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The Ecofeminist Imagination: A Study of Virginia Woolf's Ecological Consciousness

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INTRODUCTION

This thesis explores the interconnection between ecofeminist theory in its positioning within the realm of modern literary production, and will conclude with the investigation of the potential of new materialism for a viable ethical environmentalism. This analysis will build on the intersections of ecofeminism, new materialism, and modernist literature with a focus on Virginia Woolf's novel *Orlando*. The German term *Nachhaltigkeit*, which translates into in English as sustainability, was first used as in the early eighteenth century to indicate "a management of forests that would not deplete resources, but allow the renewable natural resources to regenerate and thus ensure its exploitation in the long term" (Kagan in Zapf 2016, 15). Nevertheless, discussions about the prospects of capitalism in in the Club of Rome report from 1972 popularized the term, as the limits of the exploitation of natural resources were being debated as a real threat to human survival. In 1987, the United Nations declared with the Brundtland Report that "sustainable development was primarily defined as a transgenerational justice problem" (Zapf 2016, 15):

> Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits – not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth (Brundtland Report in Zapf 2016, 15).

When the notion of sustainability entered in the media, popular, and academic discourse, it was not until recently that it was framed in the context of culture: generally, sustainability was formerly associated with ecology, economy, and society, while it was never regarded also as a cultural phenomena. In the university curricula, sustainability studies are rarely involved in cultural and literary studies, despite being present in subjects like economics, material sciences, physics, biology, chemistry, environmental history, geography, sociology, and political science. Even though some university programs of cultural sustainability studies have been created, there is still a wide margin for a systematic establishment of the subject (Zapf 2016, 17). Zapf observes that "sustainability as a concept has been viewed rather critically in parts of the humanities because of its usurpation by primarily economic-technological models of environmental epistemology and agency" (Zapf 2016, 18). Researcher at the School of Sustainability at the University of Texas, Stacy Alaimo, argues that the notion of sustainability

within humanities and its philosophical, cultural, and literary insights "seem a waste of time in the face of pressing environmental realities and responsibilities, and thus "irrelevant for the serious business of sustainability" (Alaimo in Zapf 2016, 18). As Goeminne maintans, sustainability requires an epistemic shift a strictly "techno-scientific focus" in favor of "issues of human choice involved in putting sustainability into effect and...the socio-cultural practices, behaviours, and structures such choice involves" (Goeminne in Zapf 2016, 18). In Alaimo's words, as "one's very self is substantially interconnected with the world" (Alaimo in Zapf 2016, 18), human beings must be accountable for the environments they inhabit (Braidotti in Zapf, 19). A cultural perspective of sustainability, thus, enrich the scientific concept of a sustainable ecology based on technocraticism and anthropocentism by framing it to "more complex epistemological, ontological, ethical, and political perspectives," which reject the objectification of the world and view the "relationalities of becoming of which we are part", as Braidotti states (Braidotti in Zapf, 19).

Zapf takes the figure of Snowman and Jimmy in *Oryx and Crake* to symbolically summarize the complex relationship between literature and sustainability (Zapf 2016, 21). For Steve Kangas, "Snowman's liminal position and potential power [...] repeat a past cycle of aggression against nature in the name of personal profit" or "re-imagine a way for future living grounded in a genuine concern for others" (Kangas in Zapf 2016, 24). Snowman's simultaneous orientation on the past and the future, according to Zapf, resembles the relation between literature and sustainability:

> While the look backwards can become a retrogressive fantasy preventing change and development, it is also necessary for developing sustainable, sufficiently complex perspectives for the future. And while the look forward without a sufficiently complex awareness of the past can lead to unsustainable solutions, it is likewise essential in the attempt to search for "new beginnings" after past catastrophes (Zapf 2016, 24).

Similarly, literature "acts between these poles in interconnected zones of radical ambiguities" (Zapf, 24). At the close of the book, where Snowman and Jimmy meet the human strangers coming from the past showcases "both the recursive connection of past and future in the exploration of new beginnings and the dialogic openness of the text, which is the condition of its co-creative reception by the reader" (Zapf 2016, 25). Sustainable texts, according to Zapf, assume that "imaginative literature as a special, artistic form of cultural textuality is characterized by several traits of a sustainable cultural practice" (Zapf 2016, 25): literature allows for the exploration of the relationship between culture and nature, a reflection on change, on the past and the future, as well as

"cultural memory" and "cultural creativity". Furthermore, literary texts centerd on sustainability may reveal the "*multi-layered forms of relationality* between self and other, mind and life, humans and the nonhuman world, encompassing perceptual, sensory, emotional, cognitive, communicational, and creative dimensions" (Zapf 2016, 25). In other words, literature may provide a relevant contribution to ecology for the co-evolution of both cultural and natural ecosystems via the expression of an "ecocultural potential" (Zapf 2016, 25).

For this purpose, the first, introductive chapter frames the historical and theoretical developments of ecofeminism, a branch of ecology that finds its roots in both feminism and ecological thought which provides a critical framework for the examination of gender and nature dualisms, as well as the relation between patriarchal systems the exploitation of the environmental resources. After describing the origin of the movement in the 1970s, this research will expand on the interdisciplinary methodology of ecofeminism, examining its wide scope, its international approach and the intersections with postcolonial theory. Then, this thesis will outline the criticism, as well as the main theoretical paradigms proposed by some of the most influential ecofeminists like Greta Gaard, Carolyn Merchant, Victoria Davion, Val Plumwood, Karen Barad and Vandana Shiva.

After establishing the beginning of ecofeminism, the thesis proceeds through the second chapter by introducing the ecocritical literary theory, or ecocriticism, with its focus on the political, philosophical and ethical dimension of ecology in imaginative forms of literary productions. Ecocriticism, with its subversion of traditional assumptions about human and nature, will provide a useful form of literary criticism to analyse modernist works under non anthropocentric lens. After framing the ecocritical coordinates that are identifiable in modernist literature, this study will further examine the most relevant ecocritical aspects of Virginia Woolf's *Orlando*, which will be re-interpreted as a type of climate change novel for its insistence on climate change, natural imagery, the more-than-human world, the concept of time, and its parallelisms between nature and gender identity. The novel will be analysed using the insights of ecofeminism and new materialism which will be further examined in the final chapter.

The new materialist theorizations will take a central role in the third chapter, where the thesis will discuss its foregrounding of material agency, its challenging of anthropocentric perspectives on nature, and its insights into the entanglements of matter, cognition and literature. By drawing on the works of Serenella Iovino, Stacy Alaimo and Susan Hekman, this research will highlight the emergence of new materialism as a cultural response to the climate crisis, then it will move to the analysis of the reconfiguration of the traditional role of epistemology and, importantly, matter, which is considered as agentic and not merely passive. The study continues by citing the

scientific as well as the philosophical influences on the theory of new materialism. The rest of the chapter will be dedicated to outline the major theoretical contributions of new materialists in establishing a new relationship between humans and the more-than-human world, as well as defining the new ontology of matter, also in a feminist perspective. The chapter will conclude with the explanation of Iovino's concept of "storied matter", where the potential intersection between new materialism and literature will be articulated. Zapf's proposal of a cultural ecology of literature will also be taken into consideration as an ethical way of representing sustainability.

CHAPTER I: ECOFEMINISM

1.1 The Foundations of Ecofeminist Theory: the 1970s and 1980s

The origins of ecofeminism can be traced in the 1970s, when, as ecofeminist philosopher Karen Warren cites in *Towards an Ecofeminist Ethic* (1988), 'ecoféminisme' was first coined by French feminist Françoise d'Eaubonne in her text *Le Féminisme ou la Mort* (1974), initiating the theory and praxis of ecofeminist epistemology. Nonetheless, the history of d'Eaubonne's newly coined term has been involved in much speculation, dividing academics in those who confer authority to the French feminist, and in those who dismiss her influence on American ecofeminist theory. Ariel Salleh, for instance, is dubious of d'Eaubonne's impact on early ecofeminist texts published in the United States as her work was translated into English only in 1989, and consequently could not be taken into account by the majority of English-speaking scholarship. Rather than attributing the birth of the term to a specific author, some academics suggest that the term 'ecofeminism' might have emerged spontaneously from the array of international ecofeminist activists across the globe. Another strand of scholars, including Chaia Heller, point out that the word 'ecoféminisme' appeared in 1994 as an English translation of *Le Féminisme ou la Mort*, from which one chapter was inserted in a collection edited by Carolyn Merchant, one of the founding voices of ecofeminist theory. Another pillar of the movement, Greta Gaard, asserts that 'ecofeminism' was used by Professor Mary Daly in a pivotal text of early ecofeminism titled *Gyn/Ecology* (1978). Daly herself, affirms Carol Adams (Adams in Rumens, 27), introduced d'Eaubonne's text in her classes at Boston College soon after its first publication in 1974, thus revealing a significant influence of d'Eaubonne's work in American academy. According to Chaia Heller, instead, it was Ynestra King, a professor at the Institute for Social Ecology in Vermont (USA) who coined the term 'ecofeminism' in 1978. Nonetheless, Gaard offers an interesting perspective on these disputes, arguing that the terming of 'ecofeminism' was intentionally disassociated from "a white, first world scholar", whose image would not suit a more ideological, "strategic appeal" that the movement and its activists aimed to create. As Gaard puts it, the attribution of the source of the term is to be interpreted as "a class war which over whether the idea was born from a single woman labouring alone in the library or from many women labouring in the forests, the military bases, and the nuclear power plants" (Gaard via Rumens 2016, 28). In other words, in the light of an ecofeminist ethics of intersectionality, its anti-colonialist, anti-racist claims, and the climate of political engagement of the 1970s and 1980s, the metaphorical assignment of the source in the shape of real activists met fertile ground for ecofeminist credibility.

The ecofeminist framework emerged in the United States as a consequence of the convergence between feminist theory and movements that advocated social justice and environmental health. The basic assumption of ecofeminism is the identification of a structural link between the oppression of women – or feminized others, such as migrants, people of color, children, etc. – and the exploitation of natural resources, which ecofeminists argue to originate from the same societal, political, and economic framework. By addressing two issues simultaneously, the ecofeminist scope is very wide in its intent, spanning from the examination of "global economics, third world debt, maldevelopment, industrialized animal food production and food scarcity" to "reproductive rights, militarism, and environmental racism" (Gaard 2011, 33) in order to quantify and describe the impact of gender discrimination and the destruction of natural resources. Nature and women, under an ecofeminist perspective, are intextricably jointed together, especially in the resolution of their mutual oppressions; one of the leading scholars of ecofeminism, Noël Sturgeon, defines ecofeminism as "a double political intervention, of environmentalism into feminism and feminism into environment" (Gaard via Sturgeon 2011, 41). The link between environmental studies and (eco)feminism has also been highlighted by Timothy Clark, who states that ecofeminism is "the most sophisticated and intellectually developed branch of environmental criticism" (Lorenzo-Modia via Clark 2018, 124). However, ecofeminist claims are not entirely uniform within the representatives of the theory in precisely what concerns the association between women and the environment, a central point of division for early ecofeminists. Linda Vance's statement, "ask a half dozen self-proclaimed ecofeminists what ecofeminism is, and you'll get a half dozen answers, each rooted in a particular intersection of race, class, geography, and conceptual orientation" (Zapf 2016 via Vance, 210), illuminates the pluralistic views among the ecofeminst scholarship in their approach to oppression – which can be summarized under the labels of liberal, radical cultural and social, spiritual (Zapf 2016, 211).

Liberal (or radical rationalist) feminists hold the view that capitalism has been conceived by people as the most fitting economic structure to maximize individual interests, thus this type of feminists encourage the resolution of the climate crisis through science, laws and regulations. Chiefly, they argue that the association of women with nature has precisely determined and perpetrated their oppression to the male counterparts.

Radical cultural feminists (or cultural feminists) find the association of women with nature not as a source of subjugation, but power, in that they link women with the same attributes of nurture and care typically equated with nature. According to them, the environmental crisis is not to be found in the pairing of woman/nature, but in the detachment of men from female love. These arguments will

cause much of the criticism on ecofeminist 'essentialism', as shall be discussed in another paragraph.

Spiritual ecofeminists, notably Starhawk and Spretnak, believe in the existence of a Goddess, rather than a male God.

Social feminists argue that capitalism and the patriarchy are the main causes of female oppression, and draw their theoretical analysis of society from neo-Marxism, examining women's labor within the a biological and social framework. They hold the view that the notion of nature has been socially and historically manifactured. According to King, although social feminists have focused strongly on class analysis, they lack depth in addressing environmental damage (Zapf 2016, 213). Ecofeminists like Carolyn Merchant, Karen Warren, and Val Plumwood have based their research on social feminist theory, finding connections between the domination of nature, women and other minorities, and have expanded the social feminist scope by examining the relationship between nature and culture.

Among the most important, founding texts of ecofeminist theory are Rosemary Radford Ruether's *New Woman/New Earth* (1975), Mary Daly's *Gyn/Ecology* (1978), Susan Griffin's *Woman and Nature* (1978), and Carolyn Merchant's *The Death of Nature* (1980). All these works capture the aim of ecofeminist theory at the moment of its foundation, that is, "the questioning and deconstruction of traditional oppositions historically found in the Western binary system of thought and [...] established hierarchical distinctions between pairs such as culture versus nature, men versus women, human versus non-human, reason versus emotion, or theory versus practice" (Lorenzo-Modia 2018, 126). Thus, the project carried forward by early ecofeminist scholars aimed at shifting from the men-culture dualistic paradigm to a woman-nature dichotomy in order to reassess the importance of women and nature which had been historically compromised, and consequently tackle the effects of women's and nature's subjugation. Not only was the ecofeminist agenda attempting to analyze and identify the types of oppressive forces in act, but rather, it searched for the historical, contextualized causes of these socially constructed binaries. Ruether, for instance, was one of the first ecofeminists to theorize the woman/nature association, finding its historical causes in industrialism. In her text (1975), Ruether exhorts feminists to incorporate environmental studies in their feminist analysis for a better understanding of gender-related issues and women's liberation:

> Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination. They must unite the demands of the women's movement with those of the

> ecological movement to envision a radical reshaping of the basic socio-economic relations and the underlying values of this society. The concept of the domination of nature has been based from the first on social domination between master and servant groups starting with the basic relation between men and women (Mellor via Ruether 1997, 297).

Griffin (1978) also highlighted the interplay between female oppression and other forms of ecological exploitation, suggesting that a male elite has deemed inferior women, animals, nature, other marginalized identities in order to uphold their social status.

However, it is Merchant's work (1980) that has been most prominent in ecofeminist scholarship in the definition of the ecofeminist scope, in the development of future research, and in ultimately securing the link between women and nature in the context of patriarchal and capitalist power structures. Merchant's central thesis foregrounds female oppression and the domination of nature as structurally interconnected within the context of a specific scientific, social and economic framework, established via the modern scientific methodology and capitalism. Corollary to her argument, certainly, is the belief that science and cultural norms interact with each other and cannot be viewed separately. From this point of observation, Merchant makes a thorough historical analysis of the rise of modern science and capitalist thought throughout the Fifteenth and Sixteenth centuries and subsequently identifies this time period as the cause of both women's and nature's subjugation. According to her, "the scientific revolution [...] fostered the separation of nature from culture and the devaluation of the former as dead, inert, and mechanistic" (Lorenzo-Modia via Merchant 2018, 126), which is the basis for the moral and political justifications supporting the double women/nature oppression in contemporary society. The title of her text is evocative in that Merchant holds that the historical period of the 15th and 16th centuries was built on the notion of "reality as a machine rather than a living organism" (Merchant in Thompson 2006, 508), which symbolically determines "the death of nature", not on a physiological level, but for the lack of power it holds within its historicized worldview it belongs to.

The decade of 1980s has seen the evolution of individual projects regarding the woman/nature association expanding to collective works that were informed through political theory and engagement, as well as the creation of an intersectional agenda. The 1980s saw the beginning of the development of varied ecofeminist methodologies and approaches, "some of which were rooted in essentialist feminisms, just as others grew out of liberal, social, Marxist, anarchist, and socialist feminisms" (Gaard in Lorenzo-Modia 2018, 127). Following the groundwork made in the previous decade, ecofeminist projects continued to illuminate and point to the historical factors of female

oppression and their connection to the domination of other groups of people, like children, racialized people, and lower classes, but also revisited these notions through a more intersectional agenda with the introduction of concepts such as "ecowomanism, classism, racism, speciesism, naturism, and maldevelopment" in ecofeminist discourse (Lorenzo-Modia 2018, 127). The most significant anthologies of the decade – Stephanie Leland and Leonie Caldecott's *Reclaim the Earth: Women Speak Out for Life on Earth* (1983), Judith Plant's *Healing the Wounds: The Promise of Ecofeminism* (1989), Irene Diamond's and Gloria Orenstein's *Reweaving the World: The Emergence of Ecofeminism* (1990), and Vandana Shiva's *Staying Alive: Women, Ecology and Development* (1989) – incorporated a multicultural approach and examined female political engagement in a variety of ecological projects across the world. Ecofeminism became an international phenomenon: in the UK, Léonie Caldecott and Stephanie Leland (1983) traced a link between women and ecology, in Canada, Judi Plant (1989) offered a bioregional take on ecofeminism. Marjorie Spiegel compared the enslavement of African Americans to that of animals in *The Dreaded Comparison* (1988), while Andrée Collard and Joyce Contrucci's *Rape of the Wild* (1988) suggested that violence on women, people of color and nature is based on structures of technology, domesticity, hunting and militarism. In India, Shiva (1988) attacked the technology employed by first world countries, the appropriation and destruction of land to extract resources aimed only to provide wealth for the West. In the US, Irene Diamond and Gloria Orenstein (1990) gathered essays on ecofeminism written by scholars, writers, and activists addressing race, colonialism, Western environmentalisms, religion, and bioregionalism. However, Diamond and Orenstein's anthologies attracted much criticism from their first publishing. Sandilands, in particular, assumes a critical position, making a point that the aspect of race was not addressed thoroughly, and also stressing that the text did not account for the ways in which women could form alternative relations to ecological issues (Sandilands in Rumens 2016, 29). Sandilands further critiques the unrealistic representation of indigenous women on Diamond and Orenstein's behalf, arguing that the authors were unable to depict the effects of colonization on their cultures (Sandilands in Rumens 2016, 29). On the same matter, Sturgeon also commented on the common practice of romanticizing and mythicize indigenous women: because of their underdeveloped standards of living, they are often perceived as more ecological and more prone to gender equality (Sturgeon in Rumens 2016, 30).

The founding of ecofeminist theory was growing along with ecofeminsit praxis, as feminist peace activism and antinuclear protests attacking militarism and the employment of unrenewable energy resources were decisive for prompting discussion about ecofeminist issues on an international scale. Following the antimilitarist movements, two conferences marked a significant turn in the history of ecofeminism. In 1980, the conference "Women and Life on Earth:

Ecofeminism in the 1980s" held at the University of Massachusetts Amherst, which featured representatives of the movement like Susan Griffin, united environmentalism and feminist peace activism in the opposition to patriarchy. In 1987, the conference "Ecofeminist Perspectives: Culture, Nature, Theory", hosted by the University of South California, sparked a debate on the development of ecofeminism(s). This conference featured the partecipation of Angela Davis, and was organized by Diamond and Orenstein.

1.2 The 1990s: Backlash Against Ecofeminism

All throughout the 1990s, ecofeminism was the target of much criticism, which accordingly relegated it to a marginal position within feminist theory, so much so that Noël Sturgeon explains the marginalization of the movement in *Ecofeminist Natures* (1997), writing of an "establishment feminist backlash against ecofeminism" (Sturgeon in Rumens 2016, 21). For instamce, a few editorial decisions operated by feminist academic journals practically illustrate the distrust of ecofeminism. In 1992, *Signs* and *NWSAJ*'s editors rejected a review essay of ecofeminism as they struggled to find a link between ecology, feminist issues, race and class. Likewise, in 1993, reviewing *Ecofeminism and the Sacred* (1993) and *Ecofeminism: Women, Animals, Nature* (1993), editor of *The Women's Review of Books* Paula DiPerna claimed that she animal food production was not a direct cause of global warning, concluding that she found ecofeminism "meaningless" (Gaard 2011, 34).

