her readers “deep insights into human nature” (Waldron 2005, 90) because of her ability to dive deep into the human psyche and depict different human experiences.

In order to locate Austen’s place within the Romantic canon that is primarily dominated by the “Big Six” male poets, as explained earlier, I now highlight the common traits that Austen shares with them. One significant trait is her ability to achieve a hierarchical separation between reason and passion in most of her novels, which is different from the way she approached reason and passion in *Persuasion* in particular. As will be demonstrated in this chapter, my study argues that *Persuasion* is where Austen performs a posthumanist elimination of such hierarchical relationality between reason and passion. Contrary to her other novels, as we shall see later in the chapter, I argue that, in *Persuasion*, Austen re-conceptualizes reason and passion as co-constituted and co-emergent phenomenon shaped by her characters’ embodied material-discursive practices and not by social convention that centers the ‘human’ (as described Haraway (2004, 47) in Ch. 2) and human agency and, therefore, re-inscribes hierarchical dualities.

The interplay between reason and passion is demonstrated by Romantic poets like Wordsworth and Coleridge. For example, Wordsworth, in the *Preface to the Lyrical Ballads*

(1800-1802), asserts the role of passion in Romantic poetry by describing it as “the spontaneous overflow of powerful feelings” (Wordsworth 443). However, Wordsworth conditions the influence of powerful passion on initial reasoning when he specifies the sort of passion that “takes its origin from emotion recollected in tranquility” (Wordsworth 443). Similarly, in *Biographia Literaria* (1817), Coleridge sees imagination as a passion subdued by reason when he describes imagination as a power that “combines and balances all human impulses and faculties” (Coleridge qtd by Lau 239), including “a more than usual state of emotion, with more than usual order; judgement ever awake and steady self-possession, with enthusiasm and feeling profound or vehement” (239). This balance can also be seen in Austen’s work. For example, in *Pride and Prejudice*, Austen demonstrates the significance of entrusting the reins of one’s passions to reason when she finds Elizabeth Bennet’s love for Darcy on a reasoned contemplation of the change in his character that is motivated by his deep love for her:

If gratitude and esteem are good foundations of affection, Elizabeth’s change of sentiment will be neither improbable nor faulty. But if otherwise—if regard springing from such sources is unreasonable or unnatural, in comparison of what is so often described as arising on a first interview with its object, and even before two words have been exchanged, nothing can be said in her defence, except that she had given somewhat of a trial to the latter method in her partiality for Wickham, and that its ill success might, perhaps, authorise her to seek the other less interesting mode of attachment. (Austen 1813, 186)

In this passage, Austen allows the reader a glimpse of Elizabeth’s reasoning process as she makes a case for “gratitude and esteem” as a possible foundation for affection as opposed to impulsive decisions based on appearances and unjustified passion (see Morgan 1975, 57-9).

Whereas Austen’s style in the preceding passage follows a line of reasoning, *Persuasion* shows a change in Austen’s approach to novel writing in a way that seems to be



more poetic using examples from *Persuasion* (1817). Thomas (1987) suggests that Austen's writing style is similar to the Romantic Lyrical conversation poems by Keats and Coleridge. This aspect, in Thomas's opinion, makes Austen's work exceedingly Romantic, as it infuses her work with what he calls "the spirit of the age" (893). To explain this, Thomas (1987) describes Austen's lyrical writing style in *Persuasion* as follows:

The center of interest in *Persuasion* is clearly the epistemological drama of Anne Elliot's attempts to understand and know again her estranged former lover, Captain Frederick Wentworth. Because she continues to love him and is unsure of his present feelings ... the gap between them only accentuates desire, making each encounter a subject-object confrontation. [...] Such limitations impose a lyric-like scope and proportion on the encounters, resulting in drama ... [that] present[s] a colloquy that evokes in the subject a varied but integral process of memory, thought, anticipation and feeling which remains closely interwoven [sic] with the outer scene. (899-900)

In this passage, Thomas (1987) underscores the play of emotions that are either anticipated, imagined or experienced between Anne Elliot and Fredrick Wentworth, perceiving these as a performance that is lyrical in the way it communicates meaning to the receiver or reader without actually articulating it.

Based on Thomas's (1987) preceding passage, Austen appears to be presenting the reader with performed conversations that draw in events from the past and present, and expectations and hopes about the future, all depicted in the way memories, thoughts, and passions intensify or abate. To further explain this, Thomas points out how Anne withdraws from people when her feelings are agitated and rejoins people when her feelings subside (1987, 900). For example, when Wentworth removes young Walter Musgrove who was clinging to Anne's back, Austen narrates, "she [Anne] was ashamed of herself, quite ashamed at being so nervous, so overcome by such a trifle; but so it was; and it required a long application of solitude and reflection to recover" (Austen 2004, 81). By describing

Anne's internal suffering and struggle with her emotions, Austen "lyricizes the novel" (Thomas 1987, 902). John Mullan (2005) confirms this, pointing out the link between emotions and physical empowerment and animation (Mullan 378). For example, for Anne Elliot in *Persuasion*, "her bloom had vanished early" (Austen 2004, 11) when she first breaks up her engagement to Wentworth. However, when Wentworth comes back into her life, Anne is "glowing and lovely in sensibility and happiness, and more generally admired than she thought about or cared for, she had cheerful or forbearing [sic] feelings for every creature around her" (Austen 197-8). Similarly, Thomas (1987) argues that Anne also understands Wentworth's feelings toward her by deciphering signs and analyzing his particular choices. For example, when Anne meets Wentworth in Bath and together, they remember incidents from their visit to Lyme, Anne analyzes the conversation as follows:

His choice of subjects, his expressions, and still more his manner and look, had been such as she could see in only one light. His opinion of Louisa Musgrove's inferiority, an opinion which he had seemed solicitous to give, his wonder at Captain Benwick, his feelings as to a first, strong attachment, - sentences begun which he could not finish - his half averted eyes, and more than half expressive glance, - all, all declared that he had a heart returning to her at last; that anger, resentment, avoidance, were no more; and that they were succeeded, not merely by friendship and regard, but by the tenderness of the past; yes, some share of the tenderness of the past. She could not contemplate the change as implying less. - He must love her. (Austen 185-86)

This passage demonstrates the movement of Anne's thoughts as she reasons with herself until she reaches the conclusion that Wentworth is indeed in love with her.

This notion that sees thoughts as performances could be deemed lyrical inasmuch as it resembles the structure of lyrical Romantic poems (see Thomas 1987, 903). One example, Thomas (1987) gives is in Coleridge's poem, "The Nightingale" (1798):

And hark! The Nightingale begins its song,  
'Most musical, most melancholy 'bird!

A melancholy bird? Oh! Idle Thought!  
 In Nature there is nothing melancholy  
 But some night-wandering man whose heart  
 Was pierced  
 With the remembrance of a grievous wrong  
 Or slow distemper, or neglected love  
 (And so, poor wretch! Filled all things with  
 Himself,  
 And made all gentle sounds tell back the tale  
 Of his own sorrow) ..... (ll. 12-23)

In these lines, the bird sings without being aware that the poet overhears and can decipher and find different meaning in its singing based on how he feels (905). Thomas (1987) explains that this “irrelation” (905) between the bird and the melancholy poet “makes its communication seen direct, unself-conscious and true” (905). The same notion can be found in *Persuasion* according to Thomas since Anne Elliot’s physical reactions to Wentworth’s actions and word choices suggest an “unself-conscious” (905) communication of her true feelings for him.

Another important poet with whom Austen has some common literary traits is Lord Byron. Both Austen and Byron used their unique writing styles to criticize the Romantic tradition by “subject[ing] Romanticism itself to comic scrutiny” (Franklin 2012, 83) as they grapple with notions like the ideal and the real. Despite being acknowledged as one of the six major poets defining Romanticism, according to Marchand (1968), Byron saw the Romantics as innovators who threatened “the traditional literary standards” (27) set by his idols, Alexander Pope, John Dryden and William Gifford (23). Marchand asserts that Byron ridiculed romantic novelists and poets, citing Sir Walter Scott’s “stale romance” (25) and William Wordsworth’s “self-conscious attempts to wring pathos out of events and characters of common life” (Byron qtd. by Marchand 23). Instead, Byron viewed poetry as an “emotional relief” (10) and an expression of his passionate rejection to “compromise with his

concept of the ideal in writing” (10). According to Marchand (1968), poetry had two purposes for Byron (9). The first is a “serious moral” (9) purpose. The second purpose has to do with truth through spontaneity and the impulse of a genuine experience where one “look[s] in [one’s] heart and writ[es]” (Byron qtd by Marchand 10). Austen shares with Byron his idealization of Alexander Pope (Franklin 2012, 83) and, like Byron, as mentioned earlier, her novels were characterized as having a moral intensity as well as the ability to offer insights into human psyche. Kroeber (1976) explains, Austen “builds her novels upon issues of emotionalized perceptions” (294), yet she creates “real romance out of patterns of conventionalized romance” (294). Thus, Austen differs from Byron in that her novels do not endorse spontaneity, which goes back to my earlier point about the risks women incur should they make impulsive decisions and my argument about a co-constituted passion and reason that gives rise to the possibility of a transformative experience and ethical creativity.

Of the main aspects of Romanticism toward which both Austen and Byron demonstrate their skepticism are sensibility and sentimentalism. Austen’s work shows that displays of passion preclude a form of artifice and design (Mellor 2001). This view is demonstrated in *Pride and Prejudice* when Elizabeth Bennet explains to Charlotte Lucas that making a spectacle of one’s feelings could be a mechanism to achieve married status with all its social and financial privileges. However, Elizabeth emphasizes the importance of equal understanding in a relationship between a man and a woman as a basis for contemplating marriage:

Your plan is a good one, replied Elizabeth, where nothing is in question but the desire of being well married, and if I were determined to get a rich husband, or any husband, I dare say I should adopt it. But these are not Jane’s feelings; she is not acting by design. As yet, she cannot even be certain of the degree of her own regard nor of its reasonableness. She has known him only a fortnight. She danced four dances with him at Meryton; she saw him

one morning at his own house and has since dined with him in company four times. This is not quite enough to make her understand his character. (Austen 14)

Austen's cautious approach to marriage arises from the social condition of women and the way they were treated at the time. Anne Mellor (2001) quotes the suffragette Barbara Leigh Smith on the conditions of married women in Britain before 1860:

[T]he wife loses all her rights as a single woman, and her existence is entirely absorbed in that of her husband. He is civilly responsible for her acts ... A woman's body belongs to her husband; she is in his custody, and he can enforce his sexual right by a writ of *habeas corpus*. What was her personal property before marriage, such as money in hand, money at the bank, jewels, household goods, clothes, etc., becomes absolutely her husband's, and he may assign or dispose of them at his pleasure whether he and his wife live together or not ... The legal custody of children belongs to the father. ... the mother has no rights over her children, except a limited power over infants, and the father may take them from her and dispose of them as he thinks fit. (Smith qtd by Mellor 2001, 397)

This information would justify Austen's cautious approach to marriage since a wrong decision in this department could cost a woman practically her humanity, as explained by Barbara Leigh Smith; she completely becomes metaphorically consumed by her husband, losing everything she owns and everyone she bears. In her personal life, Austen refused to marry without love. In a letter to her niece, Austen writes: "Anything is to be preferred or endured rather than marrying without Affection" (Austen qtd by Fergus 2005, 8). Byron also saw spectacles of emotions and sentimentalism as signs of hypocrisy. Describing the intensity of Byron's poetic style that avoids sentimentalism, Marchand (1968) argues that, in his poetry, Byron "tears away the mask of sentimentalism, of hypocritical self-deception, of mock-ideality, of wishful thinking, and shows the plain or ugly face of reality" (7).

Marchand's statement affirms Byron's skeptical view of sentimentalism. This similarity with

Byron as one of the most prominent figures that defined the Romantic period affirms Austen's relevance to the period.

Important to understanding the context of nature at Lyme, Austen shares the Romantics' view of the countryside as a place of peace and harmony with nature. Despite being written against the backdrop of industrialization, and progress, for instance, Southam (2000) notes, Austen's novels are mostly set in the countryside where her characters distance themselves from any association with trade or industry (415). In *Pride and Prejudice*, for example, Austen narrates:

Sir William Lucas had been formerly in trade in Meryton, where he had made a tolerable fortune, and risen to the honour of knighthood by an address to the king during his mayorality. The distinction had perhaps been felt too strongly. It had given him a disgust to his business, and to his residence in a small market town; and, in quitting them both, he had removed with his family to a house about a mile from Meryton, denominated from that period Lucas Lodge, where he could think with pleasure of his own importance, and, unshackled by business, occupy himself solely in being civil to all the world. (Austen 1813, 11)

In this passage, Austen appears to be criticizing Sir William Lucas for distancing himself from his past business associations that brought him into eminence in the first place.

Austen's approach to sensibility renders her work closer to William Wordsworth's and William Cowper's Romanticism. Jonathan Bate (2000) explains that

[Austen's] more sensitive heroines read Cowper rather than Wordsworth, but they would be broadly in sympathy with the argument of the preface of *Lyrical Ballads* that the poet has a special bond with rustic life because it is in the country that the essential passions of the heart 'find a better soil' and in the rural condition that 'the passions of men are incorporated with the beautiful and permanent forms of nature'. (12)

Bate (2000) sees Austen's writing "about rooted communities" (13) as not only contemporaneous with Wordsworth's poetry, as they both share the perception that "the

increasing accumulation of men in cities was a cause of what we now call the ‘alienation’ of the human spirit” (13).

