Hacettepe University Graduate School of Social Sciences
Department of English Language and Literature
British Cultural Studies Programme

POSTHUMAN ECOLOGIES IN TWENTY-FIRST CENTURY SHORT ANIMATIONS

Başak Ağın Dönmez

Ph.D. Dissertation

Ankara, 2015

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KABUL VE ONAY

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To my family...

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ÖZET

AĞIN DÖNMEZ, Başak. *Yirmibirinci Yüzyıl Kısa Çizgi Filmlerinde İnsan Ötesi Ekolojiler*. Doktora Tezi, Ankara, 2015.

Çizgi film türünü başlı başına insan ötesi bir çevre olarak tanımlayan bu tez, insan ötesi kuramları çeşitli açılardan ele alarak altı kısa çizgi filmi incelemektedir. Bu çizgi filmler, sırasıyla, Yousif Al-Khalifa'nın yönettiği *End of an Era* (2011), Steve Cutts'ın yönettiği *Man* (2012), James Lee'nin yönettiği *Tarboy* (2009), Shaun Tan ve Andrew Ruhemann'ın birlikte yönettikleri *The Lost Thing* (2010), Seth Boyden'ın yönettiği *An Object at Rest* (2015) ve David Prosser'ın yönettiği *Matter Fisher* (2010)'dır. İnsan ötesi kuramların sosyal, kültürel, etik, politik, tarihsel, biyolojik, kuantum fiziksel, biyoteknolojik ve çevresel kökenlerine dair kapsamlı bir özetle başlayan çalışma, daha sonra insan ötesi kuramcılığın farklı tanımlarını tartışmaya açmaktadır. Bunu takiben, çizgi film türünün örnekleri üzerinden insan ötesi kuramlara bakılmakta ve türün; insanı, hayvanı ve teknolojik cisimleri kendiliğinden bir araya getiren esneklik özelliği incelenmektedir. Yirmibirinci yüzyılda insan veya insandışı bir varlık olmanın anlamı sorgulanmakta, eyleyicilik, kasıtlılık, bilinç, farkındalık ve kişi olma gibi kavramlar tartışılmaktadır. Bu anlamda, bu tez, insan ötesi kuramları üç ana başlık altında toplayarak, yaklaşımlarını insan merkezciliğin ekolojik bir eleştirisi, doğakültürel *Robo sapiens* ve eyleyici-öyküsel madde olarak belirlemiştir. Böylelikle, her bir bölümde, organik ve inorganik, biyotik ve abiyotik, doğal olarak biçimlenmiş ve kültürel olarak üretilmiş, içsel ve sosyal olarak yapılandırılmış olan her ikilem arasındaki ayrımları kırarak, insanı merkeze koyan görüşler incelenmekte, zihin ve beden, doğa ve kültür, özne ve nesne arasındaki, en önemlisi de insan ve insan dışı varoluş biçimleri arasındaki sınırlar yapıbozuma uğratılmaktadır. İnsan ötesi kuramcılık alanlarında çalışan pek çok biliminsanının da desteklemiş olduğu üzere, uygulanan bu yöntemler, daha yeşil ve doğa dostu bir kültürün ortaya atılması için gerekli deneyimsel ve keşfetmeye açık stratejilerdir. Özellikle de her bir türü risk altına alan ve gittikçe hızlanmakta olan çevresel küresel tehditlere bakıldığında, böylesi bir çalışmanın gerekliliği aşikârdır.

Anahtar Sözcükler

İnsan ötesi kuramcılık, Ekoeleştiri, Çevrecilik, Çizgi Film, *End of an Era* (Yousif Al-Khalifa), *Man* (Steve Cutts), *Tarboy* (James Lee), *The Lost Thing* (Shaun Tan ve Andrew Ruhemann), *An Object at Rest* (Seth Boyden)

ABSTRACT

AĞIN DÖNMEZ, Başak. *Posthuman Ecologies in Twenty-First Century Short Animations*. Ph.D. Dissertation, Ankara, 2015.