Nevertheless, the main agents of criticism towards ecofeminism were third-wave feminists, poststructuralists, and mainstream feminist scholars. While the latter conceived social justice, interspecies ethics, and environmental concerns as separate from feminism, poststructuralist feminists followed the theory which originated in 1960s and 1970s in France from the poststructuralism formulated by Lacan, Derrida and Focault. Postructuralist feminists rejected the concept of 'structure', and revaluated the concept of nature as something that cannot be separated from the surrounding cultural practices; following this logic, gender and biological sex were considered constructed, therefore not 'natural'. As postructuralism gained ground, the majority of feminist thinking of the 1990s was characterized by anti-essentialist claims, therefore the ecofeminist project to bring women closer to nature run counter to the postructuralist agenda of challenging essentialism and biological determinism. These premises had an enormous influence on how scarcely feminist theory valued the environment and its concerns. For instance, poststructuralist and third-wave feminists criticized ecofeminism, referring in particular to early

texts, for creating an entirely essentialist equation of women with nature by virtue of conferring women typical assets of nature like nurture, care, and fertility. This thinking was conceived as diminishing of women's rights and aspirations in the light of poststructuralist anti-essential activism. As an illustration, Kate Sandilands expresses her concerns with this type of association in *The Good-Natured Feminist* (1999): "this articulation of ecology with neo-conservative discourses on the family is truly frightening in its implications for women. It is a naturalized morality tale of private women embodying particularistic, nuclear family-oriented, antifeminist, heterosexist, and ultimately apolitical interests" (Sandilands in Lorenzo-Modia 2018, 128). Similarly, in the essay *Is Ecofeminism Feminist* (1994), philosopher Victoria Davion challenges the essentialism of early ecofeminist texts, which suggest that women were 'naturally' endowed with characteristics proper to nature, and therefore were deemed more fitting to restore and preserve the environment (Mallory 2018, 13). In defense of ecofeminism, Merchant expressed her disapproval of essentialist equations with women as 'natural' nurturers, arguing that the objective of ecofeminism is women's liberation "from the anthropomorphic and stereotypic labels that degrade the serious underlying issues" (Merchant in Thompson 2006, 510), and denied any essential identification between women and nature, whose affiliation serves merely to exemplify the double oppression of women/nature, rather than to suggest the propensity of women in the role of nurtrures (Merchant in Thompson 2006, 510).

Other scholars criticized ecofeminism for assuming that women's experiences are assimilable to one another, as if being female granted for a universal categorization *a priori*. This argument is strictly linked to another critique by thrid-wave feminists, whose stress was placed heavily on intersectionality, because of a perceived lack of diversity among the representatives of the cultural movement, seen as predominantly bourgeois and white. A case in point is Bina Agarwal (1992), who disapproved of the essentialist premise that women can be identified as a univocal category and proposes an intersectional viewpoint, whereby the ties between women and nature are influenced not only by gender, but also by class, race, and geographic residence. In fact, as Agarwal stresses, economically privileged women might be oppressors of other economically disadvantaged women, and in a similar way, women with fewer resources pay a higher price for health risks connected to ecological damages than others. In order to stir away from this biased, essentialist point of view, Agarwal proposed the term "feminist environmentalism" instead of "ecofeminism", thus forging a more appropriate definition that incorporates class-gender relations.

In *Feminism and the Mastery of Nature* (1993), Val Plumwood expands on ecofeminist's intersectionality focusing on the complexities involved in the master-slave dialectic, which she identifies as a major contributor of the woman/nature oppression. Plumwood's analysis rejects the

essentialist practices and the oversemplification of power relations among people, suggesting that "it is not a masculine identity pure and simple, but the multiple, complex cultural identity of the master formed in the context of class, race, species and gender domination which is at issue" (Plumwood in Lorenzo-Modia 2016, 128). In her text, Plumwood also breaks down society's dualistic structures, stating that dualism "results from a certain kind of denied dependency on a subordinated other" (Plumwood in Meierdiercks, 29), and for this reason, her scope is that of establishing a new relationship that supplants the "denied dependency" by analyzing what has been deemed inferior: "the body, the senses, emotion, the imagination, the animal, the feminine, and nature" (Plumwood in Meierdiercks, 29).

Sandilands also proposes that the nature/culture dualism should be deconstructed, as notions about nature are never detached from cultural ideologies, and this dichotomy also informs the modalities in which humans understand nature:

> ecology and feminism are not the same struggle, but they may be allied: while not all feminisms are ecological (any more than all ecologies are feminist), the types of questions feminists ask about social relations can inform, and be informed by, questions about the social construction—and liberation—of Nature (Sandilands in Lorenzo-Modia 2018, 128).

By the end of the 1990s, the feminist backlash on ecofeminism was so grounded that it came to identify closely with the term 'ecofeminism' as a whole. In order to deviate from this negative equation with the term, Warren (1994) proposes the renaming of the theory that would build on an intersectional analysis of ecofeminist issues, defined as "ecological feminism".

> "Ecological feminism" is an umbrella term which captures a variety of multi-cultural perspectives on the nature of the connection within social systems of domination between those humans in subdominant or subordinate positions, particularly women, and the domination of nonhuman nature [...]. Ecofeminist analyses of the twin domination of women and nature include considerations of the domination of people of color, children, and the underclass" (Clark in Lorenzo-Modia 2018, 125).

Suspicions about ecofeminist practices also emerge from an early association of ecofeminist theory with spirituality. Judith Plant (1989) and Diamond and Orenstein (1990) suggest in their works that "the earth can be "healed" through a reclaiming of purported ancient value systems, religions, rituals and practices that find liberatory power in the historic, symbolic, and material

associations between women and nature" (Mallory 2018, 19). At the heart of the controversy stands the ecofeminist claim that women possess a unique, direct connection to nature, a sort of female superiority claim which is what Val Plumwood calls the "femism of uncritical reversal" (1993). Social ecologist Murray Bookchin Janet Biehl also reject ecofeminism in *Rethinking Ecofeminist Politics* (1991), pointing not only to the movement's essentialism, but also to its connection to "goddess worship, its glorification of the early Neolithic, and its emphasis on metaphors and myths" (Mallory 2018, 22).

Finally, ecologists, deep ecologists and environmentalists were critical of ecofeminist claims for several reasons. The ecologists' suspicions on ecofeminist theory can be contextualized in that ecofeminism's blurry position between feminism and ecology creates problems distinguishing whether it is a branch of deep ecology or third-wave feminism. Furthermore, while deep ecologists suspect that ecofeminists pay more attention to feminist vindications in their approach rather than addressing the environment more closely, ecofeminists have been accused by third-wave exponents of dedicating too little attention to feminism, favoring the analysis of the relationship with the environment (Lorenzo-Modia 2018, 125). However, the central point of rupture between the two epistemologies regards the nature/women association, in that deep ecologists fail to acknowledge the link between women's oppression and the exploitation of nature, as emerges in the essays *The Deep Ecology-Ecofeminism Debate and Its Parallels* (1989) by Warwick Fox and *Is There an Ecofeminism-Deep Ecology 'Debate'?* (1995) by Deborah Slicer. The claims advanced by deep ecologists seem to come from assumptions about the existence of a clear cut separation between environmentalism and women's studies: as Slicer argues in her 1994 essay *Wrongs of Passage*, unlike ecofeminists, deep ecologists discarded the notions of anthropocentrism, the patriarchy and other conjuncted systems of oppression in their methodology (Meierdiercks via Slicer 2023, 14), thus eliminating the social and political dimension of ecology in their agenda.

The anti-essentialist positions against ecofeminist theory were analyzed by ecofeminist scholars in an attempt to explain the roots of this criticism. In *Women's Liberation and the Sublime: Feminism, Postmodernism, Environment* (2006), Bonnie Mann attributes the criticism to an attempt to silence the kind of feminisms that include gender and environmental oppressions in their focus; she defines "emphatic anti-essentialism" the tendency of charging essentialism to feminism as a means to use "disciplinary force among feminists" (Mallory 2018, 23). Equally, Sturgeon (1997) argues against the creation of typologies of ecofeminism such as 'radical', 'cultural', 'socialist ecofeminism', or similarly, 'feminist ecological politics', 'ecological feminism' and 'environmental feminism' (Sturgeon in Rumens 2016, 22). According to Sturgeon, typologizing creates a binary of good non-essentialist practices, and bad essentialist ones (Sturgeon in Rumens 2016, 22), thus

acting as an exclusionary paradigm which creates superior and inferior types of feminism, while separating "feminist theory and feminist activist practice" (Sturgeon in Rumens 2016, 22).

1.3 Ecofeminism: An Intersectional Methodology

As mentioned in the previous paragraph, throughout the 1990s, ecofeminism was imbued with accusations on its intersectional agenda, making critics prone to denounce the lack of representation of marginalized groups which was perceived to inform early ecofeminist ethics. The focus on having a feminist intersectional approach was prominent in the 1990s, as many reflected on the notion of intersectionality, a term coined in 1970s by Kimberlé Crenshaw to address the inability of feminist scholarship to address how factors such as race and gender could impact oppression and discrimination against black women. Soon enough, Crenshaw's term could account for the various facets of a person's identity, opening the doors to an anti-racist feminist theory. Thus, employing an intersectional approach in feminist theory means to direct attention to the different modes of women's lifestyles and what effects these conditions have on their individual experiences of womanhood. Matsuda argues that one type of oppression is usually paired with others: for this reason, she suggests asking 'the other question' as a way to establish discrimination by investigating the (disadvantaged or privileged) conditions of individuals, while being aware of the multiplicity of the human experience (Kings via Matsuda 2017, 64). An intersectional approach and methodology was highly acclaimed within feminist scholarship for its capacity to identify the existing differences between women and to form a renewed communication among feminist scholars. All branches of feminist theory – including ecofeminism – benefitted from the theoretical grounds of intersectionality, as it allowed ecofeminist academics to address the consequences of sexism, class, homophobia, and racism on women and their relationship with the environment.

Leslie McCall finds three ways to categorize intersectionality in an anticategorical, intracategorical, or intercategorical way (Kings 2017, 67). The anticategorical complexity aims at deconstructing categories, while the intercategorical approach documents discrimination based on pre-existing social categories. Finally, the intracategorical approach is mainly used in case studies and analyzes the existing inequalities within specific social groups, which McCall names "neglected points of intersection" (Kings 2017, 67). In *Sister Outsiders* (1984), Audre Lorde uses the intracatergorical method to criticize the tendency of feminists to overlook race and class issues existing among different actors, accusing them of promoting a sense of sisterhood which does not

actually exist. Lorde adds that ignoring structural differences among social groups is a deterrent for effectively targeting discrimination.

Despite a common acknowledgement of the benefits of intersectionality, many have been critical of the praxis of its methodology, Matsuda's suggestion of asking 'the other question' being a case point of the unclarity of the approach. The variety of intersectional approaches existing has represented an obstacle for feminists for using intersectionality effectively.

Nonetheless, the employment of intersectionality in ecofeminist theory has revealed its efficacy in the acknowledgment that the coexistence of multiple factors (gender, race, class, sexuality, age) in women's lives in the Global South or North is responsible for shaping their relationship with the environment. As a whole, the incorporation of an intersectional methodology in the ecofeminist agenda has been a prominent tool to develop a renewed conception of how women relate to the environment without limiting the analysis solely on gender but expanding the scope to race, class, sexuality, caste, species, religion, nationality, dis/ability, and colonialism. Contrary to some critical views, early ecofeminists showed an affinity to intersectionality engaging with different aspects of social categories. In accounting the history of radical feminism, Daly (1978) explored the ways in which class interferred with cases of discrimination against women. Similiarly, Plumwood (1993) wrote that a focus on gender, race, class were necessary to terminate the exploitation of nature. A pivotal voice in intersectional Indian ecofeminism is Bina Agarwal, who proposes the term "feminist environmentalism" (Kings 2017, 76) to indicate a form of ecofeminism which takes into account class, gender, and caste in the relationship between women and ecology. According to Agarwal, rather than being rooted in biology, the link between women and nature is influenced by factors like access to resources and division of labor, which directly shape women's roles in the conservation of the environment (Kings 2017, 76).

Again, Adams (1990) expanded the ecofeminist scope to include animals by investigating the links between meat consumption and the patriarchy. Likewise, contemporary ecofeminist research has been prominent in including the concept of species into intersectionality. Slicer, Adam, Lori Gruen, and Richard Twine (Kings 2017, 73) have all examined issues around the use of an intersubjective, inter-species, and intersectional approach towards environmentalism, feminism, and ecofeminism. Gaard and Sherilyn MacGregor have also added to the intersectional ecofeminist perspective regarding the climate emergency. Gaard (Kings 2017, 73) researches the imbalanced effects of the climate crisis among people, and finds the cause in gender-related and class differences: "women are indeed the ones most severely affected by climate change and natural disasters, but their vulnerability is not innate; rather it is a result of inequities produced through gendered social roles, discrimination, and poverty" (Gough 2020, 1427). Cuomo and Nancy Tuana

argue in *Hypatia* (Tuana in Kings 2017, 73) that the uneven effects of climate change are more prominent in the Global South than in the North, remarking that particular social structures impact a person's vulnerability to climate change. Further research has shown that, especially in the Global South, women are the most likely to bear the extra burdens created by climate change; a UN report (Kings 2017, 73) shows that women are more likely to be exposed to a higher risk of reproductive health issues from drinking contaminated water, and are statistically more likely to die in an ecological disaster than men. The 1991 Bangladesh cyclone disaster is another case point of climate change effects on women: according to the Environmental Justice Foundation (Gough 2017, 1426), 90% of a total of 140,000 victims of the catastrophe were women. In 2013, the Global Gender and Climate Alliance analyzed data from a World Bank survey, showing that 103 out of 140 countries "impose legal differences on people solely on the basis of gender" (Gough 2017, 1426). On top of that, two thirds of the world's illiterate adults are women, thus hindering them from getting the information needed to escape or avoid hazards.

1.4 The New Millennium: Ecofeminist Ethic and Ontology

In the first place, contemporary ecofeminists are still bringing forward the long-standing projects of the theory, engaging with critiques against the patriarchal power structures that have divided women and men, culture and nature, and have equated women with nature. In the second place, ecofeminists are set to analyze social hierarchies and how the male domination over nature came to be realized. At the same time, ecological feminists are looking to deconstruct the traditional binaries that have fostered social hierarchies, their values, and the separation of the human from the non-human, striving to redefine the pairings of women/men, culture/nature, human/non-human, and offering ontologies and discourses built on new sets of relationships. New feminist ontology rejects the Cartesian binary of understanding and reads human beings through gender and oppression. This ontology is precisely intersectional as it considers that different beings have varied experiences and perspectives; Joseph Medina defines 'epistemic friction' an experience of certain oppressed groups which is not understandable by who holds a dominant worldview (Meierdiercks 2023, 23). By recognizing and challenging the dominant perspective, a new knowledge is produced in the process within feminist ontology.

However, while 1990s ecofeminism broke down dualistic ontology, it did not provide a new ontology for interpreting reality from an ecofeminist perspective (Meierdiercks 2023, 15). Indeed, as Lahar affirms in 1991, ecofeminism failed to "have a foundational characterization of reality (an ontology) and escape some of the traps of classical philosophy that have helped to support

conceptual splitting and dualisms" (Lahar in Meierdiercks 2023, 15). Likewise, Cuomo criticizes the ecofeminist (mis)use of ontology in *Feminism and Ecological Communities* (Cuomo in Meierdiercks 2023, 22), where she states that ecofeminists have not properly explored ontological claims, rather they focused on women-nature oppressions and policies about the environment (Meierdiercks 2023, 22). In other words, ecofeminism lacked the development of a unified theory through which it could assert its own epistemological and ontological worldview that would eschew the socially constructed dualisms of the 20th century. However, ontological discussions within feminist scholarship were rare in the 1990s and the 2000s, probably because (eco)feminism was prevalently built on social and political activism, thereupon an abstract ontology was deemed incapable of making a real impact on the world.

Before the topic of ontology resurfaced in the 2010s with Johanna Osaka, two figures in particular have advanced a comprehending, ethical ontology for ecofeminism – Karen Warren and Vandana Shiva. In her 2000 monograph titled *Ecofeminist Philosophy*, Warren states that the ecofeminist framework was perceived as an unorganized approach, unable to form a grounded theory of ethic (Meierdiercks 2023, 15). Much of the controversy around ecofeminist ethical theory might derive from a misunderstading of Warren's definition of ecofeminist ethic as a 'theory-in-process', that is to say that the core principle of ecofeminism is openness to particular "basic beliefs, attitudes, and assumptions about the world" (Meierdiercks 2023, 20). Some critics, such as Tricia Glazebrook, found this definition of ethic labelled as 'in-process' to be insufficiently convincing, and for this reason Glazebrook maintained that ecofeminist theory ought to be unfinished and incomplete. Yet, what Warren really meant with ecofeminism as a theory-in-process, is that it is always adapting to the changing values of its community. Indeed, ecofeminist ethic "denies that there is one right way to do philosophy or environmental ethics, and one purely objective model of humans and human-nonhuman interactions" (Meierdiercks 2023, 20), preferring the option of maintaining an openness to incorporate new theories to its main claims. Nonetheless, ecofeminist certainly rejects any exclusivist approach, or any type of "oppressive patriarchal conceptual framework" (Meierdiercks 2023, 27). Warren lists eight contingent rules as part of her ecofeminist ethical theory:

1. Ecofeminist ethical theory is understood as theory-in-process.
2. Nothing that is "knowingly, intentionally, or consciously naturist, sexist, racist, or classist" or which would reinforce or maintain any other "isms of dominations" belongs in the theory.
3. An ecofeminist ethic is a contextual ethic.

4. An ecofeminist ethic is inclusivist and grows out of and reflects the diversity of perspectives of women and other Others, including those who disproportionately experiences the destruction of non- human nature.
5. An ecofeminist ethic does not seek to provide an "objective" point of view, and rejects the existence of such a view.
6. An ecofeminist ethic places commonly excluded values like care, love and trust at the center of the theory.
7. An ecofeminist ethic involves a reconception of what it is to be human and engage in ethical decision-making.
8. An ecofeminist ethic reconceives the traditional Western philosophical concept of reason.

Warren's ecofeminist ethic is based on the concept of 'situated universalism', that is, a notion that considers that universal principles (or, 'universalism') mirror particular experiences in a given historical context (Meierdiercks 2023, 16).

> To care about and understand the particular identities of persons who are struggling with race, gender, and class issues we must recognize and have some level of understanding of race, gender, and class as general features of contemporary social structures; similarly, to care about and understand such general issues as racism, sexism, and classism we must recognize and understand how they exist in particular people's lives and experiences. The particular and the general presuppose each other (Warren 2000, 114).

Warren calls this ethic 'universal' as it is able to "express generalizations common to and reflective of lives of diverse peoples situated in different historical circumstances" (Meierdiercks via Warren 2023, 17). For instance, Warren suggests that the individual experiences of tragedy enable people to recognize the universality of tragedy – thus, the universal allows people to understand particular experiences within their own context and the contexts of others. Moreover, Warren's ecofeminist ethical principles are "situated" as, although always valid, they are not always applicable; for example, although animal welfarism is morally unethical, it is not possible for certain cultures to maintain a vegetarian diet; that is why Warren's ethical principles "reflect historically particular, real-life experiences and practices" (Meierdiercks via Warren 2023, 17). Finally, Warren's ontology is based on the following attributes: it is feminist because its starting point is the analysis of gender relations; it is relational, as it considers humans as social beings, and it is social.

Vandana Shiva, one of the most relevant voices of Indian ecofeminism, identifies Indian environmentalism as the forerunner of contemporary Western ecofeminism, as a protest known as Chipko movement was organized by Indian women against logging in the Garwhal Himalavas by publicly hugging trees. This moment was possible by Indian activists sharing the same values that created modern Western ecofeminism.

In her founding text *Staying Alive* (1989), Shiva puts forward an ontology of ecofeminism built on the concept of the feminine principle, known in Indian cosmology as Prakriti, which is:

> an oppositional category of non-violent ways of conceiving the world, and of acting in it to sustain all life by maintaining the inter-connectedness and diversity of nature. It allows an ecological transition from violence to non-violence, from destruction to creativity, from anti-life to life-giving processes, from uniformity to diversity and from fragmentation and reductionism to holism and complexity (Swer via Shiva 2020, 120).

Thus, the feminine principle as described by Shiva encapsulates unity in the multidue of natural forms and the interrelatedness of all things, while recognizing nature as a living organism rather than being an inhert and passive object. The notion of Prakriti serves as Shiva's foundational element of a new ethical ontology centered around the respect for the environment, whereby its use would mitigate the climate crisis and fasten the liberation of Indian women by cancelling the man and nature/woman dichotomy.