Despite the fact that Austen’s novels appear to be ignoring the economic upheavals taking place in the wake of the Industrial Revolution in England, critics find that, in her own way, Austen is indeed engaging with the events of her time. Based on Raymond Williams’ (1973) assertion that the “social history of the landed families ... in England” (113) was an important part of British history, by focusing on the landed gentry, I argue that Austen is not detached from her surroundings after all. Comparing Austen to William Cobbett,<sup>56</sup> Williams (1973) explains that Austen and Cobbett engage with the same events of the time but from different perspectives: while Austen writes from “inside the houses” (117), Cobbett writes from the “outside” (117). Consequently, Williams contends that both, Austen and Cobbett, each from their own vantage point, are affecting a “transformation of attitudes and feelings towards observed nature: new kinds of interest in landscape, a new self-consciousness of the picturesque, and beyond these and interacting with the more social observations” (119). In this way, Williams’ argument shows how Austen’s concerns are not detached from the political and economic turmoil besetting England at the time.

Although Williams (1973) sees Cobbett and Austen as two figures whose works are potentially transformative, Williams’ Marxist reading of Austen reflects modernity’s thought as it creates a hierarchical duality that makes a distinction between Austen’s reading of England from “inside the houses” (112) and Cobbett’s reading from “the other side of the park wall” (113). Having situated Austen as separate from the discursive practices of her

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<sup>56</sup> William Cobbett was an English journalist; founder of the weekly *Political Register* journal in 1802; and a fierce defender of traditional rural values in England during the Industrial Revolution. (Britannica, The Editors of Encyclopaedia. “William Cobbett summary”. *Encyclopedia Britannica*, 14 Oct. 2003, <https://www.britannica.com/summary/William-Cobbett-British-journalist>.)

time, Williams argues that her observations remain “cool and controlled” (1973, 116), suggesting that Austen’s account is less emphatic than Cobbett’s because of her distanced engagement with the contemporaneous upheavals. Furthermore, focusing on class upheavals, Williams’ apologetic note when he writes that “Jane Austen *can never* see .... [classes] for all the intricacy of her social description. All her discrimination is, *understandably*, internal” (117- my italics) emphasizes an overlap between his Marxist critique and the feminist critique that underscores female limitations and sees them shaping Austen’s writing process. In this sense, even though, at first, Williams’ account appears to admit Austen’s engagement with class upheavals produced by the “maturity of capitalism” (112) at the time, his word choices reveal the hierarchical dualities that firmly locate her contribution to these changes within the constrained and narrow limitations of her sex, which is mainly confined to “inside the houses” (112) and, therefore, “*can never* see” (117-my italics). In this sense, Williams’ critique articulates a rigid boundary between what Austen, as a woman, can see, which is “understandably” limited and what Cobbett can see. In creating such dualities, I argue that Williams enacted a separation between Austen’s material and discursive practices that shaped her approach to writing.

My agential realist approach revises Williams’ reading of Austen, arguing that Austen’s experiences do not just hinge on events imagined from “inside the houses” (112), as Williams suggests, but emerge from her material intra-action with contemporaneous changes and class discourse in England at the time. Furthermore, I argue that the inseparability of Austen’s material-discursive practices created the possibility for the emergence of the transformative aspect of her novels that Williams and I agree upon. To show Austen’s material and discursive engagement with issues related to class discourse, I have to situate



her within the class discourse of her time by presenting a descriptive summary of her personal life to show how this experience (material and discursive) shaped her writing.

Austen belongs to the lower spectrum of the gentry class in England. Because of the complicated inheritance laws at the time, her family was neither rich nor propertied and depended on their rich friends for financial help (Fergus 2005, 5). Austen's brother (Edward) was adopted by a rich childless uncle and later became his heir (Fergus 2005, 5). Although Austen's mother belonged to the aristocracy, after her husband's (Austen's father) death, both became homeless, receiving very little income from her rich brother, and consistently moving between rented lodgings in Bath until her brother finally housed them at Chawton (Fergus 2005, 6-8; Lau 2006a, 91-2).

Based on this account, Austen's writings, that demonstrate "awareness of the economic realities of life for women on the fringes of the gentry" (Fergus 2005, 6), unsettle the rigid male/female, external/internal, and material/discursive dualities produced by Williams '(1973) account since they are not just the product of distanced, "cool and controlled" (116) depiction of class changes, but the product of her own material and discursive entangled practices. Barad (2007) describes quantum entanglements as "superpositions" (270) in time and space that affect the behaviour of entangled beings. Austen experienced class upheavals and other economic and political changes of her time. Because of this entangled situation, I argue, Austen's writing cannot be articulated without her personal material experience of the violence embedded within economic, political and social discourses of her time, which left its mark on her work. Austen's life experience, writing practice, and the different upheavals of her time are entangled as they become "mutually articulated" (Barad 2007,152). In this Baradian (2007, 393) sense of entanglement,

Austen's position as a woman and orphan is ontologically complicated by the material and discursive practices of her time which threaten her with the possibility of homelessness and / or a failed marriage, as explained earlier. Accordingly, Austen's writing ethically responds to these complex relationalities in a manner whereby ethics is not about choosing to respond correctly to these external changes but about having accountability and responsibility as an integral part of these processes of becoming.

Indeed, in Austen's novels, female characters are exposed to the risk of humiliation of homelessness because of the entail law and the possibility of failed marriages. For example, in *Persuasion*, Anne Elliot is technically homeless after her father rents Kellynch Hall to Admiral Croft. Throughout the novel, Anne moves from Kellynch Hall to Uppercross Cottage to Lyme to Bath, and, finally, becomes "the mistress of a very pretty landaulette" (Austen 2004, 201) after she marries Captain Wentworth. This movement emphasizes the unrest and instability that mark the process of integrating a new working class that includes the hard-working Navy men who protect the empire: Captain Wentworth, Admiral Croft, Captain Harville, and Captain Benwick within the social fabric in England (Cronin 2005, 293).

In fact, I argue that, of all her novels, *Persuasion* shows how Austen collapses the social and the political especially when she associates Anne Elliot's personal concerns for Wentworth's safety with the general national concern for the safety of England within the context of the Napoleonic wars. Thus, Austen points out that Anne "gloried in being a sailor's wife, but she must pay the tax of quick alarm for belonging to that profession which is, if possible, more distinguished I its domestic virtues than in its national importance" (2004, 203). This unsettling of the boundaries between the political, national and the social, I

argue, is an important aspect of this connection to my proposed posthumanist conception of the sublime. Since the enactment of these boundaries is now grounded in practices that co-constitute humans (soldiers, navy-men, families, politicians, etc.) and nonhumans (the sea, weather, ships, Lyme, etc.), rendering the future indeterminant and full of possibilities.

Importantly, the ability of the narrator in Austen's novels in general to allow events to unfold without seeming to intervene is a significant aspect that Austen shares with John Keats. Keats terms this aspect, a 'negative capability' (Lau 2006a). This aspect, I argue, not only connects Austen to an important philosophy that defines the writing of Keats as an important poet in the Romantic period but also to Barad's agential realist philosophy. Before discussing this connection to Barad's philosophy, I shall first discuss the nature of Keats' negative capability. Keats defines negative capability as the ability of "man ... [to be] in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason" (Keats 1817, 1047). According to Lau (2006a), this negative capability has an ethical dimension because it allows the author/narrator to "overcome selfishness and experience compassion for others" (88) as they become capable of "negat[ing] one's own personality, project[ing] oneself into the thoughts and feelings of others and remain open to a variety of points of view" (84). Keats believes that reaching out for certainty in gaining knowledge would "deny the complexity of experience" (93). Here, I want to make the novel argument that this philosophy resonates with Barad's (2007) posthumanist agential realist approach, in which they perceive human concepts as "not foundational to the nature of phenomena" and how they unfold (383).

Instead, for Barad (2007), it is through specific intra-actions or practices, in which components that have no a priori relationalities are co-constituted as they effect and mark

each other and emerge as distinct entities that carry different meanings and different relationalities. This process takes place without human or an author's mediation or intervention since humans also emerge marked and re-shaped by the knowledge produced.<sup>57</sup> I argue that viewing Austen's connection to Barad's agential realism through Keats's "negative capability" paves the way for my posthumanist reconceptualization of the sublime at Lyme based on Austen's description in *Persuasion* because it opens up a space of possibilities that undermines and unsettles the supremacy and the authority of the author or poet over the events and therefore the characters, author and depicted nature intra-act and are co-constituted in a transformative and creative experience.

According to Lau (2006a), Keats's philosophy finds resonance in Austen's novels where characters "who view the world through a set of firm opinions" (94) are depicted as "limited in their understanding of others and themselves" (94). For example, in *Pride and Prejudice*, Elizabeth Bennet's firm prejudice against Darcy for not conforming to the rules of courtship and display his passion toward her, and her impulsive attraction toward Wickham who falsely pretended to care about her, both prove to be misconceptions. In *Persuasion*, as we shall see, Louisa's stubbornness when she insists to be jumped by Wentworth at the Cobb is met with a near-death fall. Austen writes in this occasion:

Anne wondered whether it ever occurred to him [Wentworth] now, to question the justness of his own previous opinion as to the universal felicity and advantage of firmness of character; and whether it might not strike him, that, like all other qualities of the mind, it should have its proportions and limits. She thought it could scarcely escape him to feel, that a persuadable temper might sometimes be as much in favour of happiness, as a very resolute character. (97)

Building on Lau's (2006a) argument about "negative capability" as a philosophy that links Austen and Keats, I argue that this philosophy contributes to Austen's open-minded

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<sup>57</sup> Barad's process of intra-action is explained in detail in Ch. 1 and Ch. 2.

perspective of the world since inflexibility, for her, appears to have fatal consequences as indicated by the preceding passage. This open-mindedness and flexible aspects associated with Keats' 'negative capability' are particularly important to my study because, I would argue, it shows Austen (and her characters) as capable of living and encountering life as an open-ended experience, which works well with Barad's philosophy of intra-action, as explained above, and the indeterminate nature of the subject's or object's emergence as a product of their unintentional entangled practices with their surroundings.

To remind the reader, Barad (2007) rethinks the nature of "intentionality" (as explained in glossary, p. xvii; also see chapter two) that traditionally is believed to be a human property or a "pre-existing state of mind" (22). For Barad (2007), intentionality does not exist before intra-action; it materializes through the differential human nonhuman intra-actions and active encounters among their surroundings (see Rouse 2002, 285). Keats' negative capability opens a space for such intra-actions that constitute characters, poets, surroundings, time, space, and so on. These intra-actions and encounters shape and reshape both since they are ongoing until the end of life. Barad (2007, 23) rethinks the traditional notion of the individual as intelligent and capable of controlling their thoughts and actions by underscoring the complex relationalities, in which humans are part of and are shaped and marked by it. This aspect of Austen's writing, I argue, anticipates my posthumanist reading of the sublime supported by her depiction of Lyme in *Persuasion*.

Based on the preceding, we can see contradicting yet fruitful aspects of Austen's personality. One sees Austen as conforming to the prohibitions inflicted on women that denies them a voice in public events and the other underscores her as subtly resisting. For example, Sulloway (1976) argues that Austen wrote her novels when "women's voices ...

were not allowed to express an opinion on politics ... [or] read newspapers or... even be present during discussions of public events or intellectual trends” (320); she cites Austen’s nephew who recalls how Austen avoided talking about “politics, law [and] medicine” (320). However, in her novels, Austen uses literary devices like irony frequently to transcend these prohibitions and subtly engage with political, economic, and social issues (321). Focusing on *Emma* (1815), *Pride and Prejudice* (1813), and *Northanger Abbey* (written 1803, published posthumously 1817), Sulloway (1976) argues that, through irony, Austen’s novels address concerns like the city as a source of corruption, class injustice, hypocrisy, and the need for social equality (321).

In part II of this chapter, my argument that sees a posthumanist form of the sublime based on Austen’s depiction of nature at Lyme will also shed new light on Austen’s philosophical view of life by arguing that she does in fact move beyond conforming to women’s ascribed domain of knowledge and into fields rendered prohibited to women like science and politics. Furthermore, I argue that Austen’s desire to expand out of her proscribed and limited sphere is implied through her detailed description of the naval voyages in *Persuasion*. This is significant since *Persuasion* materializes as Austen’s prosthetic that enables her to achieve her desired expansion as we shall see later in the chapter. However, before I discuss my posthumanist sublime, I would like to explain what I mean by *Persuasion* as Austen’s prosthetic. By prosthetic I mean a relationality that constitute the human and nonhuman, from which the co-constitutive subject-object emerges as capable of achieving specific aspirations. For Austen, in *Persuasion*, I argue that this differential co-constitution involves her, as an author, her tools of writing, her imagination, the social, political, scientific, and feminist discourses of her time and the material aspects that constrain her movement and her

utterances. All these components, I argue, intra-act to allow her to expand and (re)shape her writing experience as well as the way her characters and nature in the novel perform and emerge.