Defining the animated film genre as a posthuman environment itself, this dissertation strategically employs six short animations, namely, Yousif Al-Khalifa's *End of an Era* (2011), Steve Cutts's *Man* (2012), James Lee's *Tarboy* (2009), Shaun Tan and Andrew Ruhemann's *The Lost Thing* (2010), Seth Boyden's *An Object at Rest* (2015), and David Prosser's *Matter Fisher* (2010), to illustrate the ecological orientations of posthumanism in its various aspects. Starting with a genealogical survey of the social, cultural, ethical, political, historical, biological, quantum physical, biotechnological, and environmental roots of posthumanism, and discussing its diverse definitions, the study provides examples from the animation genre. It then highlights the genre's flexible qualities that bring together the human, the animal, and the technological in a digital landscape. By questioning the meaning of what it means to be human or nonhuman in the twenty-first century, and by calling into question such concepts as agency, intentionality, consciousness, sentience, and personhood, the study draws subtle divisions between three major components of posthumanism. In line with this division, it interprets posthumanism as the ecological critique of anthropocentricism, as the naturalcultural *Robo sapiens*, and as the agentic-storied matter. As such, in each chapter, the human-centred view is deconstructed through the blurred boundaries between the organic and the inorganic, the biotic and the abiotic, the naturally conceived and the culturally produced, the inherent and the socially constructed, mind and body, nature and culture, subject and object, and most importantly, human and nonhuman. These deconstructive methodologies, as indicated by many scholars in the posthumanities, are experiential and exploratory strategies to contribute to the making of a greener culture, especially in the face of ever-accelerating global threats that put every species under risk due to environmental degradation.

Keywords

Posthumanism, Ecocriticism, Environmentalism, Animated Film, Yousif Al-Khalifa's *End of an Era*, Steve Cutts's *Man*, James Lee's *Tarboy*, Shaun Tan and Andrew Ruhemann's *The Lost Thing*, Seth Boyden's *An Object at Rest*

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INTRODUCTION

> Interdisciplinarity has been variously defined in this century: as a methodology, a concept, a process, a way of thinking, a philosophy, and a reflexive ideology. It has been linked with attempts to expose the dangers of fragmentation, to reestablish old connections, to explore emerging relations, and to create new subjects adequate to handle our practical and conceptual needs. Cutting across all these theories is one recurring idea. Interdisciplinarity is a means of solving problems and answering questions that cannot be satisfactorily addressed using single methods or approaches.
>
> —Julie Thompson Klein, *Interdisciplinarity*

> God is a number you cannot count to,
> You are posthuman and hardwired.
>
> —Marilyn Manson, "Posthuman"

Incorporating the study of popular culture products, like animations, into a highly complex interdisciplinary theory (or, to be more precise, theories in the plural), like posthumanism, is a challenging task. However, bringing the visual and the theoretical together is essential in order to fully understand and address our philosophical, ethical, and environmental concerns, which arise from the rapidly changing and merging social, cultural, and technological contexts in the twenty-first century, especially as digital and material bodies are becoming increasingly immersed within one another. Although a collaboration between posthumanism and animations may seem unlikely at first, a closer look at both reveals a common element between these seemingly disparate bodies of work and/or mediums. Both posthumanism and the animated film genre view nonhuman things and beings as agentic, effective, productive, or generative as humans, hinting at a horizontal, rather than a hierarchical, alignment of the human and the nonhuman realms. This is the very idea that lies at the heart of environmental thought.