> The nature of Nature as Prakriti is activity and diversity. [...] Nature as a creative expression of the feminine principle is both in ontological continuity with humans as well as above them. Ontologically, there is no divide between man and nature, or between man and woman, because life in all its forms arises from the feminine principle (Swer via Shiva, 121).

Chiefly, Shiva considers the feminine principle firstly as a critique to Western science and its interests that fuel a capitalist and patriarchal society, and secondly, as a sustainable praxis, epistemology and spirituality to counteract the reductionism of modern technoscience (Swer 2020, 121). Indeed, Shiva has designated the effects of patriarchy and hyper capitalism as the roots of climate and biodiversity crisis. Shiva also focuses on the analysis of the current state of scientific methodology, arguing that modern scientific metaphysics is the direct product of a society structured by capitalist and patriarchal powers. She states that

> the dominant stream of modern science, the reductionist or mechanical paradigm, is a particular response of a particular group of people. It is a specific project of western man which came into being during the fifteenth and seventeenth centuries as the much-acclaimed Scientific Revolution, [...] a masculine and patriarchal project which necessarily entailed the subju- gation of both nature and women (Swer via Shiva 2020, 121).

Shiva describes modern scientific thinking as both reductionist and mechanistic, that is to say, modern science considers all entities to be reducible to basic components which are uniform and homogeneous. Furthermore, modern science employs the machine as a tool for analyzing all natural processes, thus, this scientific view is informed through a notion of nature and its processes as a set of individual parts rather than a whole. Shiva argues, instead, that nature is organic and the "concepts of order and power [are] based on interconnectedness and reciprocity" (Swer via Shiva, 123). Hence, Shiva challenges the idea of a "reductionist" scientific perspective both for the assumptions that it provides an accurate representation of reality, and its role in the oppression of women and the nature, arguing that the principles of reductionist science are socially constructed by the western bourgeois system and patriarchal structure, which she suggests are the powers that caused its existence, justification, and perpetration, one reinforcing the other as "the reductionist world-view, the industrial revolution and the capitalist economy were the philosophical, technological and economic components of the same process" (Swer via Shiva 2020, 121-22). Ecology's representations, similarly to scientific metaphysics, are also socially constructed, and similarly, the phenomena under observation do not necessarily coincide with their representation. Shiva asserts that modern science fails to advance value-neutral facts because patriarchal capitalism informs the values that circumscribe that context of study and the discerned properties, thus science is unable to precisely analyze natural processes: "there is nothing like a neutral fact about nature independent of the value determined by human cognitive and economic activity. Properties perceived in nature will depend on how one looks and how one looks depends on the economic interest one has in the resources of nature" (Swer via Shiva, 122). As a result, Shiva claims, it is formally impossible to gain a complete understanding of the properties of nature, "in that the frame of reference will alter the properties that manifest themselves" (Swer 2020, 122). Finally, Shiva argues that the reductionist metaphysical worldview serves to implement the oppression and exploitation of both nature and women under the rule of the capitalist-patriarchal power that has been prevalent in the modern world. Women – and all values associated to them – are deemed inferior to other actors who put forward the interests of the elite. Likewise, nature is considered a mere resource and a utility to exploit with technological tools and scientific progress. Shiva

maintains that an ecofeminist metaphysics model – through the use of Prakriti – would offer a valid alternative to scientific reductionism in the representation of reality, as it would be able to expose more phenomena than reductionist science could reveal. Although Shiva's ontology was met with enthusiasm within the ecofeminist international community, her views on metaphysics and the feminine principle were addressed by ecofeminist criticism. Tamari, for instance, holds that Shiva's ontology cannot be considered as complete to contrast capitalistic paradigms, writing that Shiva

> is not a philosopher and she provides no ontology of human existence which could counter the domineering rationalism embraced by the princes of corporate capitalism. Furthermore, Shiva herself sometimes utilizes capitalistic approaches to describe reality. Shiva teaches that a responsible attitude toward nature requires one to question the basic assumptions of his or her culture (Swer via Tamari 2020, 119).

Concerning the relationship between women and the environment, Shiva's argument suggests that women are biologically, socially, and culturally tied to nature. Shiva's presumed essentialism was further criticized by Agarwal and Meera Nanda (Kings 2017, 75), who maintain that Shiva's views on ecofeminism romanticize women's relationship with the environment in a way that is typical of 'cultural ecofeminism', with the result of strengthening gender stereotypes, as Archana Prasad argues in *Against Ecological Romanticism* (Prasad in Kings 2017, 75-76). Furthermore, Shiva's analysis of Indian women lacks an intersectional methodology, as her focus is limited to the unique experiences of women residing in rural communities of northwest India, therefore it cannot fully describe the conditions of women from other backgrounds across the entire Global South. Lastly, Shiva fails to recognize different forms of oppression of Hindu women and nature by attributing environmental destruction in the Global South to 'First World' capitalism, which, according to Shiva, has enforced "maldevelopment", a term coined by Shiva herself to indicate a type of approach to nature "without consideration of an ethic of ecological protection and conservation" (Kings 2017, 76). However, in her analysis of the undeniable effects of environmental damage employed by Western powers, Shiva overlooks issues such as "caste, class, power, privilege, and property relations" existing within her culture (Kings via Agarwal 2017, 76).

Aside from the topic of ontology, in the 2000s contemporary ecofeminist analysis, such as theorized by Gruen, Gaard, and Sandilands focused on forming new conceptions of natur that could be compatible with an ethical environmentalism. In *Ecofeminism and Its Discontents* (Sandilands in Lorenzo-Modia 2018, 130), Sandilands argues that rather than just pointing to how nature is exploited, we need to consider that the notion of "nature" is socially constructed, just like humans

who are both biological and social creatures. Thus, in order to change our attitude towards nature, humans must reframe the socially constructed concept of nature as a whole. In *Revaluing Nature* (Gruen in Lorenzo-Modia 2018, 130), Gruen suggests that humans should form a deeper connection with nature and non-human animals through imaginative qualities and the use of perception to conceive sustainable ways to live on earth.

The ecofeminist agenda is set to shift from a mainly anthropocentric worldview to a vision that would accommodate an ethic of the embracement of the more-than-human world. According to Freya Matthews, for instance, in order to establish an ethical relationship among humans and the more-than-human, ecofeminists have advanced a paradigm of "relationality [...] that would define entities and attributes in terms of their constitutive relations with one another, retaining difference and distinctness but construing these not in terms of exclusion, hierarchy, instrumentalism, backgrounding, incorporation, but rather in terms of continuity" (Lorenzo-Modia 2018, 131). Thus, in short, recognizing the value of others does not mean to cancel the human community, rather it avoids the construction of hierarchies and relations of subordination.

Ecofeminists are looking to establish the so-called 'self-in-relation', that is, in Plumwood's terms, a "nonholistic but relational account of the self" which values the "independence of the other" (human or non-human). Plumwood's view of ontology is informed through the concept of the "self-in-relationships"; that is to say that humans are profoundly "contextual and relational beings, formed by and in exchange with the other" (Meierdiercks via Plumwood, 29), and therefore cannot be conceived alone. Similarly, the "mutual self" is a way of being in harmony with nature, capable of breaking down the dualism between the self and the other, providing an ethic of caring and respect, which are at the basis of the "ecological self" (Meierdiercks via Plumwood, 29). Ultimately, Plumwood proposes a good use of narrative, and argues against a "human monologue" in favor of conceiving the subjecthood of non-human animals and others forms of life, which she suggests should be considered as "narrative subject, potential communicative partner, and agent" (Meierdiercks via Plumwood, 29).

In her 1990 essay *The Power and Promise of Ecological Feminism*, Warren conceives the ontological notion of "being in relationship" with nature, humans and the non-human, holding the view that our relationships to others are significant in defining "who we are" (Warren in Meierdiercks 2023, 24). Warren finds that difference is at the basis of a 'loving perception', and explains it with the following example. Although a rock climber perceives the cliff as different, at the same time, the rock climber is dependent on looking at the positioning of the rock during their ascent, in order to protect against potential harm. Thus, the rock climber and the more-than-human world establish a relationship between one another. This example illustrates, according to Warren,

the “being-in-relationship”: thanks to loving perception, we are able to understand that “we are the sum of our relationship with other beings” (Meierdiercks 2023, 25), or non-human animals. Warren claims that the only way to have an ethical relationship to animals and recognize them as part of our moral community is the acknowledgement that they belong in our ecological community (Meierdiercks 2023, 26). Drawing on Andrew Brennan’s text *Thinking About Nature* (1988), Warren and Cheney state that the notion of selfhood is moulded by the social sphere that we interact with in a shared community, thus context is pivotal in the construction of individual identities and in understanding ecological systems, as human activities are shaped by environmental factors. Warren suggests that a narrative approach “contextualizes ethical discourse in ways that make relationships and beings-in-relationships central to ethics” (Warren in Meierdiercks 2023, 27). Narratives describe the ontological structure of the world in which we live in, and “provide guidelines for how we know that world” (Warren in Meierdiercks 2023, 27), allowing us to shape reality in a sense or another. For this reason, Warren points to the power of narrative to mould our vision of ethical interspecies relations.

The global reach of ecofeminism has also involved research within the field of environmental education, which has recently attempted to reframe climate change education from both a theoretical and practical point of view, stressing the need to communicate better the hierarchical powers in place in the climate crisis. Sarah Riggs Stapleton suggests “storying” climate change, that is, creating an approach that is able to create an individual connection to ecological emergencies through contextualization (Stapleton in Gough 2020, 1425). On the same vein, Blanche Verlie (Verlie in Gough 2020, 1427) proposes to eradicate anthropocentrism from our climate pedagogies, arguing that it is necessary to see climate as a complex set of relations rather than conceive humans and the climate as separated and independent subjects “that pre-exist their intra-action” (Verlie in Gough 2020, 1427). Similarly, Hannah Knox argues that the key point in changing our mindset on climate education is considering climate as “a set of relationships”, and climate education should incorporate a strategy that allows people to “internalize objective accounts of climate in order that they could see themselves as part of the very dynamic that visualizations of predictive climate models were describing” (Knox in Gough 2020, 1427).

CHAPTER II: ECOCRITICAL MODERNISM

Being bodies that learn language
Thereby becoming worldlings
Humans are the
Symbol-making, symbol-using, symbol-misusing animal…
Separated from our natural condition
By instruments of our own making goaded by the spirit of
Hierarchy… and rotten with perfection.

(Burke via Wake 2013, 158)

2.1 Ecocritical Literary Theory

Ecocriticism has emerged as an academic movement in the twentieth century on the margins of other scholarly disciplines that were gaining more recognition, such poststructuralist, new historicist, and discourse-analytical theories. Over the course of the last decades, however, ecocritical studies have acquired the status of the fastest-growing areas of research within the humanities. Ecocriticism has thus gained a prominent position in contemporary academia as it provides further reflection on the global environmental crisis which governs modern civilization, attempting to address and examine the urgent issues regarding climate change, but also the loss of natural diversity, as well as "deforestation, desertification, diminishing water supplies, limited fossil energies, the uneven distribution of industrially caused environmental risks, or the of human waste" (Zapf 2016, 39). Ecocriticism has evidently emerged in a cultural context where mainstream and academic debates on the climate crisis brought attention to the limitations of the sphere of human action as well as the cultural practice of natural exploitation, highlighting the fundamental interdependency between the natural and the human world. In other words, ecocriticism assumed a central role in cultural and literary studies by extending academic research and suggesting new methodologies that would take into consideration the political, ethical and philosophical aspects of ecologic theory, while at the same time reassessing the traditional conceptions of anthropocentric thought (Zapf 2016, 40). The term 'ecocriticism' is generally attributed to literary critic William Rueckert, whose article *Literature and Ecology: An Experiment in Ecocriticism*, draws a comparison between literature and nature: "poems are green plants among us… which arrest energy on its path to entropy and in so doing, not only raise matter from lower to higher order, but help to

create a self- perpetuating and evolving system" (Rueckert in Wake 2013, 157). Rueckert employs an organic metaphor to explain literary creation, making a strong case for the importance of ecological thought to literary studies by comparing poetry to a "plant" or "stored energy". His goal is to raise awareness of the issue of how literature and the environment interact. Moreover, Rueckert affirms that there is an inextricable link between the world of literature and that of science and nature: "that old pair of antagonists, science and poetry, can be persuaded to lie down together and be generative after all" (Wake 2013, 157). Rueckert's work is imbued with the theories of his mentor, the poet-critic Kenneth Burke. Burke's study of metabiology has proved significant within the field of ecocritical analysis. Metabiology conceives the human mind not isolated from its body, but directly involved in bodily processes, and therefore, in nature. Metabiology, in particular, focuses on the analysis of the human language in its relationship with biology and the body, also using the insights of the linguist Maurice Merleau-Ponty and its study of phenomenology. According to Burke, humans tend to assume language as separated from their bodily existence, and start conceiving language as an identity existing *per se*, rather than a form of symbolic communication which allows humans to understand the world and their connections to it. The ultimate function of language, Burke argues, is action: humans beings – whom Burke calls 'symbolic actors', that is, they employ language with the aim of obtaining a particular effect in a situated context by performing 'symbolic actions'. The meaning of words point to the description of specific situations, which involve action, conflict and engagement within the natural environment.

In *The Ecocriticism Reader,* Cheryll Glotfelty defines ecocritical theory as "the study of the relationship between literature and the physical environment" (Glotfelty in Parham 2016, 37). The main objectives of ecocriticism are the analysis of setting, the cultural connotations assigned to the concept of environment, and ultimately the relationship between humans and the more-than-human world (Parham 2016, 37). Thus, ecocriticism interrogates the interrelation between nature and culture in literary works, whether the latter are considered nature-writings, that is, texts that deal directly with the natural world, or not. An ecocritical reading of literary works might also take these texts as a caise point for an ethical relationship with the environment and climate, or suggest new directions for today's eco-politics (Zapf 2016, 157). Critics of nature writing are also involved in looking at the ways in which authors write about nature and its creatures, focusing in particular on whether authors speak on behalf of the natural world or, like in the case of writers involved in the deep ecology movement, refrain from speaking on behalf of nature, as they consider this methodology to be anthropocentric (Parham 2016 37-38).

The beginning of ecocritical thinking in the early 1990s engaged mainly with nonfictional

genres of nature writing or romantic and wilderness narratives, preferring to recover the long-standing tradition of American nature writing, whose eco-consciousness paved the way for a modern ethical relation with the nonhuman world (Slovic in Zapf 2016, 40). Ecocriticism was firstly institutionally founded by the Association for the Study of Literature and Environment (ASLE) in 1993. One exponent of American ecocriticism is Lawrence Buell, whose 1995 book *The Environmental Imagination* focuses on nature writing, while highlighting its influence on other genres, including fiction and poetry (Buell in Wake 2013, 157). As Zapf notes, the most significative texts for the 90's ecocritical focus as they shared an "earth-centered approach" (Zapf 2016, 41) were Mary Austin, *The Land of Little Rain* (1903), Aldo Leopold, *A Sand County Almanac* (1949), Edward Abbey, *Desert Solitaire* (1968), Annie Dillard, *Pilgrim at Tinker Creek* (1974), Wendell Berry, *The Unsettling of America* (1978), and Barry Lopez, *Arctic Dreams* (1986). Some works within critical and aesthetic theory anticipated the ecological perspective that characterizes ecocriticism, and have sparked a new interest. For instance, Raymond Williams' *The Country and the City* (1973) has been interpreted by later critics as the first example of a foundational text within ecocriticism, although Williams came from a Marxist theoretical background, as well as being the founder of the theoretical tenets of cultural studies (Zapf 2016, 65). In this work, he concentrates on the work of William Wordsworth and John Clare, who reported both the effects of industrialization on nature, and presented the discovery of a poetic recovery of "nature" as a source of ethical, and comunitarian human values. William describes that the poet, struck by the pastoral tradition and the damages of capitalism, "translates the internalized loss of unspoiled nature into an act of textual survival" (Zapf 2016, 65).

Only in the twentieth century, however, ecocriticism found ways to find common grounds and communicate with other branches of cultural studies, thus diversifying its methodological praxis and theory, changing its monosystemic approach to a "transformative discourse related to wider social context" (Garrad in Zapf 2016, 45). In this phase of ecocritical theory, critics focus on international-oriented, systemic aspects of ecological thought and established numerous sub-branches within the same movement. "Eco-Marxism", which posists class at the center of ecological discussions, "urban ecology", which explores the opposition between the city and the country, "ecopsychology", in which the human experience of the nonhuman world is mediated by the psyche and its traumas, "queer ecology" and "ecofeminism", based on gender and sexuality positions, are all developments of the new century with an interdisciplinary focus on philosophy, ethics, religion and history (Zapf 2016, 47). Patrick Murphy argues that Bakhtin's theories set the theoretical basis for ecofeminist literary and cultural practice. Bakhtin was significantly influenced by Martin Buber and Marx in his resistance to reification or the objectification of persons by

signifying ideologies. In his work *Problems of Dostoievsky's Poetics* (1929) Bakhtin valorized the Russian writer for his “struggle against the materialization of people, and of all human values under the conditions of capitalism”. In analyzing the character of Devushkin in Dostoievsky’s novel *Poor Folk*, Bakhtin notices how Dostoievsky resents all attempts to stereotype his character, to objectify him as a poor person (Donovan 1996, 173). Throughout his work Bakhtin resisted what he called "theoretism" or "semiotic totalitarianism" namely, generic linguistic systems that eradicate the living particularized subject, who must be understood, according to Bakhtin, in a chronotopic context, that is, a specific spacio-temporal environment. Bakhtin saw the novel as "the richest form of ethical thought” because it deals with “particular, concrete cases, and not rules to be instantiated”. Murphy suggests that Bakhtin's attempt to valorize deviant dialects (or idiolects) should be extended to include non-human "languages," i.e., the dialects of animals and nature. While Bakhtin saw Dostoievsky as rendering human "others" as "speaking subjects," Murphy suggests that we extend the idea of the speaking other to nonhuman entities such as animals, suggesting that their "language" be considered a form of dialect which must be revalidated and heard, not erased by “theoretistic” discourses that elide the subjectivity of the animals. “The point is not to speak for nature but to work to render the signification presented us by nature into a verbal depiction by means of speaking subjects” (Donovan 1996, 175). Ecofeminist criticism might consider literature with Woolf and Buber, as a revelation of being, not a mechanism for its domination (Donovan 1996, 175).

Another major shift in ecocritical theory, according to Zapf (2016, 51) “has been that the culture-critical, political, and global aspects of ecocriticism have become more prominent than the nature-affirming, personal, and local dimensions”. Indeed, ecocritical texts have been exploring and interpreting the large-scale effects of environmental pollution, waste, the use of toxic chemicals, and their interaction with environmental justice, class, gender and health, providing a critique of capitalistic exploitation of natural resources. Zapf cites Rob Nixon’s conceptualization of violence, “which makes us aware of the many invisible, often unspectacular and unnoticed, but nevertheless powerfully effective forms of violence exerted by those processes especially on the poorer parts of national and global populations” (Nixon in Zapf 2016, 51) as central to the new ecocritical focus. In literature, the science fiction novels of J.G. Ballard anticipated a concern with climate change in the 1960s already, which informs later novels such Margaret Atwood’s *Oryx and Crake* (2003), *The Year of the Flood* (2009), and *MaddAddam* (2013), Jeanette Winterson’s *The Stone Gods* (2007), Clive and Dirk Cussler’s *Arctic Drift* (2008), Ian McEwan’s *Solar* (2010). A contrastive, climate skeptical view which posits climate change science itself as a danger to the future of mankind on the planet is propagated in the Korean filmmaker Bong Joon-ho’s *Snowpiercer* (2013), in which, in

contrast to Emmerich's *Day After Tomorrow*, a new Ice Age is not the consequence of global warming but of a global cooling caused by the failed experiment of an eco-dictatorship implementing all too radical measures against climate change.

2.2 Ecological Modernism

Common assumptions of juxtaposing modernism to scientific progress and epistemology have revealed reductive through the lens of ecocritical theory, as recently, critics of modernist studies such as Kelly Sultzbach show that modernism engages with ecology in framing questions about coexistence, materiality and nonhuman agency. For instance, modernist authors investigated environmental topics such as industrial pollution and climate change via their textual innovations. The early twentieth century saw the emergence of new, intense debates between the sciences, philosophy, and literature rethinking notions about the planet, materiality and species relations. Modernism, according to Adkins (2022, 20), enables critics to both historicize the Anthropocene, and it also contributes to contemporary discussions on materiality, species relations and planetary change. In this context, Griffiths suggests that the modernist attitude to "disrupt previously cherished conceptions of the world" (Adkins 2022, 4) constitutes a starting point for tackling contemporary questions around environmental change.