Furthermore, I argue that Haraway's essay, the "Cyborg Manifesto" (1991) best expresses what I mean by this prosthetic relationality especially when she asserts that "the cyborg is a matter of fiction and lived experience that changes what counts as women's experience" (151), where the cyborg is a hybrid of human and nonhuman elements or in Haraway's (1991) words, "a hybrid of machine and organism" (150). In this figuration, I argue, a co-constituted Austen and her novel (that includes her characters and events, etc.) rethink hierarchical dualities like humans and nonhuman, the scientific and social, nature and culture, and so on. There is no original state they aim to return to; in fact, Austen and the other components of the writing phenomenon are (re)shaped by their failures and their suffering and their kinship to nature. Haraway (1991) expresses this multiplicity when she writes:

Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves. This is a dream not of a common language, but of a powerful infidel heteroglossia. It is an imagination of a feminist speaking in tongues to strike fear into the circuits of the supersavers of the new right. It means both building and destroying machines, identities, categories, relationships, space stories. (181)

This passage articulates the spirit which furnishes my argument about Austen and *Persuasion* as a writing experience that underscores both the human and nonhuman (nature) practices as equally transformative and agentic, and therefore anticipates my agential realism's posthumanist account of the sublime.

## Part II

### Austen's *Persuasion* and Agential Realism's Posthumanist Sublime

*How truly sublime the notion that it is the inhuman—that which most commonly marks humanity's inhumanity as a lack of compassion—that may be the very condition of possibility of feeling the suffering of the other, of literally being in touch with the other, of feeling the exchange of emotion in the binding obligations of entanglements – Barad (2012, 219)*

#### **I. Introduction**

The preceding preview of Austen's place in the Romantic tradition shows the precarity of Austen's position as some critics see her work as subtly engaging with the upheavals of her time while others see her work as detached and confined to the social life of the landed gentry and marriage schemes. This part of the chapter will focus on Austen's depiction of the relationship between humans and nature at Lyme in what has been described as the "most Romantic of ... [her] novels" (Thomas 1987, 893), *Persuasion*, written in 1816 and published posthumously in 1817. This section will discuss Austen's approach to the sublime as significant as it closely examines the relationship between humans and the potential terror of nature. I argue that Austen's approach to the sublime in *Persuasion* reveals an agential realism's posthumanist form of the sublime, in which the boundaries between the experiences and practices of humans and nature, material and discursive, get to be re-thought and re-enacted.

To make my case, I will begin with an overview of the classical understanding of the sublime by Burke and Kant. Then, I will contextualize *Persuasion* by demonstrating the disastrous background presented by the severe climate conditions produced by the eruption



of Mount Tambora that affected England at the time *Persuasion* was written (see Dale 2019, 76) and that may have influenced Austen's depiction of nature just as it did with some poets and writers of her time like Byron to write his poem "Darkness" (1816) and Mary Shelley to write *Frankenstein* (1818) and possibly *The Last Man* (1826). Dale (2019) asserts that, in *Persuasion*, "we can recover hints of historical climatological events, such as Tambora, ..., via oblique references to events, movements and rhythms that might be out of season" (76). After that, I will highlight how *Persuasion* is unique in comparison to Austen's other novels in order to discuss my proposed agential realism's posthumanist aspect of Austen's approach to the sublime. I will analyze Austen's description of the potentially wild nature at Lyme in the novel along with the scientific articulation of this nature. Finally, I will conclude the chapter by showing 1) the transformative and co-constitutive nature of agential realism's posthumanist sublime; and 2) how this reading of the sublime can illuminate different aspects of Austen's approach to writing. This approach will mark the difference in the way Austen relates to life and the act of writing, different political and social events, scientific knowledge and the novel itself as well as the author (Austen) are seen to be co-constituted instead of being held separate.

## II. Reading the Classical Sublime

Understanding the classical form of the sublime will help me highlight the significance of my proposed posthumanist sublime. The sublime is a concept that inspired Romantic literature and art because of its concern with perceiving and experiencing nature as external to the human body and culture (Murphy 2013, 55). Longinus (1554), Edmund Burke (1757) and Immanuel Kant (1790) are viewed as the sources of the three "arche-texts of the

Sublime” (Holmqvist and Pluciennik 2002, 719; Doran 2015, 1). Longinus theory of sublimity was translated and interpreted by the English critic John Dennis around 1712 (Doran 2015, 6). Dennis’s focus on the aspect of strong emotions in Longinus’ account, Doran (2015) argues, produced two orientations in approaching the sublime (7). One orientation has been adopted by Edmund Burke in 1757 and focused on the “*pathetic*” (7, italics in original) or “terror, the irrational, the sensational” (7). The other orientation has been adopted by Immanuel Kant in 1790 and focused on the “*noetic*” (7, italics in original) or “the mental, the intellectual, the rational” (7) as we shall see soon.

The concept of the sublime originated first through Longinus, a rhetorician from the first century (Damrosch et al. 2012, 34) whose treatise, *Peri Hypsous* or *Of the Height of Eloquence and of the Loftiness or Elegance of Speech*, describes the literary style that conveys the sublime as an “echo of a great soul” (34). Longinus<sup>58</sup> focuses on language when he describes the sublime; he said that “an eminence and excellence in language; and that from this, and this alone, the greatest poets and writers of prose have attained the first place and have clothed their fame with immortality” (Longinus translated by Prickard 1906, 2). Ecstasy rather than persuasion, Longinus insists, could open up “passages of extraordinary genius [that] carry the hearer” (2). Murphy (2013) emphasizes the primacy of transcendence over reason in Longinus’ account; he explains that, for Longinus, the sublime is the “elevated thought or language that could rhetorically inspire” (56) and “transport .... [rather than] ... persuade” (56) the audience.

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<sup>58</sup> Longinus’ origin is unknown. Some believe him to be Cassius Longinus the advisor to “Queen Zenobia of Palmyra” (Prickard 1906, viii) in Syria. Others argue he is Dionysius Longinus, an Italian Scholar (viii). Yet, strong evidence suggests that he is indeed Cassius based on many philosophical and literary writings he left behind (ix).

On the side of the speakers, the experience is different. Their elevation could reach the intensity of feeling “terror” (56) or being “mad [with] enthusiasm” (56), as their words become infused with “frenzy” (57). This elevation is always associated with the sacred and religious aspect of the sublime “object, action, or event” (56) that the writers echo through their rhetoric. On the side of the audience or readers, Murphy (2013) argues, the required effect of being “transport[ed]” (56) renders the audience passive rather than a “dialogic participant” (57) in the sublime experience. Hence, Longinus argues that only a “specialist is ... required to determine the causes of effectiveness or failure [of the orator], ...[and] also to pronounce whether the orator is absolutely excellent, or only appears to be so” (Longinus translated by Prickard 1906, 5). In this sense, the failure of the rhetoric to achieve its transporting effect becomes a problem with the audience’s perception (see Murphy 2013, 57).

The second important theorist of the sublime is Edmund Burke. Burke was an English politician characterized by his rhetorical brilliance. According to Ray (2020), Burke wrote his work, *Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* (1757), two years after the Lisbon earthquake (2), which could have inspired him to make the connection between terror and the sublime. In his *Philosophical Enquiry*, Burke asserts that:

Whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime; that is, it is productive of the strongest emotion which the mind is capable of feeling. ... When danger or pain press too nearly, they are incapable of giving any delight, and are simply terrible; but at certain distances, and with certain modifications, they may be, and they are, delightful, as we every day experience. (Burke 1757 / 2005, 110)

In this passage, Burke locates the sublime in our reaction to a powerful nature, through which the subject becomes viscerally affected by the perception of a vast, lofty, and terrible nature

by feeling terror and pain that “torment ... [us since] we may be made to suffer... in their effect on the body and mind” (Burke qtd. by Damrosch et al. 2012, 37). According to Burke (1757 / 2005), terror and pain instigate “astonishment” that suspends (130) reason in response to the magnitude of the event and the sharp awareness of the proximity of danger and death, seen by Burke as the “king of terrors” (110). However, when we realize that we are actually distant and therefore safe from danger and pain, “delight” (125) replaces “astonishment” (130) and only then can we experience sublimity. Thus, the sublime for Burke requires a form of mediation and a “spectatorial security” (Ray 2020, 2) afforded by a distance in “space and [/or] time” (2). Like Longinus, Burke argues that language is the best medium to convey the intensity and elevation of the sublime because “words affect the mind more than the sensual image” (Burke qtd. by Holmqvist and Pluciennik 2002, 724). In this sense, Burke creates hierarchical dualities that elevate mind and reason over body and imagination. Burke also separates the subject from nature by placing the subject outside and distant from nature in order to safely experience delight as opposed to fear in encountering a sublime nature.

The third theorist of the sublime is Immanuel Kant. Kant is a German philosopher and a central figure in modern philosophy and Enlightenment thought. Kant started to write his *Critique of Judgement* (1790) after the Lisbon earthquake. Thus, Kant’s critique could be seen as a reaction to the fear inspired by the earthquake (Ray 2020, 4). In his *Critique*, Kant locates the sublime in the human mind or reason (Damrosch et al. 2012, 44; Ray 2020, 3). He distinguishes two kinds of sublimity: “mathematical and dynamical” (Kant translated by Pluhar 1987, 256). In the mathematical sublime, the vast magnitude as in largeness of size is considered, as in the case of “shapeless mountain masses” (256). In the dynamical sublime,

the notion of “might” (lxx) is considered, as in the case of the “boundless ocean heaved up” (lxx). According to Kant, when humans encounter powerful nature, the mind refuses to submit to fear and terror and relies on “moral principles” (Kant 1790 / 1987, 99) instilled in it in place of “sensibilities” (99). Thus, for Kant, the sublime reveals the “inadequacy of imaginative power in relation to reason” (Holmqvist and Pluciennik 2002, 724) since our imagination fails to capture something deemed unimaginable because of its scale and magnitude, but we can “conceptually” (724) make sense of it. Based on this, the Kantian sublime “is not to be looked for in things in nature but only in our ideas” (Damrosch et al. 2012, 45). For Kant, the sublime lies in how imagination empowers reason to form representations of nature (Kant 1790 transl. by Pluhar 1987, 65). Like Burke, this can only happen when “our own position is secure” (46) from a terrible nature because only then can we employ our “reflective judgement” (45) and transcend this fearful nature. Therefore, the ability of the human mind to “think ... [and to] transcend” an awesome nature is seen by Kant to be sublime and not nature itself (45).

### III. Sublimity in the Anthropocene

As explained in chapter one, the Anthropocene is a geological epoch that sees human actions similar to a geological force in its impact on nature (see Crutzen and Stoermer 2000; Heringman 2015).<sup>59</sup> Furthermore, chapter one points out the scale relationship embedded in the Anthropocene when I recalled Heringman’s (2015) assertion about how the

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<sup>59</sup> As demonstrated in Ch. 1, Crutzen and Stoermer (2000) argue that “Considering ... major and still growing impacts of human activities on earth and atmosphere, and at all, including global, *scales*, it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term “anthropocene” for the current geological epoch” (18 – my italics). Later, Oppermann (2018) asserts that the “anthropogenic Earth transformations and scale issues ...[are] important determinants of the current Anthropocene debate” (2).

Anthropocene brought together the large time scale of geological events like hurricanes and earthquakes, etc. and the time scale of humans, plants, and animals (8). Accordingly, critics like Oppermann (2018) argue that the term “scale” has become a “convenient conceptual device for the global scope of geobiochemical human activities” (2) that drastically altered the way Earth systems function to sustain life for all beings, human and nonhuman. In this sense, Crutzen & Stoermer’s (2000) account underscores the embeddedness of human history in the history of the nonhuman world as they are co-constituted in an ongoing becoming. Their account reveals the nonhuman aspect within our humanity when they reveal our actions to be equal to a “geological force.” In this sense, in the Anthropocene, I argue, humans lost their privileged status of spectators standing outside of nature and producing representations of it.

Furthermore, I argue that the human condition in the Anthropocene, as depicted by Crutzen & Stoermer (2000), concurs with Barad’s (2007) posthumanist assertion that there is no “a priori privileged status ... given to the human... “Humans” are emergent phenomena like all other physical systems” (338). Consequently, the Anthropocene destabilizes 1) the superiority of humans over nonhuman nature, found in Burke’s and Kant’s accounts of the sublime; and 2) the notion of pleasure and displeasure in the encounter with wild nature, also found in Burke’s and Kant’s accounts. The reason is that humans are no longer separate or different from the nonhuman world as assumed by Burke and Kant. In fact, humans are embedded within the nonhuman world or, as Morton (2013, 108) describes, the human-nonhuman relationality in the Anthropocene is that of a “disturbing intimacy” as together they are experiencing annihilation and death in the wake of a threat of mass extinctions, loss

of biodiversity, different diseases, loss of different habitats to global warming, and so on. In this sense, there is only displeasure in the Anthropocene as death always presses close.

#### IV. Agential Realism's Posthumanist Sublime: Rethinking the Traditional Sublime

Starting from the premise that agential realism does not separate knowing from being, epistemology from ontology or matter from meaning (Barad 2007; Barad and Gandorfer 2021, 14), as discussed in chapters one and two, I rethink Burke's and Kant's understanding of the sublime. I argue that both Burke and Kant founded their theories on dualities like human/nonhuman, mind/body, epistemology/ontology and material/discursive. Burke's account of the sublime is initially seen as "empiricist" (Kant transl. by Pluhar 1987, lxix) as it depends on humans' direct experience in nature and how it affects them. To briefly remind the reader, as explained earlier, Burke analyzes the sublime and beautiful along parallel lines when he argues that vast objects in nature are sublime when they enact a feeling of astonishment in us that suspends our mind. This feeling of astonishment is then replaced with delight as we realize that we are at a safe distance from danger. While rejecting Burke's empiricist account inasmuch as it lifts nature above the human mind and sees nature as sublime, Kant combines insights from both empiricism and rationalism, arguing that intuition allows humans to process experience and then impose their principles upon it to generate knowledge (Vanzo 2013, 53; Shouler 2014, 1). Thus, Kant believes that a secure distance from a potentially terrifying nature would allow the mind to think and transcend the sense of fear to form its own ideas about nature.