Acknowledging or imagining such qualities as agency, effect, productivity, or generativity in an other-than-human form is not easy, but in the face of the environmental crisis that threatens the entire planet, it is of utmost importance that we humans replace our anthropocentric mindsets with an ecocentric one. Animated film, as a characteristically ecocentric genre that integrates both human and nonhuman actors, can play a vital role in recalibrating our relations with the rest of the planet in this sense, because animations, particularly those with ecologically oriented tones, may serve as helpful tools for the recognition of nonhuman capabilities. They can be employed as posthumanist apparatuses that bridge the divide between the human and the nonhuman spheres, especially by benefiting from and bourgeoning posthumanism's broad interdisciplinary connections. However, despite the proliferating number of academic publications on the theoretical, cultural, social, technological, and ecological dimensions of posthumanism, and even publications that focus on such aspects as robotics, artificial intelligence, biotechnological developments, science-fiction films, and literary texts, which altogether constitute the posthumanist discourse, as far as we know, the number of studies that analyse animations in an ecological context is very limited, and even more important than this, no study focusing on the significance of animations in posthuman contexts has been conducted so far. Thus, using the theoretical discourses of posthumanism as a new movement, not only in cultural studies and the humanities, but also in social and natural sciences, this dissertation examines six short animations with the aim of contributing to the academic discussions of posthumanism. Since the animations selected in this study inherently involve ecological messages, and since posthumanism itself is the most recent ecological paradigm in cultural studies, in this dissertation they will be brought together in the context of posthuman ecologies. The main objective is, therefore, to expand the posthumanist framework to be more inclusive, by introducing the much neglected medium of short animated films. Before presenting and expanding on the selected animations, however, it is necessary here to clarify what posthumanism is and how it has evolved into a paradigm-changing ecological enterprise.

The most important aspect of posthumanism, as the word itself reveals, is its critical reappropriation and revision of the concept of the human, and its challenge of the

conventional understanding of humanism informed by an anthropocentric mindset, which is formulated and implemented by Cartesian dualism.[1] Posthumanism questions the centralisation of "Man," with a deliberate capitalisation, as the measure of all things, thereby rejecting the uniform configuration of the human, often represented as a white male. By problematising the privileged position attributed to humans at the expense of the nonhuman others, it casts doubt on the superiority and uniqueness equated with this centralised human figure. As such, it subverts human exceptionalism, and blurs the boundaries between, first of all, humans and other beings, such as animals, plants, robotic bodies, and the so-called inanimate matter and impersonal agents like rocks, which will be referred to as nonhumans throughout this dissertation. Posthumanism also closes the gap between nature and culture, information and materiality, and discourse and matter. Having a vast interdisciplinary scope, posthumanism is fed by several fields of study, such as anthropology, biology, zoology, cognitive science, cybernetics, and quantum physics, as well as philosophy of science, gender studies, cultural studies, and environmental ethics and humanities. With the impact of its interdisciplinarity, posthumanism has become a new field of study on its own, and is supplemented by other currently emerging or recently framed fields, such as critical animal studies, queer nonhuman studies, feminist techno-science studies, material feminism, the new materialisms, object-oriented ontologies, and certain branches of ecocriticism, like material ecocriticism and posthuman ecocriticism. These fields are now altogether referred to as the posthumanities,[2] and scholars from these diverse backgrounds give posthumanism its rhizomatic[3] structure, by formulating the concept of the posthuman from their own unique aspects.

Because posthumanism is symptomatically rhizomatic, surveying its genealogical roots as a movement and a body of theoretical works cannot easily follow a linear, chronological path. However, the beginning of such survey can be provided by certain landmark publications, such as Donna Haraway's *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991), N. Katherine Hayles's *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999), Cary Wolfe's *What is Posthumanism?* (2009), and Rosi Braidotti's *The Posthuman* (2013), as these ground-breaking works have foregrounded the body of theories that have basically moulded the