Furthermore, as Castle argues, one of the main objectives of modernism is a reassessment of the relationship between inner and outer world (Adkins 2022, 17), via a retheorization of the aesthetic form of the novel, in which modernists are able to to propose a new understanding of human and nonhuman life. The modernist novel engages both with discussions on what it means to be human, by exploring the notion of consciousness, language and experience, and also analyses nonhuman agents with or without the human context (Adkins 2022, 17-18).

For Carol H. Cantrell, modernists observed the revolutionary planetary changes and consequently have built modernist aesthetic as "a critique of [the] Western understanding of reason ... based on the separation of perceiving mind from the perceived world" (Feder 2014, 75). Cantrell finds a link between modernism and ecocriticism, suggesting that they are both involved with depictions of otherness, and furthermore aspects of language and place are crucial in the exploration of modernist alienation. The sense of "placelessness" often evoked by modernists is an account of anxiety about modernity and its fragmentation and urban chaos. In *The Concept of Modernism*, Astradur Eysteinsson argues that Modernism has been repeatedly confused with an "escape from history", however, he suggests that Modernism should be considered as an intervention or an

interruption. In this context, Eysteinsson proposes that placelessness is an expression of modernity's "anthropocentric negation of place (that is, of the world) as the locus of meaning and, negatively, expresses critical (and, more broadly, cultural) anxiety about the agency of the more-than-human world" (Feder 2014, 77).

The term "ecology" started circulating in the 1870s, when it acquired a feminine connotation, opposed to the masculine-inflected values which informed modernist epistemology, highly influenced by Lewis' conceptualization of "the men of 1914" (Ross 2008, 119). On these premises, modernist theory created an association with nature as an object to be mastered precisely for its supposed feminine qualities. Like Hulme, Lewis discarded romantic celebrations of nature in favor of classicism, and he holds art to be more important than gender: as Ross (2008, 119) writes, Lewis "assigns masculinity/art to surface articulation, and femininity/nature to the chaotic depths of being". For instance, Lewis relegates Woolf to having a minor role in modern literature, as she represents the (inferior) type of female artist: "an introverted matriarch, brooding over a subterraneous 'stream of conscious- ness'—a feminine phenomenon after all" (Ross 2008, 220).

Ross (2008, 221) argues that there is an under-acknowledged link between modernist and ecofeminist writers. Modernist women authors such as Harrison and Woolf engage with new ways of representing the classical world and its myths, which was a uncommon practice within modernist literature. Harrison, for instance, may be regarded as the forerunner of the ecofeminist trope of representing myths and earth-goddesses. In her work, as Marianna Torgovnick suggests, Harrison explores a renewed classicism ostracized by the literary canon of the time: in *Prologomena to a Study of Greek Religion*, Harrison demonstrates the presence of a cult of goddesses and matrilinity and the practice of rites in Greek tradition. Harrison brings back the figure of Dionysus and its values of ecstasy and closeness to nature, which contrasted Apollo's rationality celebrated by "the men of 1914". The ecofeminist literary tradition takes a similar path of revision of classicism, as ecofeminist writers bring forward the notion of "Gaia," which indicates an early Greek earth mother, to propose an holistic view of the earth as a living organism.

Another overlooked aspect of modernism is the interest it takes in representing non-human life, animals and trees especially, and its fascination with the primitive world, seen as the place of vital energies. Modernist works are imbued with representations of empathetic interspecies relations: for instance, Joyce's character Leopold Bloom in *Ulysses* attempts to think like his own cat, likewise, Woolf tries to identify with hungry birds in *The Waves*. In addition, modernists like Hemingway joined one group of environmentalists dedicated to animal protection (Ross 2008, 221).

Furthermore, the notion of holism is rooted in modernist culture: as Josephine Donovan argues, first-wave feminists opposed to individualistic values and rationality proposed by liberal

economy by advancing "a vision that emphasized collectivity, emotional bonding, and an organic (or holistic) concept of life" (Ross 2008, 222). The same concept noted by Donovan is what Torgovnick defines as "oceanic," that is, "a dissolution of boundaries between subject and object and between all conceived and conceivable polarities" (Ross 2008, 222). In other words, the concept of the oceanic describes a "feeling of totality, oneness and unity" (Ross 2008, 222). Holism is employed in modernist texts to evaluate unity versus fragmentation. For instance, most of Woolf's nature-related images are described in fragments by traumatized characters to signal concerns on environmental sustainability. Cam presents mental collages in *To the Lighthouse*, and at the end of the novel is represented by a leaf in the hollow of a wave, an image which hints at "performance, recollecting, going on" (Ross 2008, 22). There is hope that, by returning to the primordial, the semiotic, or material, as many of Woolf's characters do, a different cycle of human nature may arise.

2.3 *Orlando*: an Account of Climate Change

Taylor (2016, 188) suggests the existence of a close association between modernism and contemporary environmental discourse, as the literary experimentation in form and rhetoric typically employed by modernists with the aim of breaking traditional aesthetic rules is aligned with the notion of the "end of nature" so affiliated in the cultural context of the Anthropocene. In these terms, Virginia Woolf's works are a case point in foregrounding the interweaving of the Anthropocene and modernist literature.

The term 'Anthropocene' was coined by Eugene Stoermer, although it was definitively popularized by Nobel Prize-winning Paul Crutzen, who first used it during a conference he held in Mexico in 1999 (Adkins 2022, 5) to indicate that the Earth entered a new geological epoch where the impact of the human species will be observable for millions of years ahead of the present century. Crutzen further suggests that the extraction of Earth's resources' operated by the human species, particularly fossil fuels, has undergone such a considerable increment that it is has produced the effects of a telluric force, and it has resulted in enormous change in the global environment of the Holocene, the epoch that began 12,000 years ago. In turn, these environmental changes have brought an increment of extreme weather events, rising sea levels, ocean acidification, and mass extinction (scientists estimate that the diversity loss accounts for 75 percent of the living species). As the term 'Anthropocene' has grown in popular culture over the past couple decades, it has come to be associated with several different meanings. Some suggest that a good Anthropocene

is attainable in the future by further enhancing large-scale engineering and technology with the scope of restoring the effects of climate change.

As for framing the concept of the Anthropocene in a chronological scale, Crutzen suggested that the epoch of the Anthropocene began in the year 1784, when “analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane” (Taylor 2016, 194). 1784 was also the date in which James Watt invented the steam engine, an occurrence that linked Watt’s figure to the Industrial Revolution as a whole. However, there is no common agreement on identifying the dawn of the Anthropocene, as the very notion of ‘agent’ reveals complex to be configured when thinking about geological eras. For instance, an international collective of scientists (known as the Anthropocene Working Group) have identified the date 1945 as the starting point of the Anthropocene, suggesting that radiations released from nuclear weapons during World War Two, combined with the stark acceleration of emissions in the beginning of the second half of the Twentieth Century were crucial chemical markers in the definition of a new geological epoch. In opposition, other scientists have theorized that the start of the Anthropocene could be as early as 1492, the year coinciding with the expedition to the Americas which established global trade as a common practice. Moreover, others associate the development of Anthropocene with agricultural practices, which consolidated resource extraction as a systematic activity central to the sustainment of humans (Adkins 2022, 6).

Woolf’s *Orlando* situates closely to contemporary discussions on climate occurring in the Anthropocene, therefore some critics have re-interpreted the text as a climate change novel. Climate, according to Adeline Johns-Putra, is “not just weather, but weather observed, measured and recorded – a composite of meteorological events as they are correlated, compared, and contrasted over time and space” (Johns-Putra in Adkins 2022, 146). In short, then, climate fiction (or “cli-fi”) novels “seek to dramatize the effects of climate change” (Taylor 2016, 201). The literary representation of climate change does not only include writing about natural events, rather, it centers on a deeper level around new conceptions of “species, genres, forms, and periods” (Taylor 2016, 201). Interestingly, Charles Lyell’s suggestion that literary genre may constitute a model for geological history indicates that the genre of the novel could be the literary form of the Anthropocene, firstly because of its focus on era, and secondly, because it encourages “the kinds of behavior that enabled the human species to take on hitherto unknown agency” by having “readers imagine themselves as participants in broader collectives”, in Taylor’s words (2016, 202).

As a climate fiction novel, *Orlando* (1928) is informed by a nonlinear history, engaging with a broad narrative which spans over the centuries going from the sixteenth-century up until the Elizabethan age, when the author is writing. Climate change cannot be discussed in the narrative

without addressing the matter of the temporal axis: time shifts and historical references are undoubtedly a *leitmotiv* in *Orlando*. The recurring temporal turns relate to the notion of climate, in that the novel “always speaks to the correlation between prevailing conditions and geo-temporal space” (Taylor 2016, 205), as it depicts the weather patterns and the cultural attitudes in a specific spatial and temporal axis. The rejection of linear time is a common feature in modern literature, as Jed Etsy comments, “high modernism seeks to give narrative form, aesthetic meaning, or spiritual value to time” (Taylor 2016, 205) in that abnatural climate is rooted in the aesthetic form of modernism.

Peculiarly, all these frequent time shifts are characterized by several changes in the climate, which are functional to introduce and comment on the relationships between history, culture, and the individual selves. In the novel, Woolf equates natural and cultural history, illuminating the underlying implications of anthropogenic climate change, and furthermore figures the interaction between climate and human activities: the fact that “the climate changes in sympathy with the age” (Adkins 2022 via Woolf, 147) is suggested in the novel. The ways in which climate influenced cultural development and viceversa, how humans influenced climate were largely discussed throughout the twentieth century: the notion of climatic determinism, that is, the belief of climate shaping national characteristics, was predominant among others. Meanwhile, discussions about the potential harm of human activities such as deforestation were being held in the nineteenth century. However, Charles Lyell, author of the foundational work *Principles of Geology* (1830) concluded that while anthropogenic activities had measurable effects on the earth (like in the case of deforestation), they could not produce a significant change in the climate systems. In *Orlando*, Woolf uses determinism ironically, conceiving cultural shifts as aftermaths of climate change: on the contrary, the narrative reflects on the impact that cultural shifts have had on climate, implying that there is a reciprocal interaction between natural and cultural climate, a type of relationship in which climate has transformed into an “ideological phenomenon” (Taylor 2016, 208).

In a passage of the book, Woolf describes how climate change took place in London during the nineteenth century:

> A huge blackness sprawled over the whole of London. (...) A turbulent welter of cloud covered the city. All was dark; all was doubt; all was confusion. (...) This great cloud which hung, not only over London, but over the whole of the British Isles on the first day of the nineteenth century stayed, or rather, did not stay, for it was buffeted around constantly by blustering gales, long enough to have extraordinary consequences upon those who lived

> beneath its shadow. A change seemed to come over the climate of England (Taylor 2016 via Woolf, 206).

Woolf uses the evocative image of a "huge blackness" approaching London to signal the imminent start of an age of darkness and chaos brought by climate change. According to several critics, the "great cloud" rising over the skies of England, as well as the atmosphere that "chill[s]" the heart of men, might have been borrowed by Woolf from John Ruskin, for whom Woolf was reviewing an autobiography in 1927 for T. P's Weekly. Ruskin's essay titled *The Storm Cloud of the Nineteenth Century* (1884) was a social commentary on the environmental degradation characterizing his time period, where Ruskin linkens the appearance of a "cloud phenomena" in the skies to a deep "moral gloom" which struck English society.

On the whole, *Orlando* records a long history of climate change, starting from the Little Ice Age, which the author refers to as "carnival of the utmost brilliancy" on the Thames, to nineteenth century pollution, recounted as an "irregular moving darkness" that hovers over the sky "made of metal" (Adkins 2022, 146). Although the climatic shifts present in the novel are intentionally exaggerated and ironic, many of the events dramatized are drawn from reality, such as the rigid winter of 1683–84, and the Little Ice Age in 1300, which has been associated to the decline of Norse settlement in Greenland and exploration into North America (Taylor 2016, 208). For instance, the frost fairs narrated in *Orlando* were actually held on the frozen Thames during the fifteenth century, although the freezing of the Thames was partially caused by its structure as its thick piles indeed made it more likely for the river to freeze as they hindered the flow of the upper Thames. The onset of the Great Frost is so sudden and severe that "birds froze in mid-air and fell like stones to the ground" (Taylor 2016, 209). The Thames turned to ice of "singular transparency" and the "harness of steel" in which fish "could be seen, congealed at a depth of several feet, here a porpoise, there a flounder (Taylor 2016, 209). Shoals of eels lay motionless in a trance, but whether their state was one of death or merely of suspended animation which the warmth would revive puzzled the philosophers". With the narrator hinting at "the suspended animation", one of memory, Woolf captures the loss of habitat of the river Thames, whose estuary become so polluted by the end of the nineteenth century, that many aquatic animals, including flounder, eels, salmons and seals died (Taylor 2016, 210).

Woolf's ironic representation of 19th century climate not only hints at the interest that Victorians took in climate change, but also to climate itself (Adkins 2022, 155). The Victorian period saw the development of a modern understanding of climate with the French scientist Joseph Fourier, who engaged with the study of solar radiation. Fourier conducted a series of scientific

experiments with heat trapped in boxes covered by panes of glass, which led to the discovery of what would be termed in the 1930s as 'Greenhouse effect'. Following Fourier's breakthrough, in 1859 British scientist John Tyndall started to investigate which atmospheric gases trapped heat most effectively, with the result that he managed to lay out in which ways humans influenced climate (Adkins 2022, 156). During the 19th century, cultural and political discourses on climate and pollution became more and more frequent, partially induced by the air pollution problems that visibily affected the city of London over the course of the century. By the 1880s, the Parliament had commissioned several reports and proposed different pieces of legislation to address what the so-called "smoke nuisance" (Adkins 2022, 156).

Woolf personally got to know Tyndall through her father, Leslie Stephen. There are traces of this personal connection in *Mrs Dalloway* (1925), where Clarissa speaks of 'Huxley and Tyndall' as her most cherished childhood reading (Adkins 2022, 156). Woolf herself inherited two volumes of Tyndall's works from her father, and owned a copy of Tyndall's 1860 book *The Glaciers of the Alps*. Tyndall organized his work into two sections, the first recounting his travels in the Alps, and the second consisting of scientifical observations of climate. Tyndall's popular science book explained the solar radiation through which the planet is heated in simple terms and also describes his own experiments on the opacity of gas. In *Orlando*, Woolf describes light as "the effect of the sun on the water-logged air" (Woolf, 212) and of "sunbeams marbling the clouds with strange prismatic colours" (Woolf, 211) indicating that the writer was aware of Tyndall's discovery that the colour of the sky depends on atmospheric conditions (Adkins 2022, 157).

Changes in the environment are represented as disruptive, irreversible and extreme, accounting for droughts, wildfires, and superstorms. Woolf presents climate in terms of tipping points, and environmental change is figured as sudden, severe moments which anticipate the neocastrophist model of geological history in which, as Jeremy Davies states, "understands planetary change in terms of singular events that can rapidly alter geophysical systems" (Adkins 2022, 153). Thus, in this context, *Orlando*'s employment of hyperbolical shifts between climates disturbs the notion of a harmonious nature and eschews from the idea that seasons are the unchanging, stable background of human history. In this regard, Claire Colebrook criticizes the view of climate change "as an event befalling a stable nature" (Adkins 2022, 153) and argues that the concept of an embedded stability in the natural world is "a product of the European imaginary that cannot understand a world that has rhythms and transitions of a complexity greater than the human sense of seasonal change" (Adkins 2022, 153). Orlando perfectly exemplifies this European attitude by measuring his life in terms of seasons, which shows a link between the pastoral notion of natural stability and the stability of his male aristocratic identity, which makes him believe that a

"mixture of brown earth and blue blood" runs through his veins (Adkins 2022, 153).

The following extract accounts for the novel's lenghties description of climate change:

> Orlando then for the first time noticed a small cloud gathered behind the dome of St Paul's. As the strokes sounded, the cloud increased, and she saw it darken and spread with extraordinary speed. At the same time a light breeze rose and by the time the sixth stroke of midnight had struck the whole of the eastern sky was covered with an irregular moving darkness, though the sky to the west and north stayed clear as ever. Then the cloud spread north. Height upon height above the city was engulfed by it. [. . .] As the ninth, tenth, and eleventh strokes struck, a huge blackness sprawled over the whole of London. With the twelfth stroke of midnight, the darkness was complete. A turbulent welter of cloud covered the city. All was darkness; all was doubt; all was confusion. The Eighteenth century was over; the Nineteenth century had begun. The great cloud which hung, not only over London, but over the whole of the British Isles on the first day of the nineteenth century stayed, or rather, did not stay, for it was buffeted about constantly by blustering gales, long enough to have extraordinary consequences upon those who lived beneath its shadow. [. . .] Rain fell frequently, but only in fitful gusts, which were no sooner over than they began again. The sun shone, of course, but it was so girt about with clouds and the air was so saturated with water, that its beams were discoloured and purples, oranges, and reds of a dull sort took the place of the more positive landscapes of the eighteenth century. (Woolf, 205–7)

Here, Woolf presents the ways in which climate change influences the developments of the nineteenth century, parallelling historical change with climate change: "The age was Elizabethan; their morals were not ours; nor their poets; nor their climate; nor the vegetables even. Everything was different. The weather itself, the heat and cold of summer and winter, was, we may believe, of another temper altogether" (Taylor 2016 via Woolf, 206). Historical and climatic change are discussed as though they were interchangeable: in fact, climate change is situated as historical, while history has a climatological connotation. The "silent, imperceptible, ubiquitous" (Woolf, 207) damp brought by the new climate causes a series of alterations, at first, described in atmospheric terms, and then in material terms: "rugs, beards, wallpaper, trousers, drawing rooms, glass cases, artificial flowers, mantelpieces, piano, fortes, drawing room ballads, innumerable little dogs, mats, and antimacassars" (Taylor 2016, 207). It affects architecture and domestic spaces, with houses "that had been of bare stone [now] smothered in greenery" and rooms "muffled" with furniture (Woolf, 208). The climate also influences clothing, fashion and diet: muffins, coffee and beards

become popular (Woolf, 207–9). Climate even shapes literature and style, since damp "gets into the inkpot as it gets into the woodwork" and, therefore, "sentences swelled, adjectives multiplied, lyrics became epics and little trifles that had been essays a column long were now encyclopaedias in ten or twenty volumes" (Woolf, 209).

Among the consequences of the sudden environmental transformation, Woolf also cites social change:

> The damp struck within. Men felt the chill in their hearts; the damp in their minds. In a desperate effort to snuggle their feelings into some sort of warmth one subterfuge was tried after another. Love, birth, and death were swaddled in a variety of fine phrases. . . . And just as the ivy and the evergreen rioted in the damp earth outside, so did the same fertility show itself within. Thus the British Empire came into existence; and thus— for there is no stopping damp; it gets into the inkpot as it gets into the woodwork—sentences swelled, adjectives multiplied, lyrics became epics, and little trifles that had been essays a column long were now encyclopedias in ten or twenty volumes (Woolf, 209).

Importantly, the damp had sociopolitical consequences as it brought the "sexes (...) further and further apart" (Woolf, 209), resulting in a widening of the power that patriarchal structures held on society and women (Woolf, 209). Generally, all the social attitudes of the Vitorian era — sexual taboos, fetishism, idealization of domesticity — are attributed to climate change in the narrative, implying that the development of industrialism over the course of the nineteenth century is the cause of both climatic and cultural changes (Taylor 2016, 208).

Woolf further analyses climate change in the following passage, situating the 'human' essence within an enlarged material ontology which goes beyond traditional categorizations of humanity:

> Coffee supplanted the after-dinner port, and, as coffee led to a drawing-room in which to drink it, and a drawing-room to glass cases, and glass cases to artificial flowers, and artificial flowers to mantelpieces, and mantelpieces to pianofortes, and pianofortes to drawing-room ballads, and drawing-room ballads (skipping a stage or two) to innumerable little dogs, mats, and china ornaments, the home – which had become
> extremely important – was completely altered. (Woolf, 208)

This passage highlights, as Elsa Högberg and Amy Bromley have noticed, Woolf's awareness to the syntactic unit of the sentence and its aesthetic expressiveness: here the author uses grammartical

functions to communicate materiality (Adkins 2022, 159). Furthemore, despite the presence of verbs that relate to agency on the linguistic level, the narrator does not verbalize the actual agent in force, thus creating a sense of diffuseness. Actually, the changes accounted in bodies, objects, buildings and social customs are not only attributed to the damp, rather, agency "appears to arise from the way in which the damp has become hybridised with other entities and processes that have", as Adkins suggests (2022, 159).