The notion that feelings of fear invoked by the sublime can suspend human reason sounded humiliating to Kant. Kant argues that Burke's psychological account underscores

how objects in nature evoke feelings of fear and awe that suspend the mind (Kant translated by Pluhar 1987, 266) and “lifts [nature] out of” (Ixix) our mental reach to the extent that we can never make sense of it (Ixix). Instead, for Kant, the sublime sets the mind “in motion” (Damrosch et al. 2012, 45) and stimulates it to form its own representation of nature. In this view, Kant insists, humanity is saved from the “degradation” (Kant translated by Pluhar 1987, 121) that arises from “succumbing to the dominance of nature” (121). In other words, being sublime, for Kant, means the ability to be mentally “strong” (121) and see the objects of nature as “small” (121) so that nature loses its ability to dominate us or make us “bow to it” (121) as Kant puts it. In this celebration of the separation of human from the nonhuman nature, Ray (2020) argues, Kant and Burke “dematerialize” the sublime by associating it with reason (3).

By examining Burke’s account, I argue, humans’ initial reaction to sublime nature appears to capture a brief moment of intra-action between humans and nonhuman nature in its dynamic state. In this intra-action, humans and nature are co-constituted and humans emerge as frozen, incapable of action or thought, or non-agentic. On the other hand, nature emerges as agentic since it demonstrates the ability to render humans helpless and suspend their minds by invoking affects of awe, fear and astonishment. I argue that this is a moment in which the sense of what it means to be human in control of nature, exploiting and subjugating it becomes at risk. A negative experience of terror that Burke and Kant find unbearable and seek to remedy by placing a distance between humans and nature and positioning humans as spectators outside of nature as a safety measure. In this sense, according to Burke and Kant, humans can regain their mental strength and their familiar constructed sense of self. In doing this, Burke and Kant, create two separate realms, humans



and nature. The gap between these two realms allows for human representation and manipulation of nature, as explained earlier through Burke's and Kant's account.

Based on the preceding, I argue that my proposed agential realism's posthumanist form of the sublime shares the state of indeterminacy that marks Burke's initial reaction to the sublime before recovering and opting for the safety of a separate fixed human-nonhuman boundary. This state of indeterminacy creates a space for contingencies for human-nonhuman open-ended becoming. Barad's posthumanist approach rethinks the assumption that "man occupies a special position inside or outside the realm of natural phenomena or the theory" (2007, 323), which creates social, natural, cultural, political, and more, implications. These implications arise as a result of the differential co-constitution of humans and nonhumans through every day's practices or what Barad and Haraway term "naturalcultural practices" (32). Based on this, the social and the scientific are not separate; they are co-constituted. These entangled practices affirm the dynamism of matter (135). It is from this particular angle within Barad's philosophy that I argue for a posthumanist's form of the sublime in my approach to Austen's depiction of Lyme in *Persuasion*. I will analyze Austen's description of the intra-actions between nature at Lyme and her characters, arguing for the differential co-constitution of humans and nonhuman nature through specific intra-actions. These co-constitutive intra-actions activate transformations and produce new understandings that change the way key characters like Anne and Wentworth approach life. This layer of my diffractive approach takes into account the inseparable material and discursive, natural and cultural as well as the social and the scientific aspects of life at Lyme haunted by historical, political, and social potentialities as they intra-act and get co-constituted to produce the possibility for new meanings and change.

## V. Lyme Regis and the Posthumanist Sublime in *Persuasion*

### i. *Lyme Regis as Phenomenon*

This chapter argues that, in *Persuasion*, Austen's depiction of Lyme could offer an alternative narrative of the sublime emerging within the context of the Anthropocene. Rather than exalting human rational self-preservation in the face of dangerous powerful nature, in Austen's depiction of nature at Lyme in *Persuasion*, a human experience of the sublime emerges as the fate of humanity and that of nonhuman nature is revealed to be entangled in an indeterminate sense of becoming. This notion of entangled human-nonhuman practices along with space and time that makes the characters' encounter with nature at Lyme transformative finds its way in *Persuasion*, I argue, inspired by the backdrop against which Austen wrote the novel, namely, the Industrial Revolution, Napoleonic wars, a climate crisis resulting from the eruption of Mount Tambora and other economic upheavals. More human-nonhuman entangled practices are also underscored in the novel through the key paragraph, in Chapter XI, in which Austen describes Lyme's natural sites: Cliffs, sea, orchards, and so on. I argue that Austen's word choices and invitation to contemplate and observe these sites underscore the intra-action and human-nature entangled practices<sup>60</sup> where a sense of kinship between them that is essentially transformative emerges.

*Persuasion* was written against the backdrop of the Industrial Revolution, the Napoleonic Wars, and a climate crisis instigated by the eruption of Mount Tambora, in Asia,

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<sup>60</sup> As explained in Ch. 2, according to Barad (2004), thinking and observing are examples of material practices: "According to agential realism, knowing, thinking, measuring, theorizing, and observing are material practices of intra-acting within and as part of the world" (90).

in 1815. According to Klingaman and Klingaman (2013), the ashes produced by the eruption formed ash clouds that blocked the sunlight, resulting in failed crops, famine, disease, constant rain, and cold weather. The effects of Mount Tambora's eruption extended all the way to North America and Europe and caused 1816 to be named the "year without summer" (Klingaman and Klingaman 2013; Wood 2014; Behringer 2019). I argue that in *Persuasion*, rather than using nature as a way to represent traits in her characters' (Spence 1981, 627), Austen "risks [her characters'] sense of self" (Barad 2017, 70)<sup>61</sup> by loosening the boundaries separating human and nonhuman species, and human and nonhuman history. By "risk[ing]" one's sense of self, I mean by removing or countering the self-preserving distance crucial to Kant's and Burke's sublime experience in order to instantiate their encounter with nature at Lyme as a transformative experience, through which Austen's characters emerge (re)(trans)formed by it. To risk the sense of self is to rethink what constitutes being a human in relation to history, memory, nonhuman species, and more, as we shall see shortly. To do this, I approach this famous episode at Lyme as an agential phenomenon in the Baradian sense (see glossary, p. xx; chapters one and two), in which Anne and Wentworth, among other characters as well as nature at Lyme intra-act and become co-constituted in a way that they emerge with a different understanding of life that is more tolerant, flexible and open-minded. The significance of the phenomenal aspect of Lyme gets to be noticed "when things stop working" (Barad 2007, 158) or when one's sense of relating to the other (nature, women, etc.) in a dualistic hierarchical manner leads to a dead-end. Therefore, I argue that, in

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<sup>61</sup> Barad (2017) discusses Kyoko Hayashi's account of Nagasaki bombing as depicted in her novel, *From Trinity to Trinity* (2010), arguing that Hayashi's story 1) embodies memories, history, species, temporality, violence, and so on (70); 2) is a "journey across spacetime, species ... and notions of being/nonbeing," which unsettles notions about the human "self" in relation to the nonhuman (70).

*Persuasion*, Austen conveys this human-nonhuman and material-discursive co-constitution through two main authorial practices.

The first is related to Austen's positioning of the chapter describing Lyme in the novel. Austen situates the chapter that describes Lyme in the middle of the novel to end the first volume and signal a point of transformation. Before visiting Lyme, the relationship between Anne and Wentworth has indeed stopped working: "Now, they were strangers; nay, worse than strangers for they could never become acquainted. It was a perpetual estrangement" (Austen 55). After the visit to Lyme, events move from the countryside to the city of Bath. Furthermore, the visit to Lyme illuminates the emergence of Anne Elliot as strong and dependable (92), as opposed to Wentworth's initial opinion of her as fickle, easily persuaded, "yielding and indecisive a character" (74). Wentworth bases his opinion about Anne on the fact that, eight years ago, Anne broke their engagement after being persuaded by Lady Russell that Wentworth would be an "unfortunate" (27) alliance, seeing Wentworth's over-confidence as "an aggravation of the evil...[that] only added a dangerous character to himself" (27). This transformation consequently redefines and re-writes Anne and Wentworth's future by renewing Wentworth's passions for and understanding of Anne. Lyme also is the place where William Elliott (Anne's cousin) realizes and shows his open admiration of Anne—a situation that would recast Anne's future into uncertainty since, after this incident, Anne would need to choose between following her heart by marrying Wentworth and following her reason by marrying Elliot to keep Kellynch Hall and occupy her mother's place there.

Secondly, after Lyme's visit, events start to unfold differently as Anne transforms and becomes more animated. Whereas Wentworth appears to be busy flirting with Louisa and

Henrietta to the extent that people start to speculate on “which of the two sisters was preferred by Captain Wentworth” (Austen 64), Anne is miserable, “her bloom had vanished” (11) and occupies herself with running Kellynch Hall. Additionally, in *Persuasion*, Lyme is an agential phenomenon (re)shaped by the idea of evolution, as mentioned earlier. This is significant, since Lyme’s depiction as a node of evolutionary experiences situates it as a posthumanist instance, in which the social, scientific, and literary appear to be entangled. Lyme is a place where fossils allow scientists a glimpse on how species evolve. At the same time, Lyme is where Anne Elliot’s character evolves as she emerges as a subject who is strong and dependable as opposed to Wentworth’s initial opinion of her as fickle and easily persuaded as a “yielding and indecisive a character” (74).<sup>62</sup> Furthermore, I argue that Lyme’s depiction shows Austen’s evolving view of life, in which the fate of different generations of nonhuman species appears to be entangled with that of humans in life and death. In this way, Austen situates Lyme as a place or even a portal where we are no longer seeking “common language, but a powerful infidel heteroglossia” (Haraway 1991, 181) (re)shaped by Austen’s as well as her characters’ failures, sufferings, as well as their kinship to nature. This transformation redefines and re-writes Anne and Wentworth’s future by renewing Wentworth’s passion for Anne.

During the visit to Lyme, Anne and Wentworth intra-act with nature, the sea, the Cobb, the cliffs, and so on; together, they experience Louisa’s near-death accident and meet William Elliot who notices Anne for the first time. After visiting Lyme, the relationship between Wentworth and Anne becomes animated and re-shaped as we shall see soon. By

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<sup>62</sup> Wentworth based his opinion about Anne on the fact that eight years ago, Anne broke their engagement after being persuaded by Lady Russell that Wentworth is an “unfortunate” alliance and saw Wentworth’s overconfidence as “an aggravation of the evil... [and that it] only added a dangerous character to himself” (Austen 2004, 27).

inserting this chapter as pivotal in the novel, Austen presents Lyme's nature as a Baradian instance of "spacetime mattering" (2007, 383), in which Anne and Wentworth's past and future get to be (re)configured in the present through their intra-actions with one another and with nature at Lyme. Thus, instead of being a representation of specific characteristics of the protagonists in the novel, Lyme becomes a setup or an agential realist phenomenon that constitutes different and differential material and discursive entanglements that extend across different spaces and times where neither the past nor the future can be closed. This is evident in the closing line of the novel, where Anne's marriage to Wentworth does not offer the closure expected as their romantic dilemma is resolved, and they are finally united. Instead, Austen concludes the novel by invoking more uncertainties on three main levels: firstly, the personal level where Anne remains homeless even after marrying Wentworth and becomes "the mistress of a very pretty landaulette" (Austen 201). Secondly, the ending, in which: "[Anne] gloried in being a sailor's wife, but she must pay the tax of quick alarm for belonging to that profession, which is, if possible, more distinguished in its domestic virtues than in its national importance" (203) collapses the social and the political. The reason is that fear appears to extend from the national level, where there is a general fear that Britain might lose the war with France to the social level as shown earlier. Thirdly, the (re)enactment of the boundaries between the social and the scientific. The next section will discuss this (re)enactment as I delve into my proposed agential realism's posthumanist account of the sublime.

ii. *Toward a Posthumanist Sublime at Lyme Regis*

In *Persuasion*, in chapter XII, a group consisting of Charles, Mary, Louisa and Henrietta Musgrove, Anne Elliot, and Captain Wentworth decide to visit Wentworth's best friend, Captain Harville, who resides at Lyme for the winter with his family. Austen describes Lyme as follows:

They were come too late in the year for any amusement or variety which Lyme, as a public place, might offer. The rooms were shut up, the lodgers almost all gone, scarcely any family but of the residents left; and, as there is nothing to admire in the buildings themselves, the remarkable situation of the town, the principal street almost hurrying into the water, ...; the Cobb itself, its old wonders and new improvements, with the very beautiful line of cliffs stretching out to the east of the town, are what the stranger's eye will see; .... The scenes in its neighbourhood, Charmouth, with its high grounds and extensive sweeps of country, and still more, its sweet, retired bay, backed by dark cliffs, where fragments of low rock among the sands, make it the happiest spot for watching the flow of the tide, .... Pinny, with its green chasms between romantic rocks, where the scattered forest trees and orchards of luxuriant growth, declare that many a generation must have passed away since the first partial falling of the cliff prepared the ground for such a state .... (Austen 80–1)

Before delving into this passage, I argue that Austen's words describing Lyme are more than just imagery or metaphors alluding to human characteristics. Instead, I argue that Austen speaks of facts that touch on the boundaries between what constitutes the human and the nonhuman, as well as scientific, social and literary knowledge. Lyme is a place rich with fossils of past extinct species buried in the cliffs and uncovered at the time with the rise in geological interest and possibly climate interest as a result of the eruption of Mount Tambora's volcano. In Austen's time, Lyme was important because of significant fossil discoveries (Heringman 2018, 2; Graham 2004, 29). Austen's rhetoric illuminates a link between literature, geology, and culture. Noah Heringman explains how Austen's use of "romantic rocks" (80) in this passage goes back to Thomas Whately, a theorist of the

landscape, who points out the scientific implication behind the adjective “romantic” (Heringman 2018, 2). In his examination of the rocks at Middleton Dale <sup>63</sup> in 1770, Whately explains the material aspect of “romantic” rocks as follows:

[T]he rocks, though differing widely in different places, ... always continue in one style for some way together, and seem to have a relation to each other; both these appearances make it probable, that Middleton dale is a chasm rent by some convulsion of nature beyond the memory of man, or perhaps before the island was peopled: the scene, though it does not prove the fact, yet justifies the supposition; and gives credit to the tales of the country people. (Whately qtd by Heringman 2018, 2)

The geologist, John Whitehurst later borrowed Whately’s material performance of “romantic” rocks and used it as an “aesthetic character identified with specific geological features and sharply distinguished from the developed landscape” (3) in his own writings. Heringman (2018) concludes that, in its physical meaning, “romantic” in Austen’s, Whately’s and Whitehurst’s works would refer to the broken or dislocated character of the landforms. Because of the constitution of “coastal erosion and geological time in a literary description” (3), Austen appears to be practicing what Heringman terms “aesthetic geology” (3). Therefore, in this understanding, I argue that Austen’s word choice succeeds in achieving two important things: First, it brings literature (imagination) and science (reason) together as inseparable. Secondly, it gives the natural landscape an agency of its own beyond our knowledge or control.