Woolf's prose is attentive to a material ontology that prefigures the twentyfirst century's new materialist philosophies, and in particular, is in line with Rosi Braidotti's notion of life as composed of "symbiotic and material system[s] of codependence", that is, reality seen as the result of "impersonal moments of affinity and sympathy between human and nonhuman subjects" (Adkins 2022, 159). Braidotti, in turn, considers *Orlando* a "geology and a meteorology of forces" that extend well beyond an anthropocentric narrative: according to the critic, *Orlando* displays invisibile forces, with the damp standing as the symbol for what blurs the opposition between inner and outer essences, and representing the indeterminacy of such distinctions in themselves. The damp is a transformative materialism without being a material, tangible element. In *Orlando*, as Adkins affirms, "Woolf traces materiality through transpositions that always exceed human life, showing them at work across 400 years of English history" (Adkins 2022, 161).

2.4 Nature, Sex, and Gender

For Adkins (2022, 148) climate is not the only central narrative in *Orlando*, but so are its representations of sex, gender and sexuality, and further argues that Woolf's narrative destroys the "wall of separation between natural and human histories that was erected in early modernity and reinforced in the nineteenth century". *Orlando* engages with the intersections between the macro and the micro, while at the same time exploring questions of sex, sexuality and agency.

Moreover, according to Adkins (2022, 161), Woolf is conscious of the fact that climate conditions have the potential to reaffirm and enlarge class, gender and sexual inequalities within society, thus she confronts herself with the complicated question of how to talk about sociopolitical matters. To put it in other words, Woolf's vision is aligned with Braidotti's viewpoint that all identity markers, such as gender, class and race, are "historically contingent mechanism[s] of capture of the multiple potentialities of the body" (Adkins 2022, 161). Woolf's approach to climate, thus, enhances sexual politics as the novel's framing of nature calls into question both what is the meaning of age, and what humans really are (Adkins 2022, 161).

Adkins (2022, 161) suggests that in Woolf's view, climate is not just weather, but the original substance from which humans and their sexed identities are situated. Throughout the novel's development, a precise pastoral idea of seasonality is first introduced as being part of a patriarchal notion of sexual identity. In the first chapter, the narrator presents his own sexual possession using pastoral images: since "Girls were roses, and their seasons were as short as the flowers'' then "Plucked they must be before nightfall" (Woolf, 26). Indeed, Orlando responds to these claims by doing "as nature bade him" to a girl, whose name is missing in the text, and is referred to only as "his flower" (Woolf, 26). This conceptualization of gender via natural attributes is also reflected in Orlando's self-identification with "a place crowned by a single oak tree" (Woolf, 15) in the parkland of his estate, from which he overlooks at what "was theirs" (Woolf, 15), referring not only buildings, but nature on the whole, a scene that hints at the man's phallic power and sense of proprietorship over both his house and the women he interacts with, according to Adkins (2022, 150-1), while also establishing a relation between nature and sexual identity.

Gender and sex are later explored more directly in the description of Orlando's sexual transformation, which has a public resonance that predates contemporary transphobic discourse, in that the people who witness his bodily change hold it to be "against nature" (Woolf, 128):

> Many people, [. . .] holding that such a change of sex is against nature, have been at great pains to prove (1) that Orlando had always been a woman, (2) that Orlando is at this moment a man. Let biologists and psychologists determine. It is enough for us to state the simple fact; Orlando was a man till the age of thirty; when he became a woman and has remained so ever since. (Woolf, 128–9)

In this passage, Woolf challenges the rhetoric of determinism by implying that biological or psychological aspects attributed to Orlando's sex determine a strict categorisation, mirroring Judith Butler's theory according to which the anatomic sexual identiy of an individual cannot precede gender, which is culturally constructed (Adkins 2022, 162). With the story of Orlando, Woolf proposes a more integral understanding of materiality and identity. In this context, determinism is seen as a response to fears around Orlando's supposedly unnatural transformation, thus, it becomes an attempt to naturalize Orlando's change within heteronormative norms. Woolf suggests that nature regulates the categories of sex and sexuality: the narrator judges Orlando's sexual transformation from "man" to "woman" as a "the simple fact", discarding biology and psychology, although stating that pronouns such as "her" and "his" are merely grammatical conventions rather than being imbued with an ontological foundation (Woolf, 128). Rejecting the cultural politics of

biology, Orlando notices a correlation between the marginalization of queer bodies and a form of "nature worship" based on a binary model of gender and sexuality, as Adkins argues (2022, 162).

This passage accounting Orlando's gender transition might also be interpreted in the light of Woolf's political intent via the use of irony throughout the novel. In this chapter Woolf attacks the moral costumes of the Victoriand and Elizabethan Age, specifically sexual prudery, as personifications of Purity, Chastity, and Modesty witness Orlando's physical change. As the Ladies "cover Orlando with their draperies ... The sisters become distracted and wail in unison, still circling and flinging their veils up and down ... waving their draperies over their heads, as if to shut out something they dare not look upon ...", trumpeters of Truth send away these "harpies of Morality" (Feder 2016, 80).

Indeed, *Orlando* is a work that encompasses a wide array of definitions and characteristics within its fabric: depending on one's perspective, it might be considered a feminist analysis of gender as a socially constructed reality, a piece of literary theory of fiction, a rejection of patriarchal structures and biological determinism, and finally, a parody of Romanticism. As Feder (2014, 78) suggests, the narrative layout of *Orlando* can be read "as a passage between, and enfolding of, Romanticism and Modernism".

However, the genesis of *Orlando* is also salient in order to come to an understanding of the novel's aim. As documented by Mark Hussey, Woolf's original project was essentially of a comic nature: Woolf herself declared that she wrote the manuscript "as a joke and went on with it seriously" (Feder 2014, 78). Likewise, writer Arnold Bennett defined *Orlando* "a high-brow lark," while Conrad Aiken affirmed that Woolf "expanded a *jeu d'esprit* to the length of a novel" (Feder 2014, 78). However, Woolf's choice of employing irony so extensively as a literary device reveals a specific intent of her writing. As amply analyzed by Sigmund Freud in his magistral work *The Interpretation of Dreams* (1889), jokes (and, by extension, irony, caricature, and parody) help with the emergence of repressed desires via the unconscious and its mechanisms of transformation, condensation, and displacement (Feder 2014, 79). In a psychological analysis of literary works, Freud concluded that jokes express a kind of social aggression that could not find expression otherwise through the use of rationality, which dictates what society retains as acceptable behavior, as opposed to the emotional, unconscious sphere (Feder 2014, 79). According to Freud, thus, the underlying meaning of jokes is strictly political, as it constitutes a form of rebellion to the imposed social order:

> It is possible to say out loud what these jokes whisper: that the wishes and desires of human beings have a right to make themselves heard as much as demanding and ruthless morality,

> and in our times it has been said in forceful and stirring sentences that this morality is only the selfish ordinance of the rich and powerful few who are able to satisfy their wishes without postponement at any time. (Feder via Freud 2014, 79-80).

As far as the representation of nature and nonhuman agency concerns, the following passage shows in what terms nature is endowed with queer qualities in the narration:

> Nature, who has played so many queer tricks upon us, making us so unequally of clay and diamonds, of rainbow and granite, and stuffed them into a case, often of the most incongruous, for the poet has a butcher's face and the butcher a poet's; nature who delights in muddle and mystery, so that even now (the first of November 1927) we know not why we go upstairs, or why we come down again [. . .] nature, who has so much to answer for beside the perhaps unwieldly length of this sentence, has further complicated her task and added to our confusion by providing not only a perfect rag-bag of odds and ends within us [. . .] but has contrived that the whole assortment shall be lightly stitched together by a single thread. (Woolf, 72–3).

The passage shows Woolf's subversion of nature in support of a new kind of queer materiality. Here, nature is an active agent accountable for the queerness observed in humans, and life is metaphorically described as a materiality "lightly stitched" together into a "rag bag of odds and ends" from a "single thread"(Adkins 2022, 162). This description reaffirms the previous assertions of the narrator, writing that "be no doubt of his sex, though the fashion of the time did something to disguise it" (Woolf, 13), while at the same time it precedes the suggestion, after Orlando's sex change, that clothes are a mere external expression of the "vacillation from one sex to the other" within each "human being" (Woolf, 173), suggesting that, as Christy Burns affirms, "what is essential [. . .] is to be without essence" (Adkins 2022, 163).

Generally, clothes in the novel stand for symbols of gender (culturally expressed), opposed to one's biological identity (that is, sex): Woolf's queering of nature threatens this binary by personifying nature as an inventor, according to Adkins (2022, 162), bringing into question whether meaning is situated on the surface-level, as in one's external appearance, or inward (their personality), leaving unclear what could be termed as intrinsically natural. The peculiarity of Woolf's queer nature is central to the character of Orlando, as it allows her to eschew the binary of biology versus culture, as "Orlando's transformation becomes part of a more-than-human materiality that is self-fashioning, and in which meaning and matter co-produce one another"

(Adkins 2022, 162). In opposition to the initial pastoral idea of nature offered by the narrative, which is in line with heterosexual desire, a queer kind of nature lines up with the qualities of immanence and transformation assigned to climate and supported by Woolf throughout the narrative (Adkins 2022, 163). In other words, the environmental processes showed in the novel are endowed with an ontological queerness, as they alter bodies and overturn heteronormative implications of identity, Adkins writes (2022, 162).

Woolf's queer nature poses itself as an hybrid form with Orlando's identity. While Orlando cuts the Moor's skull, he is situated in an attic "so vast that there seemed trapped in it the wind itself, blowing this way, blowing that way, winter and summer"; a room with "yellow pools [. . .] made by the sun falling through the stained glass" (Adkins 2022, 163), and "when Orlando put[s] his hand on the window-sill to push the window open", he watches as it is "instantly coloured red, blue, and yellow like a butterfly's wing" (Woolf, 14). The gusts of wind and sunbeams described above show the power of external climate to affect the interiority of the human species, as Orlando observes his bodily transformation in front of himself. Change is not only limited to Orlandos's notable bodily alteration; in the outer world, the narrator chronicles a series of ongoing transformations shaped by changing climate during the span of 400 years (Adkins 2022, 164).

The narrator emphasizes once again ironically the interconnection between nature and culture when expressing Orlando's decision that she must get a husband, as "the indomitable nature of the spirit of the age [. . .] batters down anyone who tries to make stand against it", resulting in an entanglement of human and nonhuman agents as the central narrative supports as its material ontology (Adkins 2022, 164). Orlando eventually marries not to another human, but rather the queer nature that the novel has already described in the previous chapters. Orlando's choice is cast as a rebellious act against the Victorian dictate of enforced marriage: Orlando decides to vow herself to the "cold embraces" of the earth to becomes "nature's bride" (Adkins 2022, 164). Orlando's earthly union is followed by a climatic vision as she looks at the sky and becomes conscious of the "marvellous golden foam into which the clouds had churned themselves", a thought that takes her back to Turkey, where the air carries both material and immaterial transformations (Adkins 2022, 164). Orlando's betrothal is briefly followed by the arrival of Shelmerdine (Woolf, 228), which Orlando shortens in 'Shel', recalling a kind of shell that perhaps conceals a deeper interiority, that is typical of queer nature, as it later is confirmed when Orlando discover that Shel is a woman. The "quickness of the [. . .] sympathy" (Woolf, 235) is part of the continuous processes of "impersonal sympathy and material contingency" that have been established throughout the novel (Adkins 2022, 165).

Victorian values and expectations around marriage are definitely overthrown as Orlando

and Shed are set to wed. For instance, their marriage location has a metaphorical importance, as they marry in the open as raining is falling down, rather than in a traditional chapel (Adkins 2022, 165). Their pre-matrimonial vows are compared to "wild hawks together circling among the belfries" (Woolf, 239), suggesting that their union is not only towards each other, but also to (queer) nature. The storm which symbolically terminates the Victorian chapter (and era) relocates marriage in a queer space where Orlando and Shel are participants of more-than-human processes.

In conclusion, climate is crucial in the novel's narrative fabric in relation not only to Orlando's objectives and ambitions, its queer desires and bodies, but in the narrator's reimagining of life, and in particular of the ontological relations between "humans and nonhumans, climate and history" (Adkins 2022, 165).

2.5 Nature, Queerness, and Identity

Orlando's engagement with the concept of space, other than that of travel, is central in the novel, as Jan Morris points out in *Travels with Virginia Woolf*: "few writers have ever been more powerfully inspired by the sense of place ... Virginia Woolf was not a spectacular traveler, nor a natural wanderer ... except for a fleeting visit to Asiatic Turkey in 1910 she never went out of Europe" (Morris in Feder 2014, 82). Yet, Orlando is not a traveler in the sense that he wishes to discover the beauties of the world. Instead, he leaves Turkey because his hometown becomes "uninhabitable" (Feder 2014, 82): his journey abroad is both motivated by his wish to remove himself from his Englishness, and to escape social prescriptions such as marriage. However, in Constantinople Orlando is caught up in the moral dilemma of having to choose among duty and tradition. In the foreign land, Orlando recites the poem he has been composing for a hundred years in English, "The Oak Tree". And although Orlando seems to embrace the local culture, learning Turkish and wearing native dresses, it is his appreciation for landscape that clearly situates him as foreign by natives:

> That he, who was of English root and fibre, should yet exult to the depths of his heart in this wild panorama, and gaze and gaze at those passes and far heightsplanning journeys there alone on foot where only the goat and shepherd have gone before; should feel a passion of affection for the bright, unseasonable flowers, love the unkempt, pariah dogs beyond even his elk-hounds at home, and snuff the acrid, sharp smell of the streets eagerly into his nostrils, surprised him (Feder 2014 via Woolf, 82).

As Feder (2014, 83) suggests, here the metaphor of the "root and fibre" refers to the English oak transplanted, which situates Orlando as real embodiment of the oak tree. The oak tree represents living processes, which is also reflected on Orlando's poem as a narrative of his travel and development. In Constantinople, Orlando wished to escape duty, in the sense of the demands of fulfilling social expectations, and looked to be closer to the earth: "often [he] ... had looked at those mountains [outside Broussa] from [his] ... balcony at the Embassy; often had longed to be there" (Feder 2014, 83). Orlando's wish to reconnect to nature, to escape his duty, is connected to his transition into a woman: a week after he receives his Dukedom and the Order of the Bath he becomes a woman. Orlando's path to self-discovery results in leaving one gender for the other, and the choice of acquiring new experience over duty. During her stay in the gypsy camp, Orlando is accused of worshipping nature:

> The English disease, a love of nature, was inborn in her, and here, where Nature was so much larger and more powerful than in England, she fell into its hands asshe had never done before ... She climbed the mountains; roamed the valleys; sat on the banks of the streams. She likened the hills to ramparts, to the breasts ofdoves ... Trees were withered hags and sheep were grey boulders. Everything, in fact, was something else ... and when, from the mountain-top, she beheld far off, across the sea of Marmara, the plains of Greece, and made out ... the Acropolis with a white streak or two which must, she thought, be the Parthenon, her soul expanded with her eyeballs, and she prayed that she might share the majesty of the hills ... as all such believers do.

Orlando's description of landscape and nature is rooted in a Romantic view of the environment, and furthermore it reflects a particular way of seeing:

> She began to think, was Nature beautiful or cruel; and then she asked herself what this beauty was; whether it was in things themselves, or only in herself; so she went on to the nature of reality, which led her to truth, which in turn led to Love, Friendship, and Poetry (as in the old days on the high mound at home); which meditations ... made her long ... for pen and ink (Feder 2014, 84).

Admiring the mountains, which Romantics considered to be the embodiment of nature, Orlando refers to the Keatsian pursuit of Beauty and Truth. Immersed in nature, Orlando feels the urge to write about nature in her manuscript, describing "the scenery in a long, blank verse poem, and to carry on a dialogue with herself about this Beauty and Truth concisely enough. This kept her

extremely happy for hours on end" (Feder 2014, 84).

Furthermore, Orlando sees beyond the physicality of nature, in a similar way to Woolf's metaphor of "the cotton wool of daily life" which she cites in her autobiographical essay *A Sketch of the Past*. Woolf advocated for a wide way of looking at the more-than-human world: for instance, looking at a sheep-skin and relating it to the grass, air, light, water and the social and physical processes that make it up is a way of "seeing more" (Feder 2014, 84). The woolfian concept of seeing shares similarities with Stacy Alaimo's notion of transcorporeality, according to which bodies are seen as ecosystems which are connected – materially and cellularly – to a network of ecosystems. Transcorporeality, in other words, establishes the human body in a close relationship with the more-than-human world, stressing that materiality of humans is inseparable from nature.

Likewise, for Parsons, Woolf's novels were fundamental in theorizing and rethinking ways to discuss human-nonhuman (Adkins 2022, 15), so much so that Adkins positions Woolf as a posthumanist writer. Cary Wolfe defines posthumanism as a non-anthropocentric opposition to "fantasies of disembodiment and autonomy, inherited from humanism" (Adkins 2022, 15), thus, the concept of posthumanism does not entail the transcendence of the human species, but rather, it supposes that the humanist notion of the human looked to conceal the materiality of the animal which calls itself human. According to Rosi Braidotti, posthumanism calls into question the theoretical assumptions whereby we view human-nonhuman relations by proposing an alternative understanding of the meaning of 'human' as a "relational subject constituted in and by multiplicity, [. . .] a subject that works across differences and is also internally differentiated, but still grounded and accountable" (Adkins 2022, 18). Thus, posthumanism advances an ethic that eschews anthropocentric, ethnocentric and patriarchal paradigms (Adkins 2022, 19). Jeff Wallace holds that modernist investigations of subjectivity and consciousness shows an "emancipation from the narrow confines of the humanist self" and a "displacement of anthropocentrism", and furthermore these critiques lay the foundations for a posthumanist philosophy. Indeed, poststructuralist exponents such as Derrida, Deleuze and Guattari involved with posthumanist theory were all significantly influenced by modernism as they frequently cite modernist writers like Woolf and Joyce (Adkins 2022, 19).

At the close of the book, the narrative goes back to the twentieth century, and Orlando returns to the oak tree on the hill overlooking her home to bury the now published manuscript of *The Oak Tree*. There, she reflects on the intricate relationship between nature and literature:

> So she let her book lie unburied and disheveled on the ground, and watched the vast view, varied like an ocean floor ... In the far distance Snowdon's crags broke white among the

> clouds ... 'And there,' she thought, letting her eyes, which had been looking at these far distances, drop once more to the land beneath her, 'was my land once; that castle between the downs was mine; and all that moor running to the sea was mine.' Here the landscape ... shook itself, heaped itself, and let all this encumbrance of houses, castles, and woods slide off its tent-shaped sides. The bare mountains of Turkey were before her. It was blazing noon. She looked straight at the baked hill-side ... At this moment some church clock chimed in the valley. The tent-like landscape collapsed and fell. The present showered down upon her head once more … (Feder 2014, 85).

Although Orlando's vision of nature is initially imperialist, seen as something to be conquered, she then acquires a vision of land as active agent, and a place that one can experience. Orlando's moral transformation is remarkable: while in the sixteenth century, the lord's objective was to make an impact on the (natural) world, following his fathers' steps, by the twentieth century Orlando enlarges her perspective both about herself and, as a result, of the world. In a revealing passage of the book, she perceives herself as having thousands selves:

> these selves of which we are built up, one on top of another, as plates are piled on a waiter's hand, have attachments elsewhere, sympathies, little constitutions and rights of their own ... [Orlando] had a great variety of selves to call upon, far more even than we have been able to find room for, since a biography is considered complete if it merely accounts for six or seven selves, whereas a person may well have as many thousand (Feder 2014, 86).

By attaching her identity on the idea of multiplicity, Orlando is capable of perceiving the interconnection between the self and world, or, in Alaimo's view, she roots her identity on the ontological notion of transcorporeality. Transcorporeality carries within itself ethical and political implications, in Alaimo's words: "understanding the material world as agential and considering that things, as such, do not precede their intra-actions are, I think, crucial ... the existence of anything—any creature, ecosystem, climatological pattern, ocean current—cannot be taken for granted as simply existing out there" (Feder 2014, 85). Moreover, as Feder (2014, 86) suggests, Orlando's self-discovery journey through time and space "form a movement away from a perception of the world and self as static, self-contained units, to a perception of both as interconnected forms of subjectivity, as sites of experience", thus, recognizing a line of continuity between Woolf's ethical perspective on the human/nonhuman interaction and Alaimo's new materialism.

Woolf's personal discovery of the interconnectedness of beings is narrated in *A Sketch of the*

Past, where she recounts of a fight with her brother, a meditation she had on a flower, and a link between a suicide and an apple tree. Although the first and third epiphanies left Woolf powerless, the second was the only instance where she felt an active participant of her life, and in connection with others as part of the self (Feder 2014, 94). Woof sees culture and nature as inextricable and recognizes the huge impact that the nonhuman world holds on human culture. In *Orlando*, the narrator acknowledges that the nonhuman world has a potential for intervention in human history. At the close of the book, a passage illuminates the world's interconnection as the narrator intertwines Orlando's inner and outer vision, recalling a feeling of immanence.

> It was not necessary to faint now in order to look deep into the darkness where things shape themselves and to see in the pool of the mind now Shakespeare, now a girl in Russian trousers, now a toy boat on the Serpentine, and then the Atlantic itself, where it storms in great waves past Cape Horn. There was her husband's brig, rising to the top of the wave! Up it went, and up and up. The white arch of a thousand deaths rose before it. Oh rash, oh ridiculous man, always sailing, so uselessly, round Cape Horn in the teeth of a gale! ... And then the wind sank and the waters grew calm; and she saw the waves rippling peacefully in the moonlight.
>
> 'Marmaduke Bonthrop Shelmerdine!' She cried, standing by the oak tree.
>
> The beautiful, glittering name fell out of the sky like a steel-blue feather. She watched it fall, turning and twisting like a slow-falling arrow that cleaves the deep air beautifully. He was coming, as he always came, in moments of dead calm ... the moon was on the waters, and nothing moved between sky and sea. Then he came.
>
> ... The aeroplane rushed out of the clouds and stood over her head ... And as Shelmerdine, now grown a fine sea-captain, hale, and fresh-coloured, and alert, leapt to the ground, there sprang up over his head a single wild bird.
>
> 'It is the goose,' cried Orlando. 'The wild goose ...'
>
> And the twelfth stroke of midnight sounded; the twelfth stroke of midnight, Thursday, the eleventh of October, Nineteen hundred and Twenty Eight.

Orlando's piece of literature, the almost four-hundred year old poem "The Oak Tree" helps illuminate the relationship between Orlando and nature in the book. While poem is continuously referred to through the book, it is at the same time the missing piece of the narrative. The

impossibility of reading the poem implies both the impossibility of representing nature in literature, as well as a symbol standing for the more-than-human world, as suggested by the narrator that nature is a central figure in the composition of "The Oak Tree". As Jane de Gay noted, Orlando's poem represents a "Romantic desire to represent nature in an unmediated fashion" in contrast with the "artifice and rhetoric" used by Elizabethan literates (Adkins 2022,150). In other words, "The Oak Tree" captures both Orlando's relationship to the more-than-human world and the presence of the natural world in the narrative. The oak tree, furthermore, may be Orlando: "The shade of green Orlando now saw spoilt his rhyme and split his meter. Moreover, nature has tricks of her own. Once look out of a window at bees among flowers, at a yawning dog, at the setting sun ... and one drops the pen." (Feder 2014, 91). The author establishes a link between the oak tree and Orlando: they both have ancestral homes, a noble lineage, and a cyclic, long-standing nature.

CHAPTER III: THE NEW MATERIALIST TURN

3.1 Ecological Postmodernism: From Cartesian Dualism to "Vibrant Matter"

The exponential growth of the ecological crisis and its widespread mediatic as well as academic attention over the last decades has led ecological postmodernists such as Charles Hartshorne and Charlene Spretnak to question culturally prescribed assumptions about the role of nature, proposing the necessity for a transition, in epistemological terms, from a mechanical to an ecocentric worldview as an alternative cultural framework. In order to establish an ethical relationship between human and nonhuman subjects, ecocritics theorize the replacement of the mechanistic models of nature promoted by Cartesian dualism with a relational ontology. In other words, ecological postmodernism urges the establishment of a relationship between humanity and the more-than-human world that is based on a new ethic; as summarized by Jane Bennett in *Vibrant Matter* (2009), the premise of ecological postmodernism – also shared by material ecocriticism and new materialisms – is that composites are "inextricably enmeshed in a dense network of relations" (Bennett in Iovino 2014, 22). The Cartesian model of rationalism, so influential on modern thought with its proposal of a mind-matter dualism, is severely contested by ecological postmodernism due to its explicit division between subject and object and its social, cultural, and linguistic models of constructivism, Iovino asserts (2014, 22). Furthermore, this dualist model has come to be associated to a particular worldview which defines the elements of nature as objects that "are devoid of all experience, intrinsic value, internal purpose, and internal relations" (Griffin in Iovino 2014, 22). As a result, the epistemological anthropocentric models that consider nature either as inert or as a mere textual construct have brought consequences such as the capitalization of native ecosystems for economic growth, and other oppressive systems like racism, sexism, and speciesism. As Charlene Spretnak suggests, the most disruptive outcome of the Cartesian dualistic model is the planet's internal imbalance:

> the entire planet is now imperiled by climate destabilization and ecological degradation, resulting from the modern assumption that highly advanced societies could throw toxic substances "away" somewhere and could exude staggeringly unnatural levels of carbon dioxide and other greenhouse gases into our atmosphere without ill effect (Spretnak in Iovino 2014, 23).

Recalling Descartes' enduring legacy of dualism, Spretnak argues that modern epistemology is built on the implication that "all entities in the natural world, including us, are essentially separate"; it is

this very cultural model that, in turn, sustains and justifies unethical modes of consumption and production which threaten “the survival of life on our planet” (Griffin in Iovino 2014, 23). In order to counteract this epistemological insight, ecological postmodernism proposes an alternative notion of nature in its agenda, with the scope of “reenchanting nature” (Griffin in Iovino 2014, 23) from a previous condition of “disenchantment”, that is, “the denial to nature of all subjectivity, all experience, all feeling” (Iovino 2014, 23) caused by Cartesian dualism which fostered alienation between human agents and the natural world.

The ecological approach in postmodernism laid its foundations on the theory of quantum physicist David Bohm about “fragmentary perception of reality” (Iovino 2014, 23). Bohm affirms that a fragmentary view of life presents numerous limitations as it “is an attempt to divide what is really indivisible” (Bohm in Iovino 2014, 23), while the nature of reality, according to him, is that “both observer and observed are merging and interpenetrating aspects of one whole reality” (Bohm in Iovino 2014, 23). Bohm, instead, advances the notion of reality as “unbroken wholeness” (Bohm in Iovino 2014, 23), as a result of his research in the fields of postmechanistic physics, or quantum mechanical field. Bohm’s view on the nature of reality thus influenced the most significant tenet of ecological postmodernism – its emphasis on “internal relations” (Griffin in Iovino 2014, 24) – which biologist Charles Birch defines as having a “compelling purpose” to respond to the surrounding environment:

> The idea of internal relations is that a human being, let us say, is not the same person independent of his or her environment. The human being is a subject and not simply an object pushed around by external relations. To be a subject is to be responsive, to constitute oneself purposefully in response to one’s environment. The postmodern view that makes most sense to me is the one that takes human experience as a high-level exemplification of entities in general, be they cells or atoms or electrons. All are subjects. All have internal relations (Birch in Iovino 2014, 24).

As such, Birch holds a postmodern conception in that he stresses the ability of all organisms to “exercise at least some iota of purposeful causation” (Griffin in Iovino 2014, 24). This idea is also at the forefront of Charles Hartshorne’s ecological and philosophical theories. Hartshorne, contrasting traditional theories of material agency, suggests that nonhuman entities are endowed with creative abilities as well as some degree of feeling by arguing that experience belongs to entities such as molecules and cells, which, although they do not have consciousness, are still capable of responding to the environment through a set of internal relations: in his words, body cells “are (...) constantly furnishing their little experiences or feelings which, being pooled in our more

comprehensive experience, constitute what we call our sensations" (Hartshorne in Iovino 2014, 24). Hartshorne further scrutinizes the extent of nonhuman action by affirming that "atoms, molecules, and still more nerve cells, seem to exhibit signs of spontaneous activity" (Hartshorne in Iovino 2014, 24) on the grounds that atoms respond to stimuli despite having no sense organs, thus, he states that "we have no conceivable ground for limiting feeling to our kind of individual, say the vertebrates, or even to animals" (Hartshorne in Iovino 2014, 24). In conceiving reality as a "creative becoming" (Hartshorne in Iovino 2014, 24), in which humans can sympathize "with the universal 'life of things,'" (Hartshorne in Iovino 2014, 24), Hartshorne locates agency as inherent to nature, as Iovino maintains (Coole and Frost in Iovino 2014, 24). This theoretical shift in epistemology, based on the premise of a reconsideration of the role and agency of material beings is a central point both in the development of new materialism and in the promotion of a renewed environmental ethic.

3.2 New Materialism: A New paradigm against the Humanist Tradition

The postmodernist agenda, is challenged by new materialism and material criticism alike in that traditional notions of "nature, matter, reality, and discourse" (Iovino 2014, 25) as well as theories of linguistic constructionism which are detached from the material world are rejected. However, for Iovino, the ideology put forward by ecological thinkers in late postmodernism is complementary to "ontologies of immanently productive matter" (Iovino 2014, 25), in which matter is conceived as "unpredictable, self-creative, generative, active, and expressive" by the new materialists (Iovino 2014, 25). Another case point of the convergence of ecological postmodernism with new materialism is Jane Bennet's use of the expression "vibrant matter" to highlight the property of nonhumans to be animated (Iovino 2014, 25). The new materialist thought lays its foundations on the reconfiguration of the modern concept of humanism foresaw by Foucault, according to which the human subject stands apart from other subjects by having properties that are only peculiar to human nature, such as reason, mind, and free will. New materialism challenges this anthropocentric perspective by bringing forward a new vision of the human not as a stand-alone, unique subject, rather as an entity immersed in a broader context of material relations among all other living beings. Therefore, new materialist theorists are set to subvert the human/nonhuman relations as proposed by the humanist tradition, proposing a view of humans that are less sovereign, while freeing matter from its previous categorization as mere, inert *res extensa*. The new materialist agenda argues that matter is both endowed with an agency that "is not the property of concrete, isolable entities, but manifests itself only as distributed throughout the networks in which these entities are embedded",

as Iovino affirms (2014, 37), and possess many of the same qualities typically attributed to human beings, such as "complex self-organization, reflexivity, consciousness, and the capacity to act spontaneously" (Iovino 2014, 37).

The theory of autopoiesis developed in the 1970s by biologists Humberto Maturana and Francisco Varela was highly influential in new materialist thought in that it provided scientific evidence for matter's agency. Although Maturana and Vela originally wanted to examine the organizational structure of cellular organisms, with further research they succeeded in establishing a general theory of cognition in all living systems. Autopoiesis refers to a system "that (re)produces itself, that is, it can distinguish between itself and its environment, between inside and outside" (Iovino 2014, 43), hence it is able to create internal, orderly complexity, maintain its own organizational structure, and achieve autonomy from the external world. As a result, autopoietic systems can be defined as "operationally closed", which means that "how the system responds to changes in the environment depends on the system's own structure rather than on external determinants" (Iovino 2014, 43). In other words, the system directly determines the elements of the environment which are significant to it; for this reason, the theory of autopoiesis can be applied to cognition as it describes the same process of material self-organization that occurs via operational closure in the process of cognition. For instance, the nervous system of complex organisms is organized in a similar fashion: external events are elaborated via the code of electrochemical impulses and the system is able to respond to changes on the outside by further processing these impulses. Likewise, the nervous system does not directly interact with the environment, but it always translates and reconstructs external stimuli such as warmth, light, or smell. The theory of autopoiesis, with its implication that cognition is not a quality typical to human beings, but a pervasive property among living beings, is particularly relevant to new materialism as it marks a turning point in the subversion of traditional divisions between mind and matter. Furthermore, autopoiesis is in line with the ontological agenda of the new materialisms, as it assumes that "selfhood, intentionality, and agency" emerge from the same "stuff that everything else is made of" without resorting to a material dualism for their explanation (Iovino 2014, 44). These assumptions imply that autopoiesis, in Maturana's words, "constitutes a minimal requirement for an entity to warrant ethical consideration" (Maturana in Iovino 2014, 45). As a result, the theory of autopoiesis marks an epistemological change in contemporary thought by assuming that "all distinctions [autopoietic] systems draw in their environments are elaborations of the primary distinction by which they are constituted, in the first place, that is, the distinction between system and environment" (Iovino 2014, 45).

3.3 Reconceptualizing Matter: The New Postmodern Paradigm

As Claire Colebrook (Alaimo 2008, 57) suggests, in traditional metaphysics matter was regarded as marginal, dependent, and merely a vehicle through which form became real. The matter/form dualism, thus, discarded the material to elevate form, or the full achievement of human reason. However, Colebrook argues that the hierarchical relations between form, spirit, and reason over the material are not strictly definable in a binary in which matter is devalued, but "the hierarchy is organized according to a metaphysical commitment to life: matter is only insofar as it is formed, forms itself, or actualizes itself into the form that it properly and potentially is" (Alaimo 2008, 58).

New Materialism subverts the traditionally established matter/form hierarchy by revaluing the status of matter. Judith Butler, for instance, views the human subject not as the being who constitutes and interprets the world, but as a being whose life is a continuous interaction with practices, relations, distributions, and technologies (Butler in Alaimo 2008, 66). For Butler, selfhood necessitates some degree of recognition, and to have a recognizable body requires that humans are seen as selves: thus, bodies matter "because the living of them as material is made possible through regarding ourselves as subjects, as beings who have some recognizable identity" (Butler in Alaimo 2008, 67). Bodily relations such as behavior, affections, habits, perceptions are subject both to a being who is able to recognize that body, and to one who will recognize a person as this or that being. By designating such acts as material, one is defining matter as a process of relations and situating all relations and productions beyond the myth of the self-present mind. Furthermore, for Butler all matter is performative as "something is only insofar as it is maintained and recognizable through time, but this repetition of itself is always repetition of an identity, and such identity requires subjection to that which remains the same" (Alaimo 2008, 70). Matter is thus always the result of the process of performing as something: Butler understands the acting self not as a subject who performs, rather, she argues that there is performance "from which we posit some subject who must have been" (Alaimo 2008, 70).

The linguistic turn, social constructionism, and postmodernism contested the peculiar attitude of modernist thought that has been defined by sociologist Bruno Latour as "modernist settlement" (Latour in Alaimo 2008, 91), an idea based on a strict distinction between objective reality and social constructionism. Since then, science studies have been attempting to question objective reality in order to stir away from the possibility of a real objectivity by proposing constructionism. However, Latour maintains that this scientific agenda has failed to create a valid, effective alternative to the modernist settlement, and he advocates for a renowed settlement that moves away from constructionism (Alaimo 2008, 91). In *Pandora's Hope*, Latour proposes an

alternative approach to the dualism of construction versus reality pervading science studies, which he calls "the collective" (Latour in Alaimo 2008, 93): for Latour, while society is an artifact enforced by the modernist settlement, the "collective" addresses the link between humans and nonhumans. Furthermore, Latour's theory of the collective is based on the premise that action is not a quality inherent only to humans but a generical association of actants. By asserting that nonhumans have agency, Latour conceives humans and material beings as belonging to a collective, where exchanges of human and nonhuman properties inside a corporate body are involved (Latour in Alaimo 2008, 93). Latour's positiong of nonhuman entities as both having agency and ontology is a theory shared by another contemporary science philosopher, Andrew Pickering, who proposes a new settlement for natural science studies which aims at rejoining the existing cultural binaries. Pickering suggests that, in order to break the divide between human and nonhuman entities, science and society, the discursive and the material, science should view the world as full of material agency (Alaimo 2008, 93), as a significant part of everyday life requires humans to interact with the broad material agency present in the environment. Pickering's settlement makes a great contribution to postmodern analysis according to Susan Hekman, as it welcomes both what Pickering defines the "resistances" of nature, or the instances in which nature is unpredictable, forcing scientists to deal with environmental instability (Alaimo 2008, 94) and at the same it points to the current trend of conceptualizing a new relationship between humans and the natural world (Alaimo 2008, 95).

Another settlement that is being discussed in academia is centered around discussions on epistemology. Linda Alcoff, for instance, stresses in *Real Knowing* that a new epistemological model is emerging society. Drawing on Gadamer and Foucault, Alcoff theorizes an alternative to the real/discursive dichotomy, proposing what she terms "immanent realism" (Alaimo 2008, 96). In her argument, Alcoff identifies a shift from epistemology to ontology, and asserts that the stress place by the linguistic turn in philosophy and critical theory on epistemology has given too importance to words over matter during philosophical discussions (Alaimo 2008, 97). However, although the shift from the real to the discursive turn in contemporary thought has been generally attributed to Wittgenstein's linguistic philosophy, it is suggested by Hekman that this kind of interpretation of Wittgenstein's theory is misplaced (Alaimo 2008, 97). Wittgenstein did attempt, like most postmodernists, to distance philosophy from the modernist conception of language as the mirror of nature, but his central thesis held the view that language and the world are strictly interconnected and always interacting with one another (Alaimo 2008, 98). Thus, while Wittgenstein's argument is grounded on an assumed connection between language and the world as pivotal to human life, he never claimed that language constitutes reality, according to Hekman (Hekman in Alaimo 2008, 98). In other words, Wittgenstein's texts do not accomodate linguistic

determinism; language does not make up the human's world, rather it only allows us to live in it according the parameters of our existence as human beings.

Other postmodern thinkers, like Gilles Deleuze and Felix Guattari theorize the deconstruction of the binary of the real and the discursive (Alaimo 2008, 99). Indeed, Deleuze's work is centered around experience and practice, rather than language. In *A Thousand Plateaus* (1988), Deleuze and Guattari articulate the most relevant concept to new materialism according to Hekman, that is, the "assemblage", which "acts on semiotic flows, material flows, and social flows simultaneously" (Deleuze and Guattari in Alaimo 2008, 99). An assemblage, then, is able to join together previously detached entities into an intricate whole, thus, assemblages suggest that forces are in a constant interaction and are not the result of one force by another. Another important contribution to the relational ontology proposed by new materialism is Michel Foucault's work, which analyzes material changes in order to prove the degree in which discourses that are intrinsic in Western culture since the ancient Greeks have influenced the course of history up until the present. His suggestion that discourses have the power to shape the material world, to the extent that changes in discourses produce a tangible effect in the physical world we inhabit has been influential in new materialist theory. However, it is Foucault's theory of bio-power that sums up his ultimate deconstruction of the discourse/reality opposition. As Hekman affirms, "more than any other contemporary theorist, Foucault has turned our attention to bodies and to the interaction between discourses and bodies" (Alaimo 2008, 100). By examining the carceral society, Foucault assumes that bodies are also formed by discourse, and like matter, this crafting has consequences for the actual bodies that exist in cultural space, thus, it is not possible to separate the discourse of bodies from the bodies we live in. Furthermore, if it true that one's identity corresponds to one's body – as the discourse and the matter merge into one in our bodily existence – Foucault adds that a change in the discourse of bodies would produce another material reality of our bodies.

Another emerging settlement in the twenty-first century finds its roots in feminist thought. Although discursive analysis allowed feminist theory to explore the linguistic constructionism of terms such as "woman" and other related topics, many critics have expressed concerns on the limits of this particular analysis. Many feminists, indeed, have emphasized the centrality of the material reality of women's lives, bodies and biology in order to create a viable feminism. Barad, for instance, has identified the prominent problem existing within contemporary feminist theory:

> Language has been granted too much power. The linguistic turn, the semiotic turn, the interpretive turn, the cultural turn: it seems that at every turn lately every "thing" – even

> materiality – is turned into a matter of language or some other form of cultural representation (Barad in Alaimo 2008, 102).

Barad’s argument that matter has come to be devalued in favor of language is the starting point for her critique of postmodernism and poststructuralism. According to her, these approaches merely redefine the active-culture/passive-nature dualism that they contest in the first place (Barad in Alaimo 2008, 102) and they do so by pointing to materiality only as an effect of discursive practices, which leaves the discourse/matter dichotomy intact. For Barad, the most effective way to tackle these problems is to move the discussion from an epistemological point of view, to an ontological one. Barad argues for a rejection of the epistemological/ontological distinction in favor of a new concept that she terms “ontoepistemology”, or “the study of practices of knowing” (Barad in Alaimo 2008, 102). Barad’s work draws largely on her own interpretation of Niels Bohr’s theorization of “agential reality”. As previously discussed in Chapter I, in *Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter*, Barad articulates what she calls “agential realism”, an approach to materiality that integrates social construction, postmodernism, and poststructuralism:

> Agential realism is an epistemological and ontological framework that extends Bohr's insights and takes as its central concerns the nature of materiality, the relationship between the material and the discursive, the nature of “nature" and “culture,” and the relationship between them, the nature of agency, and the effects of boundary, including the nature of exclusions that accompany boundary projects (Barad in Alaimo 2008, 103).