In this passage, Austen paints a visual image of Lyme’s wild natural landscape with its famous cliffs and rocks and gradually depicts a fearful unpredictable nature untouched by humans. At first, she points out the welcoming and charming view of the cliffs: “the very beautiful line of cliffs stretching out to the east of the town” (Austen 80). As we advance, the

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<sup>63</sup> Middleton Dale is a steep carboniferous valley in the Derbyshire Peak District in England.



image shifts to reveal the cliffs as “dark” and ominous, and the threatening rocks with “chasms” carved through them. By the time we approach the end of the passage, we are confronted with the inevitable, death, the main source of terror in the sublime as indicated by Burke when she writes that “many a generation must have passed away” (80) associated with the final act of violence impacted by the “falling of the cliff” (81). The disappearance of these undifferentiated “generations” through the act of death and implied burial in the ground “prepared ... for such a state” (81), I suggest, is a levelling act that sees humans and nonhumans as “mutually implicated” (Barad 2007, 152), since one cannot be articulated in the absence of the other (152). Hence, Austen refers to undifferentiated “generations” that passed away recalls and constitutes the passing of both human and nonhuman species alike and touches on the possibility of extinction as indicated by the Anthropocene.

In such a terrifying mood, Austen employs her infamous irony (Murphy 2017, 162) when she embeds in the passage words like “happiest spot”, “lovely”, “wonderful”, and so forth, in such a way that the words start to evoke a feeling of apprehension that underlies the apparent delight. Similarly, Austen’s use of the undifferentiated term “generations” suggests how all of life is entangled and connected in death; it is as if the boundaries between human and nonhuman realms are being destabilized by Austen from within and, in the middle of their detachment from nature, the reader/visitor/spectator is being reminded of the universal character of death that deeply entangles us with the nonhuman natural world. As explained in chapter one, coastal erosion causes the cliffs to fall, which in turn creates the coastline and, at Lyme, prepares the soil for the orchards to grow (Heringman 2004, 4). In the passage, the “falling of the cliff” that “prepared the ground” has a material natural function, which is to create a space for the “orchards” to grow. This imagery/fact suggests that nonhuman nature

(orchards) gains nourishment from the soil where these buried undifferentiated generations decay. The fruits produced from these orchards in turn nourish future generations. This symbiotic relationship suggests a different form of the sublime that humbles humanity, situates it in kinship with the nonhuman world and stands in stark contrast, for example, to other Romantics like William Wordsworth whose sublime resonates with the Kantian humanist triumph of reason over nature.

Austen's rhetoric rethinks the boundaries between the past and present, human and nonhuman, nature, and culture. For example, in this passage, Austen chooses to describe Lyme as a "happiest spot" (80) and not as a "place". Austen's choice of "spot" in this context, I argue, is used in the same manner as is used by William Wordsworth in his "Prelude XII" (1805) where he remembers different transformative encounters with nature in his childhood and refers to them as "spots of time" (XII, l. 208). Wordsworth writes:

There are in our existence spots of time,  
That with distinct pre-eminence retain  
A renovating virtue, whence, depressed  
By false opinion and contentious thought,  
Or aught of heavier or more deadly weight,  
In trivial occupations, and the round  
Of ordinary intercourse, our minds  
Are nourished and invisibly repaired;  
A virtue, by which pleasure is enhanced,  
That penetrates, enables us to mount,  
When high, more high, and lifts us up when fallen. (Wordsworth, *The Prelude*. Book 12. 208-218)

Wordsworth describes the "spots of time" as transformative and "renovating" (l. 210) instances that reformed him and made him evolve to be a better person. The imagery, in which Wordsworth's mind is nourished and "invisibly repaired" (l. 215) when encountering nature, reflects Kant's influence. Sublimity for Wordsworth appears to be located in the human mind that "enables us to mount, / When high, more high, and lifts us up when fallen"

(ll. 217–18). In these lines, the human mind, according to Wordsworth, finds its inspiration in powerful nature and becomes elevated rather than humiliated. Wordsworth’s description that sees “in our mind a preeminence over nature even in its immeasurability” (Damrosch et al. 2012, 46) is in accord with the Kantian view of the sublime.

In her significant passage on Lyme, Austen redirects Wordsworth’s terminology and phrasing to turn the meaning of the sublime upside down. For Austen, the “happiest spots” are sites of an experience that (trans)(re)forms her visitors to Lyme when they encounter Lyme’s wild nature. Yet, instead of affecting Wordsworth’s elevation of the mind over nature, humans are humbled. Here, I circle back to Austen’s use of the undifferentiated “generations” deeply entangled and connected in death and the symbiotic relationship between the land, the buried generations and the future generations stand in stark contrast to Wordsworth’s and Kant’s that elevates the human mind over nature and suggests a different form of the sublime that immerse humanity in kinship with the nonhuman world. Thus, I argue that Austen’s sublime is in accord with Barad’s (2007) perception of reality or nature inasmuch as it is constitutive of humans and nonhumans in a fundamentally “intra-relational” (241) and “dialogical” encounter (Barad 2007, 68; Murphy 2013, 58). This co-constitution is further explained by Barad (2007) when they argue that “reality does not depend on the prior existence of human beings; rather, the point is to understand that “humans” are themselves natural phenomena” (336). Practices like “interventions, creative possibilities, and responsibilities of intra-acting within and as part of the world” (37), shows that reality is a phenomenon that emerges from practices that co-constitute humans and nature.

Instead of effecting Wordsworth’s elevation of the mind over nature, Austen’s characters (humans) intra-act with nature to re-emerge as reformed and reshaped by their

experience of the sublime fearful nature at Lyme. When Anne and Henrietta decide to go down to the sea at Lyme, Austen writes: “they praised the morning; gloried in the sea; sympathized in the delight of the fresh-feeling breeze – and were silent” (85). The sea, as Spence (1981) points out, is a symbol of “chance, accident, romance, sickness, health, adventure, uncertainty” (628). All are situations that exist as we experience or intra-act with life without any sense of intentionality. <sup>64</sup>As explained earlier in the chapter, intentionality, according to Barad (2007), does not exist before intra-action; it emerges as a product of specific human-nonhuman intra-actions. Accordingly, a “bio-ethical” (Dolphijn 2016, 5) aspect is revealed through Barad’s (2007) posthumanist lens that illuminates a “sustainable, ecological or relational construction of subjectivity” (6). Based on this, Austen’s depiction of the characters’ encounter with nature at Lyme suggests something more than Burke’s astonishment that momentarily suspends reason or Kant’s elevation of the mind over nature. Since this revealed co-constituted subjectivity does not require the human mind to “verify everything” (6), rather it imparts what Dolphijn (2016) sees as Barad’s “critical naturalist ethics” (6) that stresses the intra-active aspect of science and the humanities, as we have seen through Herringman’s account (6).

Instead, Austen appears to suggest a special form of submission that has flexibility and kinship at heart; an attunement to the differences and uncertainties presented to her characters through their respective experiences at Lyme and in life. For example, in describing Anne’s thoughts, Austen explains that “a submissive spirit might be patient, a strong understanding would supply resolution, but here was something more; here was that

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<sup>64</sup> Barad (2007) asserts that “I do not assume that practices require intentional actions, or rather, I do not assume that intentionality is an exclusively human activity, aligned with will or subjectivity, for example, or even that humans are the locus of intentional interactions. On the contrary, I reconceptualize intentionality as a material intra action” (407 note 22).

elasticity of mind, that disposition to be comforted, that power of turning readily from evil to good, and of finding employment which carried her out of herself, ... from Nature alone” (Austen 125). Later in the novel, Wentworth admits that he “was obliged to acknowledge that ... only at Lyme had he begun to understand himself. At Lyme, he had received lessons of more than one sort. ... the scenes on the Cobb ... had fixed her [Anne’s] superiority” (194). Wentworth is indeed transformed as he acknowledges his limitations when he says: “I have valued myself on honorable toils and just rewards. ...I must endeavour to subdue my mind to my fortune” (199).

Furthermore, Austen marks time in a way that destabilizes the rigid human/nonhuman duality that informs modernist conceptualizations of the sublime. Austen uses the “flow of the tide” (80), the weather (November and out of season), and rocks (strata) as embodied time markers in such a way that she emphasizes how humans are actually not in control. In this sense, time, as Austen depicts it, references experiences of uncertainty. Thus, in this visit, Austen’s characters hover over a space (Lyme) where the human (including themselves) and nonhuman worlds touch, overlap, and shape one another. Spence confirms that, in *Persuasion*, “nature exerts its own abiding power over the lives of the characters” (Spence 1981, 629). Thus, contrary to Kant’s and Burke’s dualist view of the sublime and the beautiful, I argue that, in *Persuasion*, Austen’s narration views the beauty and terror associated with the sublime at Lyme not as a duality but as inseparable as they reside in human nature, relationality, and entanglement that generate sympathy based on the knowledge that their fate is essentially joined in death.

iii. *Persuasion: A Turning Point in Austen's Philosophical Approach to Life*

*Persuasion* is the last novel that Austen finished before she died; it was published posthumously in 1817. I argue that *Persuasion* represents a turning point in Austen's view of life as an experience that is defined by intra-acting material and discursive entangled practices. As indicated earlier, during her life (1775-1817), Austen witnessed and experienced the economic and political turmoil of the Industrial Revolution, Britain's wars with France, and the climate crisis associated with the eruption of Mount Tambora.

According to her letters to her sister Cassandra, Lyme had been a favourite summer destination for Austen. At the time, the scientific interest in the fossils of rare and extinct species sedimented in the coast and cliffs at Lyme was rising and scientific findings were published in the general newspapers for the general public, as explained in chapter two. Austen herself was interested in reading about this subject. According to Murphy (2017), Austen read Oliver Goldsmith's *History of the Earth and Animated Nature* (1774), in which Goldsmith explains the nature of fossil studies as "demand[ing] our curiosity.... and [that] ... there is nothing in natural history that has afforded more scope for doubt, conjecture, and speculation" (Goldsmith qtd by Murphy 2017, 158). In this book, Goldsmith discusses the notion of extinction when he writes that "lakes, and lands also, have produced animals that are now no longer existing" (158).

Not only is *Persuasion* Austen's last finished novel, but it is also different from Austen's other novels for the following reasons. First, *Persuasion* marks a change in Austen's handling of the notion of passion versus reason. Some scholars suggest the reason to be Austen's realization of her imminent death and see *Persuasion* as the product of a moment,

in which Austen felt “pressed (by losing ground with life) and able (by her maturity in life) to write a language of love” (Young 2003, 79). This recalls her narration about Anne Elliot who “had been forced into prudence in her youth, she learned romance as she grew older – the natural sequel of an unnatural beginning” (Austen 29).