According to Barad (Barad in Alaimo 2008, 103), modern realism foregrounds matter, assuming that reality is an independent entity that we have knowledge of, whereas discursive theories foreground language and devalue the materiality of matter. On the other hand, agential realism presents the “intra-action” of matter and discourse, looking at the real effects of intra-action over the world (Barad in Alaimo 2008, 103). Barad’s agential realism is a kind of social constructionism that does not reduce knowledge to language, but engages with the actual, material consequences of knowledge; the core tenet of agential realism is the assumption that theories make certain aspects of reality agentic, that is, they produce material and political consequences. In order to illustrate this concept, Barad makes her point clear by introducing an example on the practice of fetal imaging, a modern technique that allows us to see the fetus. Thus, the potentialities of both technology and theory transform the fetus into matter, as the fetus did not exist as matter prior to the invention of

this kind of technology. As a consequence, Barad affirms that the fetus assumes a political significance that it lacked before it acquired the status of matter, implying that the recognition of a fetus via technology has “material, political, and ethical consequences that are both real and significant” (Alaimo 2008, 104).

In conclusion, as Susan Hekman states, the new postmodern settlements are characterized by a shift from epistemology to ontology. This new notion of ontology assumes that the way we access and know the world is linguistic, that is, via the concepts and theories that have been developed, while at the same time, the world influences and limits our knowledge (Alaimo 2008, 108). However, while modernist ontology presupposes the possibility to have direct access to knowledge of an objective world, the new ontology considers knowledge as always mediated by concepts and technology that produce material consequences. In addition, the usefulness of these material consequences can be compared by assessing how well one set of concepts or another allows us to cope with our environment. Hekman further explains this concept by taking into account Naomi Scheman’s theory of photography, where Scheman maintains that a photo is a “visual trace of an act of seeing” (Scheman in Alaimo 2008, 109); this means that a photo does not represent one objective reality that is photographed, rather, every particular photo depicts the same object differently. Thus, the interpretation of one photographer produce different versions of the same reality. Likewise, the new ontology entails that our access of the world through different theories and concepts will produce different versions of the same world.

3.4 The Feminist Material Turn: Redefining Corporeality

Stacy Alaimo has suggested that the material aspect has been overlooked by feminist theory in the past decades. In particular, feminists have failed to recognize the agency of matter, and to engage with material conceptualizations of the body, preferring to focus, in many cases, on examining how bodies have been produced through discourse, a point of view which considers the body as passive. Within this context, Alaimo advances the notion of trans-corporeality, namely, the “time-space where human corporality, in all its material fleshiness, is inseparable from ‘nature’ or ‘environment’” (Alaimo 2008, 237). Trans-corporeality is the point of convergence between corporeal theories and environmental theories, as it rethinks both the human body as always interlocked with the more-than-human world, as well as conceives it as ultimately inseparable from the environment. The implication of this view is that nature loses its status as mere empty space, background or resource for human activity. Thus, focusing on bodies, its interchanges and

interconnections between human corporeality and the more-than-human, trans-corporeality may recast the environment from inert object and background for human acitivity to a world of enlivened material beings filled with agency. Furthemore, in acknowledging the importance of material agency, trans-corporeality also recognizes and accepts the unpredictability of the actions of human bodies, nonhuman creatures, ecological systems, chemical agents, and other actors. Importantly, the premises of trans-corporeality that "human" and "environment" are not separate entities enables the reconfigurations of ethical and political worldviews that have been sustained throughout the early-twenty-first-century. Recently, feminist scholars working on feminist corporeal theory, environmental feminism, and feminist science studies – such as Donna Haraway, Vicki Kirby, Elizabeth Wilson, and Karen Barad – have attempted to conceptualize new understandings of materiality and have analyzed the ways in which the nonhuman nature of the human body can resist or affect cultural construction (Alaimo 2008, 242).

These efforts to forge a new theory that is centered on the importance of matter has been identified as the "material turn" in feminist theory. The central point that new materialist feminists had to face when reconsidering matter is the question of agency: in order to change the paradigm of a passive nature exploited by humans, and in order to gain a new perspective on the human body other than "a blank slate awaiting the inscription of culture" (Alaimo 2008, 244), the agency of both bodies and natures must be reconsidered. Thus, defining nature as agentic has been an essential question for feminist theorists to debate in order to reconfigure the nature/culture divide. Lynda Birke suggests that feminists methodology should approach new materialism as it allows to "insist on more complex, nuanced ways of interpreting biological processes", proposing to examine nature through "complexity and transformation" in order to "challenge persistent dualisms" that increase the gender binaries (Alaimo 2008, 245). Birke is a promoter of agentic nature as she ties the concept of agency to biological bodies, in that they "exhibit active response to change and contingency": for instance, according to her, internal organs and tissues are able to "perform" (Alaimo 2008, 245). Likewise, Carolyn Merchant, suggested that environmental historians could provide arguments for nature's agency in *Ecological Revolutions: Nature, Gender, and Science in New England* (1989). Merchant does not conceive corporeality as a meeting point of human and nonhuman creatures, rather, she proposes to view nature through political lens (Alaimo 2008, 257). For Merchant, nature should be reassessed as an "historical actor", just like human beings are: "The relation between humans and the nonhuman world is thus reciprocal. Humans adapt to nature's environmental conditions; but when humans alter their surroundings, nature responds through ecological changes" (Alaimo 2008, 245). In another work titled *Earthcare: Women and the Environment* (1996),

Merchant describes nature as a "free autonomous actor" that requires the same treatement as humans as far as political representation is concerned.

Some poststructuralist models of subjectivity propose other theorizations of nature's agency. As Judith Butler states in *Contingent Foundations* (1992), agency results from the way in which "the subject is produced by matrices of power and discourse" (Butler in Alaimo 2009, 245). This concept of discursive subjectivity is similar to an ecological model where different nonhuman animals behave within intricate systems and are entwined with their "environment", which is never a backdrop, but rather the foundation of their existence that they subsequently influence and change. However, Alaimo finds that Butler's theory of agency would have to be revised to account for nonhuman entities, as she describes the activity of agency to be a "purposive and significant reconfiguration of cultural and political relations" (Alaimo 2008, 246). Similarly, the concept of agentic body is present in *Bodies and Pleasures: Foucault and the Politics of Sexual Normalization* (1999), where Ladelle McWhorter examines the genealogy of her own body. After growing tomatoes, McWhorter reconsiders the importance of dirt, an acknowledgement that she calls ”amazing shift" (McWhorter in Alaimo 2008, 246); McWhorter's once perception of dirt as an inactive, inert substance, changes to consider it an entity worthy of philosophical attention. In a significant passage of her book, she describes how dirt acts:

> Dirt isn't a particular, identifiable thing. And yet it acts. It aggregates, and depending upon how it aggregates in a particular place, how it arranges itself around various sizes of empty space, it creates a complex water and air filtration system the rhythms of which both help to create more dirt from exposed stone and also to support the microscopic life necessary for turning dead organic matter back into dirt. Dirt perpetuates itself (McWhorter in Alaimo 2008, 246).

Dirt, for McWhorter, is a case point in order to show an agency without agents, a foundational substance that acts without intention. Despite being rather indiscrete, dirt is essential for the emergence of other less concentrated life forms: "Whatever discreteness, integrity, and identity living things may have, it all comes from the activity of that undifferentiated, much maligned stuff we call dirt" (McWhorter in Alaimo 2008, 247).

Barad's notion of "agential realism", in which Barad dismisses the ontological premise whereby "things" precede their relations, is pivotal in the reconfiguration of matter's agency within feminist thought. "Relata" (the contrary of discrete "things"), Barad assumes, "do not preexist relations; rather, relata-within-phenomena emerge through specific intra-actions" (Barad in Alaimo

2008, 247). Thus, by rejecting representationalism in favor of a "material-discursive form of performativity" (Alaimo 2008, 247), and acknowledging the agency of nonhuman entities, agential realism eschews the problem of different materialities. Furthermore, the challenging of the process of "thingification", in Barad's words, or the devaluation of nonhuman entities into passive resources, allows for a better environmental ethics as the recognition of agency creates for spaces in which these agentic life forms can exist and develop.

In *Situated Knowledges: The Science Question in Feminism and the Privilege of the Partial Perspective* (1988)*,* Donna Haraway proposes a new epistemology based on the concept that "the object of knowledge be pictured as an actor and agent, not a screen or ground or a resource, never finally as a slave to the master that closes off the dialectic in his unique agency and authorship of objective knowledge" (Haraway in Alaimo 2008, 251). Haraway clarifies this affirmation by employing a spatial metaphor: "Feminist objectivity makes room for surprises and ironies at the heart of all knowledge production; we are not in charge of the world" (Haraway in Alaimo 2008, 251). Similarly, Catriona Sandilands proposes another epistemological space whereby "radical democratic vision that includes nature, not as positive, human-constructed presence, but as enigmatic, active Other" (Sandilands in Alaimo 2008, 251). Epistemology becomes a new ethical pathway in environmental philosophy and feminist theory as it rejects assumptions of human mastery over the more exploitable more-than-human world, allowing the more-than-human world to to "intra-act" freely.

As Alaimo stresses, the most evident example of trans-corporeality is that of food, as plants or animals become substances for humans to consume (Alaimo 2008, 253). In the article *Incorporating Nature*, Margaret Fitz-Simmons and David Goodman argue for the model of "incorporation" as a useful practice to include nature into the paradigm of social theory and especially "into the body of living organisms, including ourselves" (Fitz-Simmons and Goodman in Alaaimo 2008, 253). FitzSimmons and Goodman's new paradigm assumes the agency of nature within social, economic, and political forces, and it highlights the need for incorporation "to capture the relational materiality of ecologies and bodies that characterizes agro ood networks" (Fitz-Simmons and Goodman in Alaimo 2008, 253), providing a new way of evaluating the productions of nature-culture.

Similarly, drawing on Spinoza's work, Moria Gatens describes the intermeshing of humans with th more-than-human world, arguing that the human body "can never be viewed as a final or finished product as in the case of the Cartesian automaton, since it is a body that is in constant interchange with its environment. The human body is never static because its interactions with other

bodies always alter it. Gatens explains that these 'encounters' with other bodies are good or bad depending on whether they aid or harm our characteristic constitution" (Alaimo 2008, 254).

Val Plumwood, instead, suggests that in order to break the nature/culture, body/mind dualisms present which are so pervasive in Western culture, we must "reconceive of ourselves as more animal and embodied, more natural, and that we reconceive of nature as more mindlike than in Cartesian conceptions" (Plumwood in Alaimo 2008, 257).

3.5 A New Materialist Reassessement of the Nature/Culture Divide

Elizabeth Grosz proposes the need for contemporary new materialist thought to redefine not only the conception of matter as passive in opposition to the active role of culture, but more importantly also the separation of nature and culture as two different domains (Grosz in Alaimo 2008, 75). Recently, Grosz notices (Alaimo 2008, 25) that biological and scientifical concerns have been gradually rejected by postmodern feminist discourses, and urges a re-evaluation of Darwinism. Indeed, some feminists dealing with evolutionary biology have reduced Darwin's theories as a kind of determinism to be cast aside social and cultural accounts. For instance, Patricia Adair Gowaty affirms that Darwinism and feminism cannot intersect or influence one another, as the social is assumed to be untouched by the biological, while the biological cannot integrate with the social. Likewise, Sue V. Rosser points to the inherent androcentrism in Darwin's work as the main cause of rejection by feminists, who retain the scientist's work to be "biased" and call for a reinterpretation that is inclusive of female agency. Rosser further claims that, if Darwin's theory addressed more openly the role of females, its "bias" could be rectified. Darwinism has also been read by many feminists as a justification of patriarchal and racist power structures built on the oppression between races and sexes, as well as the subordination of the human over the natural world that have been sustained by Eurocentric culture. This is because Darwin's theory has been interpreted as a theory of "winners and losers", or a theory supporting the premise whereby some are destined to dominate, while others are necessarily subjected to domination or extinction. According to Grosz (Alaimo 2008, 27), however, Darwin's theory could reveal useful for feminist practices as it introduces new ways of conceiving nature, body, time, and transformation that might help close the gap between nature and culture. Darwin, for instance, provides significant insights on the relationship between history and biology, accounting for the different movements, bifurcations, and processes of becoming that characterize all living beings. His work is furthermore inflected in an anti-humanist sense, that is, it insists on a mechanical, mindless and directionless acknwolegement of biological processes. According to Grosz (Alaimo 2008, 28), Darwin's work engages with the matter of sexual

difference, discussing sexual selection and the differences among sexes, as well as between species, providing a special interest within feminist research: for these reasons, Grosz argues that Darwin's texts could be of great value for providing feminist theory with more resources.

Although there is much debate regarding the interpretation of Darwinism both by scientists and nonscientists, Grosz (Alaimo 2008, 29) accounts that *The Origin of Species* (1859) has two main aims: firstly, it proves that all living beings and species are descended from earlier forms and secondly, it provides reasons for how evolution came to be via modification, demonstrating what processes and mechanisms were involved in the transformation and mutability of existing species. Darwin indentifies three closely connected principles that are at the basis of species' evolution: individual variation, the degree to which traits of individual variation are heritable and contribute to the emergence of new species and individuals, and natural selection. Natural selection is defined as the "principle of preservation", (Darwin in Alaimo 2008, 30) that maintains only those variations that can survive within its constraints and that have a pronounced advantage over their rivals. The principle governing natural selection is the preservation of the fittest, or the most suitable lives under current and changing conditions. The so called "winners" of evolution, however, were misleadingly referred to as the species that have prevailed in an evolutionary race, instead, they are those who are the most flexible and adaptable to the environment (Alaimo 2008, 32). Via discrimination, natural selection employs a negative selection, which allows for the elimination of the hyper-abundance of variation by selecting through the variations between individuals and species. On the other hand, natural selection provides a positive productivity, for individuals and species that endure to even higher proliferation and divergence:

> Natural selection, also, leads to divergence of character: for more living beings can be supported on the same area the more they diverge in structure, habits, and constitution, of which we see proof by looking to the inhabitants of any small spot or to naturalised production (Darwin in Alaimo 2008, 32).

Natural selection is further complicated by the mechanisms of other two processes, that is, artificial selection and sexual selection. These two models were essential in order to comprehend the more universal but less obvious relationships of natural selection thanks to artificial selection, which is the selective breeding of living organisms by the insertion of human selection criteria. Rather than working in opposition to or independently of natural selection, sexual selection is one of its offshoots and a more specialized means of guaranteeing the achievement of the survival and reproductive success criterion.

Notably, Grosz (Alaimo 2008, 33) points out that feminist criticism of Darwin's explanation of sexual selection occurs with little attention given to natural selection. Sexual selection is a sub-category of natural selection that adds more aesthetic, individually-driven aspects to selection, such as attraction to the other sex. Since reproductive success cannot be equated with mere survival, sexual selection may act in opposition to the fundamental concept of the survival principle. Furthermore, Darwin aims to connect the issue of sexual selection to the differences among human races by contending that racial distinctions may come from a desire for specific traits that have evolved through sexual selection rather than being directly or exclusively attributable to the selective pressures imposed by environments: "If ... we look to the races of man, as distributed over the world, we must infer that their characteristic differences cannot be accounted for by the direct action of different conditions of life, even after exposure to them for an enormous period of time" (Darwin in Alaimo 2008, 35). Instead of attributing racial differences to the selective processes caused by particularities of environment, Darwin argues that sexual appeal or attractiveness of individual racial differences may have contributed to the historical variability and the genealogical surfacing of racial differences. Darwin theorizes that small individual variations, but sexually significant, were able to influence the functioning of sexual attraction, thus rendering these seeimingly irrelevant features a central importance in achieving long-term survival and inheritance (Alaimo 2008, 35):

> The best kind of evidence that the colour of skin has been modified through sexual selection is wanting in the case of mankind; for the sexes do not differ in this respect, or only slightly and doubtfully. On the other hand, we know from many facts already given that the colour of the skin is regarded by the men of all races as a highly important element in their beauty; so that it is a character which would likely be modified through selection, as has occurred in innumerable instances with the lower animals.

This often undervalued aspect of sexual selection is indeed a salient aspect of Darwin's theory, as it considers natural selection an active, selective, process within the context of evolutionary change. Its field of action is very broad, as it functions in the biological sphere of living forms in their connection with each other, but also in the geographical, climatological, and material scale. Hence, as Grosz highlights (Alaimo 2008, 36), natural selection is not relegated to a passive role of background in which individual variation develops, or a contextual *locus* where beings evolve, rather, it assumes a central position in creating both the aims and providing resources for the creative self-proliferation of species. The result of sexual selection is thus sexual difference, which,

according to Grosz (Alaimo 2008, 37) coincides with an acknowledgement of life's "relationality", or, in other words, a state that comes to be through the mechanisms of desire. If one's gender identity is determined by their relationships with other bodies, then it follows that sexual differences or desire shape one's sexual identity and that various body types will result in various relationship styles. Sexual difference, in conclusion, is material, it is explainable through sexual selection, whereby physical variations (like skin complexion) become desirable and lead to the formation of body groups.

By advancing his theorization of selective mechanisms, Darwin wanted to distinguish between natural and cultural systems. By engaging with reproduction, variation, and natural selection, evolution allows the explanation of how both cultural paradigms (such as languages, technologies, and social practices) and natural systems function (Alaimo 2008, 38), arguing that the same productive strategies apply to both natural and cultural activities. For instance, Darwin noted the evolutionary similarities existing between the systems of species and the formation of languages; languages develop, according to him, by the same mechanisms of biological species, that is, "proliferation, competition, natural selection, and the temporal dispersion of development" (Alaimo 2008, 39). In this context, Grosz (Alaimo 2008, 39) affirms that the Darwinian assumption that evolution does not only work with biological categories, may provide valuable for feminist and cultural theories as evolution "functions all the way up, from the lowliest species to the most elevated of cultural and intellectual activities" (Dennett in Alaimo 2008, 39). In other words, the systemic reproduction models which produce mutations, combined with the workings of natural selection, result in developing a co-extensive system that is attached to political, cultural, and natural life. That is why, according to Grosz (Alaimo 2008, 74), feminism should incorporate complex scientific ideas that might clarify gender, sexual politics and oppression, and furthermore align with Darwin's rejection of notions regarding timeless nature, biological determinism, and address challenges regarding change.

Grosz (Alaimo 2008, 40) suggests that feminist theory and praxis embrace Darwinism for three main reasons. First, what exactly creates change, how change is facilitated, and what components, mechanisms, and forces are at play in creating the circumstances for change are some of the more important problems facing modern feminist theory, as well as all political discourses. Darwin assumes the future to be the combination of both the repetition of cultural/biological factors and new survival conditions. Change results from what already exists, but it is able of many other variations to its present form; thus, the new generates from the transformative power of actual models, So that what was unrecognized in the past and present, as well as what deformations the current may endure, will elaborate themselves in the future.

Secondly, Darwin enriches feminist discourse by offering a new path for the reconfiguration of the natural and the social (or the biological and the cultural) as two entirely separate domains. Culture is forgrounded, on Darwin's terms, not as the overcoming force of nature, or its completion, rather, it assumes the same importance of nature; culture becomes "the product and effect of a nature that is ever-prodigious in its techniques of production and selection, and whose scope is capable of infinite and expansion", as Grosz states (Alaimo 2008, 43). Darwin's theory draws on an assumed continuity between the natural and the social; the natural world is in line with social prescriptions, while the social sphere complies with the processes activated by natural selection with regards to the organization of nature's resources; not only cultural change resembles natural change, rather, according to Grosz, cultural relations are placed on the same level as material relations (Alaimo 2008, 75). Consequently, the binary of nature and culture can no longer exist as nature becomes the context in which cultural forms develop and foster. Traditionally defined as uniquely human or cultural constructs – language, reason, imagination, memory – originate from the same criteria of natural selection, that is, they require to have a strategic advantage for the species' own survival. However, According to Grosz (Alaimo 2008, 73), one must go beyond questioning the nature/culture binary: culture is nature, since without the ability to alter and adapt, there would be no spaces for intellect, beauty, or political groupings, while nature is culture because it embodies all of the characteristics that were originally thought to be elevated and human—invention, power, relationships, and activity. If nature once constituted the unchanging essence used to hinder human liberation in matters such as gender equality, now it can be understood as dynamic, active, or unforseeable, opening up discussions about anti-humanism.