Second, *Persuasion* is Austen’s first novel where the protagonist falls in love and remains in love without the prospect of marriage or conditioning her emotions on a significant change on the part of the man she loves. For example, Elizabeth Bennet, in *Pride and Prejudice*, premises her love for Darcy on a significant change in his character and attitude toward her and her family. Anne Elliot, on the other hand, loves Wentworth for eight and a half years and remains in love with him despite his flirtations with Louisa Musgrove: “All the privilege I claim for my own sex is that of loving longest when existence or when hope is gone” (Austen 233). Indeed, Anne repeatedly regrets being persuaded by Lady Russell to break her engagement with Wentworth and idealizes Wentworth, demanding no change in his character as conditional to her affections. This is evident at the end of their walk through Uppercross, when Admiral Croft invites Anne to take her home in his carriage, before she declines and thanks him, Wentworth interferes and “placed her” (77) in the carriage. Austen narrates:

Yes; he had done it. She was in the carriage, and felt that he had placed her there, that his will and his hands had done it, that she owed it to his perception of her fatigue, and his resolution to give her rest. She was very much affected by the view of his disposition towards her, which all these things made apparent. This little circumstance seemed the completion of all that had gone before. She understood him. He could not forgive her, but he could not be unfeeling. Though condemning her for the past, and considering it with high and unjust resentment, though perfectly careless of her, and though becoming attached to another, still he could not see her suffer, without the desire of giving her relief. It was a remainder of former sentiment; it was an impulse of pure, though unacknowledged friendship; it was a proof of his own warm and amiable heart, which she could not contemplate without emotions so compounded of pleasure and pain, that she knew not which prevailed. (Austen 77)

Furthermore, contrary to her other novels, Anne's passion for Wentworth is embodied: "[Anne's] sensations on the discovery made her perfectly speechless. She could not even thank [Wentworth] ... his kindness in stepping forward to her relief – the manner – the silence in which it had passed ... produced such a confusion of varying, but very painful agitation, as she could not recover from" (Austen 89). In *Persuasion*, Anne rejects following her family wishes and interests by marrying outside her class and refusing to marry her cousin William Elliot who would have restored Kellynch Hall to her and her family.

Third, while Austen, in her novels, punishes her characters for their excessive passions, this is not the case in *Persuasion*. For example, in *Pride and Prejudice*, as a result of her reckless elopement with Wickham, Lydia Bennet is condemned to marry the immoral Wickham who does not love her and was forced to marry her by Darcy in exchange for paying off his debts. In *Sense and Sensibility*, Marianne Dashwood is cured of her excessive passions by marrying the older but more sensible Colonel Brandon. In *Persuasion*, Anne Elliot's actions are motivated by her passion for Wentworth. For example, Anne refused to marry Charles Musgrove or her Cousin William Elliot because of her feelings for Wentworth despite the risk of losing Kellynch and being homeless. Yet, contrary to her other heroines, Austen rewards Anne's passionate and enduring love for Wentworth by allowing a union between them. Reginald Farrer (1976) describes Anne's quiet yet strong internal emotional struggle as follows: "though *Persuasion* moves very quietly, without sobs or screams, in drawing-rooms and country lanes, it is yet among the most emotional novels in our literature" (149). On more than one occasion, Farrer points out, Anne's reasoning mind is overtaken by her passions: "it was not regret which made Anne's heart beat *in spite of herself*, and brought the colour into her cheeks when she thought of Captain Wentworth



unshackled and free. She had some feelings which *she was ashamed to investigate*. They were too much like joy, *senseless joys!*" (Austen 178 – my italics) This quotation shows Anne's internal struggle to contain her emotions toward Wentworth. Indeed, the title of the novel, *Persuasion*, could be seen as re-thinking the notion of reason versus emotions and by viewing Anne's and Wentworth's union as a passionate as well as reasonable affair (Ferrer 1976; Southam 1987; Charlton 2022).

Fourth, in *Persuasion*, Austen's approach to nature is indeed different from her other novels. *Persuasion* is the only novel, in which Austen contemplates nature at Lyme in its wilderness, untouched by humans or what Austen terms "improvements" (Austen 2004, 80). The dark cliffs, the forest, the rocks and the many generations that "must have passed away since the first partial falling of the cliff prepared the ground for such a state" (81). In *Pride and Prejudice*, for example, nature is shaped by humans. In Pemberley, Darcy's home, the grounds are tended and well-designed to appear natural:

They gradually ascended for half-a-mile, and then found themselves at the top of a considerable eminence, where the wood ceased, and the eye was instantly caught by Pemberley House, situated on the opposite side of a valley, into which the road with some abruptness wound. It was a large, handsome stone building, standing well on rising ground, and backed by a ridge of high woody hills; and in front, a stream of some natural importance was swelled into greater, but without any artificial appearance. Its banks were neither formal nor falsely adorned. Elizabeth was delighted. She had never seen a place for which nature had done more, or where natural beauty had been so little counteracted by an awkward taste. (Austen 2004, 184)

In *Mansfield Park*, Austen points to the sugar plantation in Antigua, maintained by labouring slaves and important as a source of income. In *Mansfield Park*, the house itself, nature is re-shaped, and the grounds are well maintained to reflect the status of the dwellers. Taylor (2009) argues that the depiction of nature in *Mansfield Park* has less to do with contemplating nature and more with using nature as a screen, upon which Austen wishes to

project the internal tendencies of her characters as well as social status and different rivalries. This is depicted through comparisons between three estates: Mansfield Park, Sotherton and Portsmouth (Banfield 1971, 5). Similarly, in *Sense and Sensibility*, even though Marianne appears to be an advocate for wild nature and its preservation, Bate (2000) argues that her interests remain anthropocentric. The reason is that, Bate (2000) argues, Marianne identifies with nature inasmuch as it reflects her “romantic sensibility” (132) and, thus, preserving it would be useful for her as it “nourish[es] her spirit” (132). In this sense, these novels depict nature as an instance of “greenwashing”<sup>65</sup> as it exists to mirror the characters’ properties, moods, and motivations. As such, landscape function becomes to promote ideology rather than a real connection or concern with nature (see Morton 2013, 106).

The depiction of nature in *Persuasion*, on the other hand, is significantly different from Austen’s other novels. I argue that contrary to landscape depictions in her other novels, where landscaping and agriculture can be viewed as “greenwashing,” in *Persuasion*, Austen describes Lyme differently. In *Persuasion*, and especially at Lyme, Austen’s interest in nature is different. Rather than using nature to project her characters’ tendencies and emotions, I suggest Austen’s invitation of her characters to an “unwearied contemplation” (Austen 2004, 80) of Lyme’s wild nature is an invitation to an embodied experience that would allow them to understand their entangled existence in the world outside their circle, “recognize [their] material kinship” (Barad 2017, 70) by tracing this entanglement (70), and

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<sup>65</sup> According to de Freitas Netto et al. (2020), greenwashing does not have a fixed definition. The term was coined in 1986 by an environmentalist called Jay Westervelt. Drawing on de Freitas Netto et al. (2020, 6), greenwash is the “practice of promoting environmentally friendly programs to deflect attention from an organization’s environmentally unfriendly or less savoury activities”. In *Oxford English Dictionary*, greenwashing is: “Disinformation disseminated by an organization so as to present an environmentally responsible public image; a public image of environmental responsibility promulgated by or for an organization, etc., but perceived as being unfounded or intentionally misleading.” I am using the term as a way to promote a certain human representation of nature rather than to suggest an interconnection.

consequently become more flexible and responsive. In fact, I argue that in *Persuasion*, Austen uses irony to criticize the upheavals created by the industrial revolution and progress in the form of “improvements” that Austen describe as sublime. For example, Austen points out the “improvements” made to the ancient home of the Musgrove family:

To the Great House accordingly [Anne, Mary, and the Miss Musgroves] they went to sit the full half hour in the old-fashioned square parlour, with a small carpet and shining floor, to which the present daughters of the house were gradually giving the proper air of confusion by a grand pianoforte and a harp, flower-stands and little tables placed in every direction. Oh! *Could the originals of the portraits against the wainscot, could the gentlemen in brown velvet and the ladies in blue satin have seen what was going on, have been conscious of such an overthrow of all order and neatness! The portraits themselves seemed to be staring in astonishment.* (Austen 39 – my italics)

In this passage, I argue that Austen seems to describe the improvements done to the Musgrove’s house by the new generation as a sublime experience in the Burkean sense. The chaotic and tasteless decorations appear to have evoked fear and terror in the older generation whose “portraits” are overtaken with a Burkean emotion of “astonishment” in reaction to these improvements.<sup>66</sup> Thus, I suggest that Austen appears to be linking the artifice and tastelessness of modern improvements to the artifice that besets Burke’s notion of the sublime.

iv. *Re-thinking Jane Austen in the Anthropocene*

As mentioned earlier, *Persuasion* was written against the backdrop of the Industrial Revolution, the Napoleonic Wars, and a climate crisis instigated by the eruption of the Mount Tambora volcano. The weather conditions caused by Tambora’s eruption casted its shadows on authors, poets, and artists of the time. For example, Lord Byron wrote his poem

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<sup>66</sup> This passage implies the sublime rather than picturesque because it indicates fear and terror as opposed to the joy and pleasure associated with the picturesque.

“Darkness” (1816) and Mary Shelley wrote *Frankenstein* in 1816 and published it in 1818, in reaction to the weather conditions following the eruption in 1816. At the same time, Austen was also writing her novel, *Persuasion*, published posthumously in 1817. During this time, Austen complained repeatedly, in a letter to her nephew, James-Edward Austen on 9 July 1816, of the unusually cold weather, the constant rain and the shortage of certain products (Dale 2019, 75; Klingaman & Klingaman 2013, 162). Austen complained that: “it has been a bad weather for the Hay...and wheat” (Klingaman & Klingaman 2013,163). Further, writing from Chawton, Austen said “likewise more rain again, by the look and sound of things ... we hear now there is to be no Honey [sic] this year” (Klingaman & Klingaman 2013,163). Gillen Wood (2014) argues that the eruption of mount Tambora “offers us a rare, clear window onto a world convulsed by weather extremes, with human communities everywhere struggling to adapt to sudden, radical shifts in temperatures and rainfall, and a flow-on tsunami of famine, disease, dislocation, and unrest” (Wood 2014, 8). Wood’s (2014) assertion underscores the similarity between the challenges currently presented by climate change and the wide climate effects of Tambora’s eruption in 1816.

Seen through close analysis of Austen’s poignant description of nature at Lyme, my proposed understanding of agential realism’s posthumanist account of the sublime articulates the condition of mutual co-constitution of the human and the nonhuman through time and space, in which the notion of the human “self” is more ecologically attuned as it is shaped and reshaped in relation to objects in nature, species, history, memory, and so on. I argue that this reading illuminates aspects of the author’s character. Since, in this posthumanist reading, the author cannot be separated from her text; they are also mutually co-constituted. Hence, Austen’s depiction of the sublime signals a turning point in Austen’s philosophical

view of life, as discussed earlier. Indeed, Austen's political views have always been wrapped in a mystery, which led to assumptions about her being detached and uninterested in the upheavals of her time. Even after her death, Austen's family made sure that this mystery be maintained. According to Sulloway (1976), Austen's sister, Cassandra, "burned many of Austen's letters, and ... [along with other relatives, they] snipped out many sections of the letters that survived" (320). Thus, we as researchers, are left to speculate about what kind of information about Austen might have been destroyed (320).

At the level of the author, my reading of the posthumanist sublime sheds light on Austen's desire to expand beyond her restricted and limited world as a woman. Nina Auerbach (1981) argues that Austen is the "artist of contentedly clipped wings" (9). I suggest that my reading of Austen's sublime would rethink Auerbach's claim that Austen "contentedly" accepts her social limitations. Despite the different views (discussed earlier in p. 144) that see Austen detached from the political (see Sulloway 1976, for example), economic, and ecological upheavals of her time, *Persuasion* challenges this detached view and instead demonstrates a unique engagement with different aspects of her time. For example, contrary to her other novels where Austen uses irony to indirectly engage with the events of her time, in *Persuasion*, Austen ventures into the territory of the British Navy in a more direct and in-depth manner than any of her other novels. Through Wentworth's account of his adventures in the Navy, Austen demonstrates the expanding size of Britain's empire in terms of trade and colonies. Furthermore, Austen criticizes England's inability to better maintain its fleet of Navy ships and keep its Navy men safe. Thus, Wentworth describes the state of his ship "Asp" as poor and "hardly fit for service" (Austen 63); he justifies this neglect by saying that:

[T]he admiralty entertain themselves now and then, with sending a few hundred men to sea, in a ship not fit to be employed. But they have a great many to provide for; and among the thousands that may just as well go to the bottom as not, it is impossible for them to distinguish the very set who may be least missed. (63)

In this sense, Austen is not as detached from the events surrounding her or confined to marriage schemes as some critics tend to project on her.

Indeed, *Persuasion* could be viewed as a form of prosthetics that enables Austen to extend outward and engage with a world she could not otherwise experience as explained earlier. This reading redefines the relationship between Austen, her work, and her environment by revealing Austen's work as her prosthetic or her artificial material extension that enables her to expand in time and space and go beyond the limited world of ballrooms, marriage plots, and the landed gentry of English society. Instead, Austen is able to address important issues like past generations and the notion of 'home' and its probable loss, which, I argue, she addresses on three levels. First, on the personal level (in *Persuasion*) where Anne and her family fear losing Kellynch Hall, and where Anne remains homeless even after marrying Wentworth and becomes "the mistress of a very pretty landaulette" (Austen 247). Second, on the national level (in *Persuasion* and real life) in which there is a general fear that Britain might lose the war with France. Hence the ending: "[Anne] gloried in being a sailor's wife, but she must pay the tax of quick alarm for belonging to that profession, which is if possible, more distinguished in its domestic virtues than in its national importance" (249). Third, on the ecological level where Austen focuses on Lyme and stresses the importance of engaging with and contemplating its natural sites as a way to understand oneself. Hence, the narrator declares that "only at Lyme had [Wentworth] begun to understand himself" (239) underscoring the transformative effect of human nonhuman engagement.

This notion rethinks Auerbach's (1981) earlier assertion that Austen was content with her limitations as I have now demonstrated how *Persuasion* affords Austen what Barad (2007) describes as "a specific form of embodiment" that allows Austen to perform in such a way that questions the meaning of 'limitation' and re-thinks the boundaries that distinguish between the "able-bodied" and the "disabled" (158). In this sense, Austen's account unsettles the anthropocentrism, humanism, and dualism that beset Burke's and Kant's accounts of the sublime. In this understanding, I suggest that Austen succeeds in summoning a posthumanist understanding of both the nonhuman world (nature) and her novel.

Despite the fact that Austen has been described as "the first modern novelist" (Trott 2005, 98), my reading illuminates the posthumanist aspect of Austen's thinking in *Persuasion*. As pointed out in my discussion of the Posthumanist sublime depicted in Austen's novel, I argue that Austen appears to reject thinking in terms of dualities that position the sublime and beautiful, and humans and nature in a hierarchical relationality. These dualities are underscored by Burke's and Kant's philosophy of the sublime. As demonstrated, Austen's posthumanist sublime is intra-active as it immerses humans in kinship with nature. The beautiful and the sublime, based on Austen's description of Lyme, are inseparable as they reside in the human nature relationality and entanglement that generate sympathy based on the knowledge that their fate is essentially joined in death. Even the boundaries between reason and passion are loosened in *Persuasion*, as Austen casts "elasticity of mind" (Austen 125) and the property of being "persuadable" (Austen 97) as a common ground, through which reason and passion get to be co-constituted to shape the foundation for Anne's and Wentworth's relationship.

v. **Conclusion**

Focusing on Austen's depiction of wild nature at Lyme in *Persuasion*, this chapter revisits the aesthetic ideal of the sublime within the context of the Anthropocene. Where Burke's and Kant's modern conception of the sublime construct rigid hierarchical binaries (human and nonhuman, culture and nature, science and art, etc.) as a way to transcend fearful nature, an affirmative posthumanist re-examination of Austen's *Persuasion* reveals a human kinship with nonhuman nature. This form of relationality, I argue, shapes and re-shapes human perception by making it more attuned to the nonhuman world in a state of becoming. The sublime in this posthumanist performative approach is not a celebration of our human mental strength over a terrifying wild nature. Instead, the posthumanist sublime emerges as an entanglement and co-constitution of human and nonhuman practices through history that contributes to the ongoing (re)emergence of both. What also emerges from this reading is a new aspect of Austen's writing that defies modern dualities and advocates for a relational existence. Furthermore, this reading redefines the relationship between Austen, her work, and her environment by revealing Austen's work as her prosthetic that enables her to expand beyond the social limitations of her life and engage with a world beyond her reach. In this understanding, Austen succeeds in summoning a posthumanist understanding of both the nonhuman world (nature) and her novel.



## What Comes After Diffraction?

### Reflecting on Lyme Regis as Agential Phenomenon

*[The] goal ... [was] not one of personal healing per se, but rather a political and spiritual commitment to take responsibility for re-membering the countless people [and nonhuman entities] who were ... [exposed to] unspeakable violence. Centering the relationship between time and justice, ... [a commitment] to the work of mourning as a political embodied labor – a commitment to justice beyond the living present - Barad (2017, 70)*

#### **I. Introduction**

In this concluding chapter, I will reflect upon my diffractive reading of Lyme Regis. I will first present a dissertation overview and the key findings of my diffractive approach by highlighting the multiple relationalities that underly Lyme as a phenomenon in an ongoing state of becoming. Then, I will discuss the ethico-political imperatives that emerge from diffractively reading the intra-acting human-nonhuman, material-discursive, and other different and differential practices at Lyme affirmatively. Finally, I will highlight the contribution of my study, possible limitations, and possible opportunities for future research.

To remind the reader, Lyme is a town situated West of Dorset, UK. Because of its exposure to severe weather conditions intensified by climate change, Lyme is threatened with disappearance under rising sea levels and with coastal erosion. Additionally, Lyme is seen as an important tourist destination and a World Heritage site because of its contribution to scientific knowledge in the fields of geology and paleontology. My dissertation aimed to rethink this fixed framing of Lyme by approaching it as a site of relations that constitute intra-acting human-nonhuman, material-discursive entangled practices within the context of

the Anthropocene. Inspired by Crutzen's and Stoermer's original narrative of the Anthropocene, in which they see humans as a "geological force" (2000, 17) that wreaked havoc with nature and caused climate change, my dissertation argues with thinkers like Chandler (2019) that the Anthropocene reveals the world as constitutive of complex human-nonhuman relations and practices that intra-act at historical, social, economic, and political levels to shape and re-shape life on earth. Hence, I rethink the modernist's dualistic hierarchical boundaries that traditionally separate the human from the nonhuman rendering humans superior to nonhumans. Following Haraway's (2004) line of reasoning, this aspect of "humanity ... [as] a modernist figure" (47) is problematic since humanity in this context "has a generic face [and] a universal shape" (47) which is that of "man" (47). In this sense, any being that does not fall in the category of "man" would be othered and/or dehumanized.

As explained in the introduction, my reference to modernity in this study is based on the Cartesian and Kantian philosophy of dualism. Following Tarnas's (1993) contention, the Cartesian and Kantian positions "represented the common modern experience of disjunction between the objective physical universe and subjective human awareness" (352). In chapter one, I showed how this detached position was seen by critics like Haraway (1988; 2007; 2015; 2016), Tsing (2015), Malm (2012; 2013; 2016), Malm and Hornborg (2014), Oppermann (2018), Thiele (2014) among others as problematic and pivotal in bringing about the Anthropocene. Therefore, my study rethinks these dualities using Barad's agential realism framework and diffractive methodology to reveal different and differential complex relationalities that are suppressed and hidden by these dualities by approaching Lyme as an agential phenomenon. In this way, my project illuminates multiple layers of meaning and relationalities that constitute Lyme as an agential phenomenon, which not only unsettles

boundaries between humans and nonhumans, epistemology and ontology, material and discursive practices but also unsettles boundaries between scientific, cultural, and literary approaches to studying Lyme in the Anthropocene.

## II. Dissertation Overview

By situating Lyme within the broader context of the Anthropocene, I argued with thinkers like Haraway (2016) and Tsing (2016) for the capacity of the Anthropocene to invoke interdisciplinary debates, which would interrogate anthropocentrism, universalism, and dualism. Therefore, as I draw upon writings within disciplines like the Anthropocene studies, cultural studies and Romantic literature to closely examine Lyme, I also contribute to them by introducing a new understanding of Lyme, in which it may be viewed as a transforming and transformative phenomenon that is shaped and reshaped by specific co-constitutive material-discursive practices that are scientific, cultural, and literary. By rethinking Lyme's established representation, I approach Lyme as an agential phenomenon, which constitutes material and discursive practices that include humans, nonhumans, laws, policies, histories, and culture; all intra-acting to (re)produce different and differential meanings, agencies, properties, and so on. My use of Barad's (2007) diffractive methodology is crucial here as it allows me to unpack Lyme and reveal the differences within by tracing the "genealogy of [different and differential] practices" (192) in time and space, where "matter comes to matter" (200) inasmuch as it constrains and enables different discourses like scientific, social, cultural, and political.

Thinking through the context of the Anthropocene allowed me to unlock the past and recall the ghosts of those othered and dehumanized to demand ethical and political responsiveness and to open up a space where justice could be achieved. For instance, in

chapter one, I discuss Lyme within the dynamism of “spacetime-mattering” (Barad 2007) as history, generational connections to the land, and memories intra-act with the place. I argued that this perspective could open up a space for creative possibilities, in which the inhabitants, humans and nonhumans, get to be co-constituted and where Lyme could emerge as a ‘home’ for both, (re)defined as an “ethico-onto-epistem-ology” (Barad 2007) that rethinks modernity’s traditional prioritization of humans and human needs over nonhumans. Instead, this “ethico-onto-epistemology,” I argue, grounds our collective differential existence in the emerging values of human-nonhuman attunement, interdependence and kinship. Chapter two reads insights from Haraway’s (1998) notion of situated knowledges with Barad’s (2007) added ontological dimension that sees objectivity as not only “a matter of seeing from somewhere” (376) because “bodies are not situated in the world”, but as seeing and being “part of the world” (376). Thus, Haraway’s situatedness, modified in the Baradian (2007) sense, becomes a matter of “marks on bodies” (471). Situatedness becomes not only an “epistemological matter ... but an onto-epistemological one” (471). Based on this, I examine the embodied (hi) stories of Anning and Baartman, illuminating the different material-discursive practices involved in shaping their experience at Lyme. I draw on the work of critical thinkers in heritage, feminist, colonial, slavery studies, and more in order to make visible the agentic role played by women and the enslaved in the apparatus of scientific knowledge production at Lyme. The challenges faced by Anning and Baartman in the role they played in scientific knowledge production at Lyme is rendered invisible and silent by modernity’s neat dual categorization of human/nonhuman, male/female, white/Black, and so on. This modern dualism, I argue, structures the way the heritage statement articulates

Lyme's unique heritage status. The reason is that the statement ignores the marginalization and dehumanization upon which scientific discourse is built.

The goal of this analysis is to underscore different and differential forms of injustice, rendered invisible by modernist dualities and rigid social construct. I also aim to emphasize an ongoing political and ethical commitment to what emerges from the intra-acting material and discursive practices that constitute Lyme and contribute to (re)configuring it as an agential phenomenon in a constant state of flux. Finally, chapter three rethinks the classical approaches to the sublime by reading Jane Austen's depiction of nature at Lyme in *Persuasion* (1817) intra-acting with her characters and the scientific discourses at the time through Edmund Burke's and Immanuel Kant's understanding of the sublime. I argued for an agential realism's posthumanist account of the sublime that underscores human-nonhuman kinship, the inseparability of science and literary discourses, and the transformative power of human-nonhuman entangled existence. I further argued that this form of the sublime, in turn, rethinks what is traditionally known about Austen's philosophical approach to life and her relationship to writing as a practice that is unfolding in the present anthropocenic time to illuminate a potentially transformative human-nonhuman kinship.

### **III. An Unfolding Diffractive Reading**

My dissertation used Barad's agential realist philosophy and diffractive methodology to illuminate the complex human-nonhuman, material-discursive relationalities that render historical, economic, social, political, etc. practices at Lyme inseparable. Following the structure of Barad's *Meeting the Universe Halfway* (2007), this dissertation performs as a diffractive grating, through which Lyme diffracts to illuminate three main patterns of

entangled differences that (re)shape Lyme over the three chapters. A diffractive grating (see glossary, p. xv; chapter two) refers to the apparatus with two-slit grating, through which light/water/sound waves diffract to illuminate a spectrum. In this dissertation, the spectrum produced is the multiple layers of different and differential intra-acting practices that constitute Lyme, diffracting in time and space or, metaphorically speaking, a process that Barad (2010) describes as “past, present, and future, not in a relation of linear unfolding, but threaded through one another in a nonlinear enfolding of spacetime mattering” (244). Accordingly, in this study, the patterns produced by the diffraction methodology unfold as follows:

Chapter One reveals the first layer of differences at Lyme. It showed that perceiving nature at Lyme as a passive entity that needs human intervention for survival would not save Lyme from its existential dilemma. The chapter showed how the more humans intervene to stabilize and control nature, the more nature collapses and makes life more difficult to manage. The reason, I argued, is that, by intervening, humans aim to save themselves rather than the more altruistic motive of saving the material world or nature. However, by approaching Lyme as a phenomenon (see glossary, p. xx), the study contends that Lyme’s future existence could be re-configured by taking into account the nature of specific humans-nonhuman intra-acting practices, how they are co-constituted, and becoming accountable and responsive to what emerges from these intra-actions. This intra-relationality reveals the difference between the politics of intervention that is motivated by political power or “political collectives” (Barad 2007, 58) which include nature inasmuch as this will save humans and what Barad (2007) describes as the “politics of possibilities” (225). Based on this latter politics, I argue that Lyme’s survival depends on the different and differential

entangled open-ended practices that constitute Lyme's inhabitants, humans and nonhumans and reconfigures life there.

Chapter two revealed the second layer of difference that rethinks Lyme's framing as a World Heritage site based on its historical contribution to scientific knowledge production often attributed to scientists like Georges Cuvier, William Buckland among others who are mostly male, white elite, and European. This diffractive reading reveals the multiplicity that constitutes the apparatus of knowledge production that (re)shapes Lyme as it highlights the contribution of figures like Mary Anning and Saartjie Baartman to the apparatus of scientific knowledge production at Lyme Regis. I showed how specific entangled material and discursive practices illuminate the alienation and dehumanization of Anning and Baartman, respectively. I then argued that by making this violence visible, an ethico-political imperative is activated, through which the heritage convention becomes ethically and politically accountable for this violence and thus becomes committed to a more inclusive and, therefore, re-humanizing responsiveness to the violence of past injustices.