Thirdly, Darwinism contributes to and possibly enlarges the feminist scope by adding complexity to the intermeshing of relations of gender equality and racism. His work demonstrates how sexual selection, or sexual difference relations, may have played a crucial part in establishing racial differences, as well as how variations among races transformed the modalities in which sexual difference appears when subjected to the workings of heredity. Although it appears at random, sexual difference is so relevant for Darwin in that it acquires the status of ontological characteristics of life itself precisely for its mechanisms of combination and exchange, and thanks to its extensive historical force and effectivity (Alaimo 2008, 44). Darwin's study shows how racial and bodily differences are inextricably linked to sexual difference and its criteria of variation and sexual selection, Grosz highlights (Alaimo 2008, 45).

3.6 Matter as a Site of Narrativity

The notion of creativity in the context of traditional, anthropocentric metaphysics has been mainly associated to the sphere of the human intellect, as a quality that could be possessed only by human beings endowed with rationality. Ecocritical theory, instead, as Iovino (2014, 51) points out, has shifted the role of creativity from an anthropocentric capability to a characteristic proper to the material world as a whole. Many reasons point to this change of paradigm when considering creativity also having a material source. Indeed, matter began to self-organize in increasingly sophisticated forms both on the microlevel (as for molecules, atoms, and nuclear particles), and the macrolevel of cosmic forces almost immediately after the big bang occurred. This demonstrates that creativity is a property that characterizes not only the unfolding of the cultural sphere or of the biological realm of living beings, but also the more-than-human world, which has come to be regarded as a full dynamic and agentive force. In this framework, matter becomes an essential component and channel for ecosemiotic and ecocultural processes, assuming not the role of passive agent, but of co-agentive substance which natural and cultural life rely on, a concept that is reflected on physicist Bohm's premises, that the "latent creativity of the human mind" corresponds to the "presence of creativity in nature and the universe at large" (Bohm in Iovino 2014, 51). Similarly, Jane Bennett sees reality as an "'onto-tale' where every entity is "alive" (Bennett in Iovino 2014, 51), while David Abram suggests that the "wild mind of the planet" finds self-expression in all things; for instance, he describes the power of the wind and the weather responsible for shaping mountains, which "carve the wind in turn, coaxing spores out of the breeze and conjuring clouds out of the fathomless blue" (Abram in Iovino 2014, 52) as both creative forces.

Wheeler expands the discourse of material ecocriticism by proposing that the discipline of biosemiotics enables us to investigate the relation between nature's semiotic signs and human creativity. Indeed, biosemiotics likens the creative force of the human mind and the nonhuman creative potential on the premise that "all life—from the cell all the way up to us – is characterized by communication, or semiosis" (Wheeler in Iovino 2014, 52), while the semiotic aspect of life is deduced in the cycles of semiotic loops "flowing ceaselessly between the semiotic environments (Umwelten) and semiotic 'inner worlds' (Innenwelten) of creatures" (Wheeler in Iovino 2014, 52). Natural and cultural creative processes are related through the employment of agency and spontaneous flexibility, which allows them to respond to the ever-changing requirements of the environments they are immersed in by the rearrangement and recombination of communication and interpretation models. Human creativity, accordig to semiotician Charles Sanders Peirce, is characterized by "abduction", which differentiates from the logical processes of induction and

deduction in that it engages with intuition and unconscious reasoning, presupposing a degree of interpretation that is able to combine together in new ways two domains that would otherwise be distinct: as Wheeler writes, “improvisation is the key to both natural and cultural creative evolution” (Wheeler in Iovino 2014, 52). Semiotic signs are interpreted in material natures as part of a survival-oriented mechanism that leads to the formation of numerous levels of semiotic communication within organisms and ecosystems. The interaction of identity and difference is a major component of biosemiotic processes; as a result, the resemblance between various forms, patterns, and phenomena serves as a “source of evolution in both organisms and languages” (Iovino 2014, 53). Wheeler observes that the similarities found in the self-organization forms across different living systems which fulfil a survival scope reveals that creative processes in life can be compared to the functioning of metaphors in the context of language, discourse, and art (Wheeler in Iovino 2014, 53). Indeed, the invention of metaphors as a practice of meaning transfer from one form to another in the fields of art and literature can be likened to what happens in the use of creativity in life processes: within this context, as Iovino affirms, “the (auto)poiesis of life becomes an analogue for the (auto)poiesis of the aesthetic” (Iovino 2014, 53).

Iovino (2014, 29) reports that ecocriticism foregrounds all nonhuman agencies as “meaning-producing embodiments of the world”. Nonhumans are theorized in terms of their quality of self-articulation, which reveals the vibrancy of “storied matter”, that is, matter as text, where, according to Morton (Iovino 2014, 29) the “script is encoded into matter”, just like matter is encoded into words. A central point to this concept is that Iovino finds an inherent dynamism in material life, which is able to create a wide range of biological and material expressions producing complex narratives: “There are many ways nature can be loquens, eloquent, speaking, telling”, Iovino claims (Iovino 2014, 29). A case point in this sense is the remaining porous bodies of Naples, which Iovino uses as examples of narrative agency, being matter onto which “stories, memories, and meanings are materially carved”, and whose “lively matter” she presents as “a palimpsest for the stories of this region, a narrative agency, a ‘storied matter’” (Iovino 2014, 29). For Iovino (2014, 29), material ecocriticism “amplifies and enhances the narrative potentialities of reality in terms of an intrinsic performativity of elements”. In other words, narrative agency accurately reveals the internal relations occurring in a storied world; telling stories and reading the storied world are ways to grasp the creative experience that distinguishes both human and nonhuman natures (Iovino 2014, 30). The storied world, thus cultivates an “epic of being” within which, Swimme affirms, “each creature”, and the entire universe “is story” (Swimme in Iovino 2014, 31). In his recent book *Journey of the Universe* (2011), written in collaboration with Mary Evelyn Tucker, Swimme further expands his perspective on storied matter:

> The great discovery of contemporary science is that the universe is not simply a place, but a story—a story in which we are immersed, to which we belong, and out of which we arose. This story has the power to awaken us more deeply to who we are. For just as the Milky Way is the universe in the form of a galaxy, and orchid is the universe in the form of a flower, we are the universe in the form of a human (Swimme in Iovino 2014, 31).

Much of new materialist theory draws heavily on the concepts formulated by the discipline of cultural ecology in their redefinition of the importance of materiality, the relation between mind and matter, as well as the reconfiguration of the culture/nature binary. The term 'cultural ecology' was coined by anthropologist Julian Steward to refer to the centrality of the environment in the development of human culture. Starting by the assumption that "natural environment sets certain possibilities of options from which cultures, conditioned by their history and particular customs, may choose" (Marquette in Zapf 2016, 77), the discipline examined the influence of environmental conditions (climate, water, animals, vegetation) on the technological assets, as well as cultural norms and values of the human species. It was the work of Gregory Bateson that expanded the scope of cultural ecology beyond its anthropological framework in the field of humanities. In *Ecology of Mind* (1973), Bateson views culture and the human psyche "not as closed entities but as open, dynamic systems based on living interrelationships between the mind and the world, between the mind and other minds, and within the mind itself" (Zapf 2016, 78), thus establishing a mutual dependency between the human and the environment. Hence, Bateson's claims not only dehierarchize human superiority over nature, but also consider culture as "evolutionary transformation" (Zapf 2016, 79) rather than the extreme opposite of nature. In *Mind and Nature*, Bateson writes that "thinking in terms of stories does not isolate human beings as something separate from the starfish and the sea anemones, the coconut palms and the primroses" (Bateson in Iovino 2014, 31), rather "thinking in terms of stories must be shared by all mind or minds, whether ours or those of redwood forests and sea anemones" (Bateson in Iovino 2014, 31) because, according to him, "we are parts of a living world", in which, he observes, all beings are inextricably interrelated through stories: "The evolutionary process through millions of generations whereby the sea anemone, like you and me, came to be – that process, too, must be of the stuff of stories. There must be relevance in every step of phylogeny and among the steps" (Bateson in Iovino 2014, 31). Bateson makes the argument that as matter performs its narratives, "the human is essentially co-opted, hybridized, and entangled with alien beings, always in negotiations with other agencies, other bodies, and other natures" (Iovino and Oppermann in Iovino 2014, 31). The most prominent implications of cultural ecology, such as the conception of inner worlds to extend beyond human

culture, and the fact that "'mind' and 'ideas' are not properties of humans alone, but are immanent in all living things" (Wheeler in Iovino 2014, 53) are also objects of investigation of biosemiotics and material ecocriticism. Similarly, Manghi posists the mind both "in the very heart of natural history, in the self-generating grammar of living processes and of their incessant, remarkable metamorphoses" (Manghi in Iovino, 54), and at the center of cultural history, "as a fluid, open, dynamic field of complex feedback relations within and between individual minds, forming interpersonal circuits of communication that are continually driving, transmitting, and balancing processes of cultural evolution and survival" (Iovino 2014, 54).

The implication of material ecocriticism is that matter acquires the status of a site of narrativity, in which the world's potential for creativity, dynamism, and enchantment is regarded as possible, as matter is considered to be endowed with narrative agency that allows for the making of creative expressions found in stories. Yet, not only should we regard matter's narrative agency as a communicative capacity that all material entities have, rather, materiality itself should be viewed, as Karen Barad interprets it, "a desiring dynamism, a reiterative reconfiguring, energized and energizing, enlivened and enlivening" (Barad in Iovino 2014, 31). Since its origins in myths and oral narratives, literature has symbolized the interdependence between culture and nature in that tales conveyed stories about human genesis, metamorphosis, and often represented a symbiotic coevolution amongsts different living organisms, in which human existence was only a small part of a more extended world of material natures. Nevertheless, as Luhmann (Luhmann in Iovino 2014, 57) and others observe, the historical, social and technological unfoldings that characterize modern civilization since the beginning of industrialization processes in the eighteenth century and the increasing power and imbalances with regards to the culture-nature relationship have permanently transformed the role and purposes of literary subjets. Since the romantic age, literature has been gradually developing as an autonomous cultural subsystem that acts as a discursive room for those spheres of human life that were overlooked and repressed by dominant discourses and social norms, such as emotions, eros, the body, and more-than-human world. In other words, as Iovino asserts, "literature became a cultural medium that developed a special sensibility for the ecopsychological and ecocultural impoverishment caused by conformist, standardized structures of a one-sided economic and technocentric modernization" (2014, 57). By reconnecting culturally divided domains, literature reinstates "diversity-within-connectivity" (Iovino 2014, 57) as a creative force for cultural ecology. Nonetheless, despite evolving its cultural creativity, literature is cognizant of its previous developments as well as the long history of the co-existence between culture and nature co-evolution that has been the subject of literary production since its origins. Indeed, the biosemiotic memory of literature is still present symbolically and creatively through imaginative

transformations and metamorphoses between nonliving and human life.

Metaphors take a pivotal part not only in the corpus of literature but also in staging creativity from their sources; this concept lies at the center of research of a cultural ecology of literature, which maintains that creative sources originate from the interaction between mind and matter, as well as biosemiotic and ecocultural processes. By drawing on Jakob von Uexküll's distinction between Umwelten and Innenwelten, cultural ecologist Peter Finke proposes the concept of cultural ecosystems. According to him, language, economics, politics, law, religion, science and literature are examples of cultural ecosystems, which have co-evoluted with the environment, and have gained their own autopoiesis and reproduction mechanisms (Finke in Zapf 1026, 80). Language, in particular, is an essential form of cultural ecosystems, as it transforms communication "in the pre-cultural world of nature into more abstract, symbolic, and generalizing systems of human interpretation and self-interpretation" (Finke in Zapf 2016, 80). Language has allowed the formation of "internal worlds of consciousness" (Zapf 2016, 80) typical of the cultural evolution, and for this reason it has become the medium of literature by critically and creatively examining cultural sign systems. It is important to notice that cultural ecology considers modern human environments not just external but internal; "the inner worlds and landscapes of the mind, the psyche, and the cultural imagination" (Zapf 2016, 80) constitute the human habitat just like the material natural world. For Finke, ecological space "is characterized by webs of complex energetic relationships, and the unceasing processes by which it is shaped are feedback processes: something acts upon something else, and the result of this process, together with additional factors, in turn acts back upon the source" (Finke in Zapf 2016, 163).

Literary texts have always symbolically represented the ramified inteconnection between culture and nature from ancient myths, legends and fairy-tales, in the genres of pastoral and nature poetry but also in modes of the comic, gothic, and grotesque. In particular, the four natural elements of fire, water, air, and earth – which the ancient civilizations considered as the most basic units of nature – are the major contribution to the creation of literary tropes and metaphorical writing; indeed, as Zapf (Zapf in Iovino 2014, 60) explains, "some of the most ancient metaphors of creative inspiration and energy, which have been countlessly recycled in later literary history, are related to the four elements". For instance, fire resembles an uplifting force associated to destructive power and creative energy, recalling both discontinuity and new beginnings, freedom and rebirth. It is most closely linked with heat, light, intensity, and its main qualities are all concentrated in the personification of the ancient figures of the Phoenix, the mythical bird who is reborn from the ashes after dying through fire, or Prometheus, the creator of humans and the inventor of fire. The element of air – especially for the sound and mighty power of the wind – has had an equally powerful

impact on literary creation stemming from natural resources. One of the most successful and memorable example is the character of Ariel in Shakespeare's *The Tempest*, who symbolizes the "merging of wind, music, and art" (Zapf in Iovino 2014, 60). Water in all its forms, such as rivers, are also often employed as inspiration sources. As Zapf (Iovino 2014, 60) reports, springs and fountains represent metaphorical acume and imagination: for instance, in Coleridge's work, Kubla Kahn finds his favorite dome in a "savage place", from where

> chasm, with ceaseless turmoil seething,
> As if this earth in fast thick pants were breathing,
> A mighty fountain momently was forced (Coleridge 1816).

The earth – and the species who inhabit it – however, establishes itself as the omnipresent metaphor for the literary sphere of creativity. For instance, the cycles of fertility, death and rebirth, just like the seasons and the weather and earth's landscapes occupy a central position in the mythical narration of the Magna Mater, symbolizing a great force of creativity (Zapf in Iovino 2014, 61). Literature is also filled with metaphorical figures about plants and vegetation, as symbols of lyrical production, and the animal world; birds are often engaged by poets as they incarnate the cathartic force of poetic discourse, such as the classical nightingale in Keats or, to cite another biophilic work – Melville's *Moby Dick* – the whale stands a signifier of "wild nature turning into a creative principle of the novel's style and process" (Zapf in Iovino 2014, 61).

Literature as a form of cultural ecology, according to Zapf, is levelled on three closely interwoven discourses: "a culture-critical metadiscourse, an imaginative counter-discourse, and a reintegrative interdiscourse" (2016, 103). Responding to the current sociohistorical conditions, the culture-critical discourse of literature indirectly criticizes the hegemonic cultural systems via self-examination "from an overarching ecological perspective of individual and collective survival and sustainability" (Zapf 2016, 103) by exposing the mechanisms created by those very discursive regimes. At the same time, the text imagines an alternative "counter-discursive dynamic" (Zapf 2016, 108), which emancipates the previously marginalized subjects in the prevailing cultural order, releasing its literary creativity. Zapf insists that by representing "radical difference, alterity, and resistance, this imaginative counter-discourse in texts is simultaneously linked with images of nature, the body, the unconscious, dreams, flux, change, contact, openness, vision, magic, multiformity, and biophilic intensity" (Zapf 2016, 109). Through the reintegrative discourse, however, literature manages to merge together the system and its exclusions, thus formally renewing the cultural paradigms. The new, reimagined fictional worlds are formed by the

interaction of what is excluded by conventional cultural praxis, that is, "the different spheres of a society characterized by institutional and economic specialization and differentiation, public and private life, social roles and personal self, mind and body, the conscious and the unconscious, and, pervading them all, the basic ecological dimensions of culture and nature" (Zapf 2016, 114), joining together two culturally separated dimensions in a moment of regeneration. Zapf concludes by arguing that literary texts present "a mode of sustainable textuality, since they are sources of ever-renewable creative energy" (2016, 121). In other words, literature is a self-reflexive, creative cultural model that aims at renewing "ossified forms of language, thought, and cultural practice by reconnecting an anthropocentric civilization to the deep-rooted memory of the biocentric coevolution of culture and nature, of human and nonhuman life" (Zapf 2016, 121). In this context, literature serves as an ecological force in cultural theory, translating new aesthetic forms throughout various historical periods and cultures.

CONCLUSION

The insights of ecofeminist, ecocritical and new materialist viewpoints have provided useful frameworks in the interpretation of literature, in that they revealed the complex interconnections between humans, the environment, and agentic matter through literary analysis. The focus of this research – the examination of possible ways for these theoretical fields to interact with each other – has found ways in which literary works can interfere with, enrich, and expand ecological theory, which for a long time was considered a subject worthy of investigation only for the sciences. With regards to the complexities of the Anthropocene, characterized by unprecedented environmental damage and social inequalities, ecofeminism, literature, and new materialism offer new ways to envision alternative futures rooted in ecological sustainability and social justice. Humanities, thus, have not only proven effective for the understanding of contemporary environmental challenges, but they have also been able to create new cultural paradigms for the interpretation, analysis and investigation of the ecological crisis as well as having revealed the necessity for a multidisciplinary approach in contemporary academia.

Ecofeminism, ecocriticism and new materialism have given significant contributions not only to the literary scope, but also to the ecological theory as a whole, proposing a revised epistemology to counteract what have been identified as traditional ideologies that sustained industrial capitalism, natural resource exploitation, and other types of systemic oppression such as racism, sexism, and speciesism at the expense of the earth's preservation. Ecofeminism, with its foundational critique of patriarchal oppression and the equation with the exploitation of nature and women, illuminates the systemic power dynamics in force in human/nature relationships. Ecofeminism not only challenges imbalanced hierarchies among sexes, but also supports a more holistic and inclusive approach to environmental activism and social justice, as well as assuming and recognizing the interconnectedness of all living beings. In revealing the connections between patriarchy, capitalism, and the ecological crisis, ecofeminism offers a broad analysis that transcends disciplinary boundaries, as well as giving voice to marginalized communities such as women, indigenous peoples, people color, and those communities that are more exposed to the effects of environmental crisis.

By foregrounding the nonhuman world in analyzing literary texts, the ecocritical framework looks at the ways humans interact with nonhuman entities, the role of nature, and cultural associations to the more-than-human world as well as examining the ways in which literature both reflects and shapes attitudes towards the environment. The ideological starting point of ecocriticism is the rejection of traditional anthropocentrism, humanism, and speciesism. An ecocritical analysis

of Woolf's *Orlando* allows for the intersection of both ecofeminist thought and new materialist ontology, as in her novel Woolf presents issues regarding gender, ecology, and material agency, overturning assumptions about the passive role of the environment and reconfiguring humanity's role in it. Moreover, via its literary analysis, ecocriticism offers the possibility of tracing past attitudes towards ecology, which in the case of this research, has highlighted an unexpected link between ecology and modernist literature. Woolf's novel is informed by an anxiety for climate change which is comparable, to some extent, to that found in contemporary climate change novels. Thus, not only ecoctiticism serves as a way to understand the Victorian (or, more amply, modernist) attitude towards the environment, but it also suggests ethical ways to tackle today's climate crisis.

Drawing on post-structuralism, feminist theory and science studies, new materialism also plays a pivotal role in both ecocritical analysis and environmental ethics by expanding the notion of material agency, breaking the mind/matter dualism, as well as proposing a relational ontology that presupposes that all beings are interconnected in similar ways. The epistemic shift of from a mechanistic understandings of life and vitality to a more dynamic, fluid ontology, is relevant for ecocriticism as well as it allows for the conceptualization of matter as 'creative', thus worthy of becoming "storied matter" (Iovino 2014, 29), in Iovino's own words. New materialism has numerous implications for a wide range of disciplines such as philosophy, for its questioning of traditional dualisms, cultural studies, as it promotes the inclusion of the material world in artistic creation, and finally, ecology, as with the suggestion that nature should not be seen merely as a passive backdrop to human action, but a world filled with agentic forces of its own, new materialism paves the way for a renewed sense of ecological awareness.

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