The first two chapters paved the road for Chapter Three, in which my study reads an agential realism's posthumanist reconceptualization of the sublime based on Jane Austen's description of wild nature at Lyme in her novel, *Persuasion* (1817). The chapter rethinks the classical understanding of the sublime presented by Edmund Burke and Immanuel Kant, proposing a posthumanist sublime that reworks the boundaries between the scientific (material) and the literary (discursive) and decentralizes the human as it emphasizes the kinship between humans and nature as a transformative force. This reading of the sublime would in turn unsettle some of the fixed assumptions about Austen who is considered to be the first modern novelist (Trott 2005, 98) by revealing her as more-than-human in her

prosthetic relationship to writing. This prosthetic relationship, I argue, enables Austen to expand beyond the social limitations of her life and engage with a world beyond her reach like the navy life and sailing for example. It also explains how the reach of her novels extends through time and space to be relevant to contemporary issues like the Anthropocene. In this understanding, I argue, Austen succeeds in summoning an agential realism's posthumanist understanding of both the nonhuman world (nature) and her writing.

#### IV. Ethico-political Engagement

Traditionally, political theories and representations are based on the notion that beings in the world exist with “inherent attributes” (Barad 2003, 804; 2007, 46) and that access to the material world can only happen through representations and references. These representations are created based on our privileged position as intelligent creatures (Rouse 1996, 209; Oppermann 2018, 15)<sup>67</sup> detached from the material world that is being represented and rendered “frozen in time” (Barad 2007, 91). In doing this, I argue that representationalism obstructs the possibilities for any meaningful political change activated by values and processes of attunement, intra-action, co-constitution and the emerging commitment to “differential accountability” (Barad 2007, 380) and being “response-abl[e]” (Haraway 2016, 34) to changes in the material world.

Rethinking representationalism in terms of performativity and practices is a political matter because, as Barad (2007) explains, “mistaking the object of observation for the objective referent can be used to certain political advantages” (203). Therefore, human created references and representations of the nonhuman objects in the world opens up a space

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<sup>67</sup> According to Alanen (1989), the human mind is here viewed “primarily as an epistemic subject” (396) since it underscores the mind’s “epistemic capacities” (396), which is the ability to produce knowledge about the world.



for political manipulation. In agential realism, this place becomes a space of possibilities, in which accountability and responsibility are extended to those excluded (see Barad 2007, 394) like “females, slaves, children, animals, and other dispossessed Others” (378). This dynamic intra-relationality, in this sense, unsettles modernist traditional assumptions about fixed hierarchical dualities that organize the world, and permanently exclude, and detach human practices from the practices of the natural world, giving rise to the Anthropocene. Thus, the Anthropocene conditions are perceived as cultural and political issues because they are a product of modernist desire for progress (see Schulz 2017, 127).

The dynamism of this diffractive methodology rethinks the fixity of power structures based on dualities by articulating the entangled nature of these differences that constitute Lyme while endeavoring to evade creating more dualities. Thus, I demonstrated how Barad’s agential realism and diffraction rethinks and expands Bohr’s, Foucault’s and Butler’s understanding of discourse and phenomena and grounds them in intra-relationality and open-ended becoming. Based on Haraway’s work that emphasizes the importance of “technoscientific practices” (Haraway 2004, 65) and an inseparable “natureculture” (Haraway 2003, 2), seen through her depiction of the cyborg as a way to understand the various differentiations of the ‘human’. Barad’s (2007) philosophy rethinks “the limits of humanism” (see Barad 2007, 428 note 6), focusing on human-nonhuman boundary (re)enactment and critical examination of what entails being human and/or nonhuman.

Following Barad’s (2007) agential realist philosophy and diffractive methodology, throughout this study, I tried to avoid creating dualities and to emphasize the aspects of complexity, multiplicity and differences that render the human and nonhuman life intra-relational, indeterminate and open-ended. This situation entailed an ethical political

responsiveness at the level of nature, women, slaves, among other ‘othered’ beings. For example, in chapter one, I showed how the privileged position of humans as capable to intervene to save nature at Lyme from crumbling and eroding cannot be sustained because nature is agentic as it appears to be responding and resisting human intervention (see chapter one, pp. 45-59). My research showed how inhabitants at Lyme are connected to the land through family ties and memories that haunt the embodied sites, and, therefore, refuse to let it disappear to the sea. Following Barad (2007), I argued that, if this intra-play of agency between humans and nature sees life at Lyme as indeterminate for both, in which a traditional political intervention or what Barad (2007) calls “political collective” (59) that intervenes, preserves, and creates more distinctions between the human and the nonhuman would only aggravate the problem. However, a political intervention that considers human and nonhuman co-constitution, what Barad (2007) calls a “politics of possibilities” (225), would be a better option because it recognizes the different and differential agential cuts (re)enacted and their temporary exclusions as humans and nonhumans intra-act.

This understanding perceives the relationship between humans and nature as flexible as they are entangled in an open-ended becoming. In fact, this attribute of diffraction sees Lyme as an open-ended phenomenon and foresee a myriad of possibilities in terms of the activation of ethical and political commitments to justice at the level of nature, gender, and race as inseparable multiplicities that (re)configure Lyme as a phenomenon.<sup>68</sup>

As explained in chapter two, Barad (2007) articulates the problem of political representation drawing on Butler’s (1990) assertion that this form of politics constructs rather than emancipates the “feminist subject” (2). The feminist aspect of Barad’s philosophy also

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<sup>68</sup> As explained in the methodology chapter two, diffraction is an “ethico-onto-epistemological” (Barad 2007, 381) practice.

draws upon Haraway's (2004) understanding of feminist humanity, which, according to Haraway, should not reproduce historical representations advanced by "modern white patriarchal discourse" (55) and so it "cannot be [labelled] man or woman...[and] must, somehow, both resist representation" (47) but also produce possibility of the emergence of new ideas, histories, metaphors (47) and give voice to "disarticulated bodies of history" (47), which make "connection and accountability" (47) possible. In chapter two of my dissertation, my discussion of Anning and Baartman articulated their contribution within the apparatus of scientific knowledge production; their suffering emerges as a product of intra-actions of specific material and discursive practices.

Based on the preceding, when examining designations like UNESCO World Heritage Commission in chapter two, I sought to problematize rather than valorize or idealize it as I get to examine the violence embedded in it as it hides the important contributions and struggles of marginalized figures like Anning and Baartman in the apparatus of scientific knowledge production at Lyme. By demonstrating how Baartman's enslavement started at her home land when she was hunted in South Africa, brought to England to be used in freak shows, and subjected to close scientific examination by Cuvier and his elite circle of scientists, I ended up tracing what Barad (2007) describes as the "entanglements of violent histories of colonialism (with its practices of erasure and avoidance)" (62). Similarly, for Anning, my examination traces the entanglements of gender and class stereotyping that aimed at erasing her important contribution to Lyme's distinguished role in scientific knowledge production in the fields of paleontology and geology. What my diffractive reading does is that, instead of giving in to the fixed representation of women and slave women as a site that lacks agency, is passive, void and empty, my reading illuminated the

hidden side of this representation and underscored their agency and multiple possibilities within this seeming passivity that call for a political change to respond to these injustices. In this sense, the passiveness and voidness attributed to Anning and Baartman emerge as agentic (see Ch. 2, p.116) and live with possibilities to achieve justice and accountability or what Barad (2017) describes as “of justice-to-come” (62).

By examining the intersection and intra-actions of class, gender, race, nature, time and space at Lyme, my dissertation exposes how identity politics work in terms of power relations, what Barad (2007) describes as “manifold connections and .... intra-(re)workings of identity categories” (227) through a politics or logic of “thing-ification” (Barad 2003, 812; Schulz, 2017, 131). In this respect, I argue with Barad (2003) and Schulz (2017) that this politics or logic is based on the notion of “selective” objectification that justifies exclusionary categorizations such as race, color, gender, and so on. Thus, rather than creating distinctions and dualities, my diffractive reading illuminates, integrates, and demonstrates the complex nature of human and nonhuman relationality, the injustice embedded in seeming organized dualities, and activates a call for ethical and political accountability and responsiveness for these injustices.

In chapter three, by reading the scientific through the social and rethinking the boundaries between the material and the discursive by contemplating Austen’s depiction of nature at Lyme in *Persuasion*, my dissertation illuminates what I termed an agential realism’s posthumanist account of the sublime. This account rethinks the classical theories of the sublime presented by Burke and Kant by unsettling the boundaries between humans and nature and proposing a transformative kinship emerging from their co-constitution as a result of their intra-acting practices that involve observing and thinking. My diffractive reading

shows that *Persuasion* rethinks the notion of ‘greenwashing’ that is implied in Austen’s other novels, that sees landscape depictions in these novels as only a vehicle to mirror certain characteristics of the characters involved in the novels, arguing instead for an agential realist transformative relationality that co-constitutes humans (characters in the novel) and nature at Lyme. The significance of such reading is that it illuminates the violence embedded in ‘greenwashing’. For example, the violence of colonialism where wild land is turned into conservation parks, which then prevent indigenous people from accessing these lands that are initially their ancestral land (Klein 2016, 2). In this sense, perceiving the sublime as a human-nonhuman intra-relationality that is essentially transformative based on understanding the kinship between humans and nonhuman world in terms of common suffering, intertwining histories, and symbiotic relationship (pointed out in chapter three).

## V. Contribution

My dissertation contributes to scholarship in Ecology, English literature, Agential Realism, Anthropocene studies, and Cultural Studies. This study illuminates a posthumanist agential realist reconceptualization of the sublime and emerges from my close re-reading of Austen’s depiction of nature at Lyme. I showed how Austen’s approach is posthumanist inasmuch as it rethinks humanism, anthropocentrism and dualism by reworking the boundaries between science (material) and literature (discursive) and underlining the kinship between humans and nature that renders their encounter or intra-action transformative. Importantly, I demonstrated how this agential realism posthumanist sublime in *Persuasion* distinguishes Austen’s approach to nature from that of important poets of the Romantic period like Wordsworth who, I argued, conforms to Burke’s and Kant’s classical

understandings of the sublime. Austen's stance, in this sense, aligns her with the feminist aspect of Barad's philosophy (drawing on Haraway) that aims to decenter humanism.

As I explained earlier in the introduction and chapter two, humanism is associated with the Western white male and is marked by marginalizing or silencing categories, such as women, the enslaved slaves, and children, and enacting exclusions like racism, sexism, classism and so on (Ferrando 2019; Haraway 2004). In this light, I suggest that Austen's posthumanist sublime fulfills Haraway's (2004) call for "feminist figures of humanity... [that would] resist representation, resist literal figuration, and still erupt in powerful new tropes, new figures of speech, new turns of historical possibility" (47-8). Austen achieves this, I argue, by emphasizing contemplation as a material practice that makes the encounter between humans and nonhuman nature transformative, and entangles them, through flexibility and open-mindedness, in an open-ended becoming. Furthermore, I made the novel argument that links Keats's philosophy of 'negative capability' shared with Austen (as pointed out by Lau 2006a) to Barad's (2007) agential realism as they both rethink the importance of intentionality in (re)shaping phenomena.

Even though my study of Lyme does not offer solutions to its environmental crisis, as I mentioned in the introduction, what this study achieves is that it provides an in-depth radical examination of the different and differential intra-acting practices that really constitute Lyme in time and space. This goal is an ethical and political commitment to make a difference in the world by drawing attention to the violence embedded in different discourses that, by ignoring the agentic role played by nonhuman nature, women, and slaves at Lyme, would perpetuate the violence of the past in the present. Therefore, my project endeavours to reverse this discursive process and, instead, aims to integrate the material with the discursive

to illuminate and integrate the different and differential human-nonhuman practices that constitute Lyme. Instead of viewing Lyme as an important tourist destination with historical significance and important geological discoveries where nature is a source of a modernist understanding of the sublime that affirms human superiority, my study is the first agential realist intervention to illuminate and examine the multiple layered intra-relationalities underlying this frozen view of Lyme.

Through my diffractive lens, I make visible a spectrum of important dynamic relationalities and contributions that were kept invisible and silent by the violence of dualism. By reading insights from different discourses that legitimate different forms of violence like feminism, capitalism, slavery, heritage and the Anthropocene through one another, this study calls attention to the continuing and ongoing demand for social justice as an open-ended call that enacts ethical political responsiveness to past forms of injustice.

## **VI. Possible Limitations**

As pointed out in the introductory chapter, the interdisciplinary nature of my dissertation necessitates a descriptive element. Diffractive methodology entails reading insights from different fields through one another. For this to be productive, a serious commitment to accuracy in presenting specialized information and facts is crucial for a sound and productive analysis. Because of the limited space and time of the dissertation and the Ph.D. process, diving in more depth into all the discourses that I have engaged with in this study (ecological, colonial, intersectionality within the feminist discourse, scientific, capitalism, class, Romanticism and more) over the three chapters was not possible. I find this as both a limitation and potential for my dissertation. However, the

potential lies in the fact that more individual publications, which closely explore each discourse through the lens of agential realism could be produced. Already one publication has emerged from this dissertation, in which I have proposed an agential realist reconceptualization of the sublime.

## **VII. Future Research**

This study aims to open the door for future research that could possibly closely examine other sites that are threatened by the conditions of the Anthropocene, like Alexandria in Egypt among others. This approach would call attention to different forms of violence and injustice over time and create a demand for ethical and political responsiveness. Emphasizing these differences that constitute a place would help us approach places inflicted with the destruction of climate change or wars with a “political-ethical commitment to the activism of re-membering” (Barad 2017, 86) and a sense of attunement to intra-acting components (humans, nonhumans, more-than-humans) within an apparatus that shapes and re-shapes life. The goal of this endeavour is not to achieve a form of justice “which we presume we know what it is in advance and which is forever fixed” (Barad 2012, 67) but justice and accountability for the role we play amongst other entities in a world that is always in a process of becoming.



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