current academic posthumanist discussions in philosophical, technological, literary, and ecological contexts. Following the theoretical grounds of posthumanism within these frameworks, several other scholars have also contributed to the making of posthumanism as a growing bulk of scholarship, which has gained impetus since the 1990s. Among these contributions, Judith M. Halberstam and Ira Livingston's *Posthuman Bodies* (1995), Elaine L. Graham's *Representations of the Post/Human* (2002), Neil Badmington's "Theorizing Posthumanism" (2003) and *Alien Chic: Posthumanism and the Other Within* (2004), Andy Miah's "A Critical History of Posthumanism" (2008), Stefan Herbrechter's *Posthumanism: A Critical Analysis* (2013), Pramod K. Nayar's *Posthumanism* (2014), Tamar Sharon's *Human Nature in an Age of Biotechnology: The Case for Mediated Posthumanism* (2014), and David Roden's *Posthuman Life: Philosophy at the Edge of the Human* (2015) can be considered important steps that have been taken in the development of posthumanism, shaping the field with their distinct approaches from a wide variety of perspectives. What is shared by this multiplicity of publications that seek to theorise posthumanism from diverse angles is that they fundamentally aim to reframe the intermingled relations between the human and the nonhuman, and thus, it is essential to note here that, despite the slight differences between them, almost all academic formulations of posthumanism primarily depend on the refutation of the argument on human centrality, which perpetuates a dichotomous worldview. Inevitably, then, posthumanism's insistent emphasis on the indivisibility of the human from the nonhuman instils an ecological dimension to virtually every configuration of posthumanism in the scholarly sense. After all, it is the human-centred vision of the world that has displaced animals, plants, and all nonhuman forms, conceiving them as tools that exist merely to be exploited for the service of humankind. Since the breakdown of this major dichotomy between human and nonhuman entities is vital to posthumanism and its ecological allies, what follows is a nonlinear timeline that briefly outlines the posthumanist discussions on the human/nonhuman quandary.

Even though the idea of centralising and universalising the human and setting this human figure apart from its nonhuman counterparts owes much to the Renaissance discourses and the Enlightenment ideals, the origins of the human/nonhuman distinction

can be traced back to the ancient Greeks, who had no single term to refer to "life," but rather placed beings into two main sets of hierarchical categories. Instead of referring to life as a concept that belongs to all organisms, the ancient Greeks used two opposing terms: *bios* and *zoë*. These terms, "although traceable to a common etymological root," as Giorgio Agamben notes, are indeed "semantically and morphologically distinct" (*Homo Sacer* 1). While *zoë* stated a simple notion of life, which was common to all living beings, like animals and ordinary people, *bios* conveyed a privileged way of living, specific to certain individuals or groups. In the classical world, this distinction not only denoted a segregation of the public and the private, but also had its connotations of gender-based discrimination, as well as indicating a major separation of the living and the non-living. As Louis van den Hengel writes, "*bios* is socially qualified life, the life of the elite male citizens that make up the polis, whereas *zoë*, as simple natural life, remains confined to the private sphere of the home or *oikos*" (2). The polis was considered to be the political space limited for the authoritative or the institutional power-holders only, who were exclusively male. Therefore, by tradition, *bios* had the implication of *logos*, since the term described the discursive capacity of a certain privileged group, while *zoë* referred to a simple form of life, mainly suggesting a lack of rationality, which was attributed to all those who were deprived of power. *Zoë*, in this regard, was the first term to incapacitate all the beings other than "Man," and as Rosi Braidotti elucidates the term, it meant "the mindless vitality of Life carrying on independently of and regardless of rational control" (*Transpositions* 37; capitalisation in the original). This was, as can be inferred from both Hengel's and Braidotti's explanations, a delineating mark between the human and the nonhuman. It was, in a sense, as Braidotti also writes, "the dubious privilege attributed to the non-humans and to all the 'others' of Man" (*Transpositions* 37; capitalisation in the original). Such separation of the human from animality since ancient times has thus led to the formulation of other binary categories from which exclusionary practices of *–isms* have emerged. After all, humanism, as a "species-specific" discourse that strictly underlines the distinctions between the human and the nonhuman, has been extensively employed to "oppress both human and nonhuman others" (Wolfe, *Critical Environments* 42). This is the main reason why various scholars who have shaped the posthumanities from philosophical and environmental aspects put a persistent emphasis on the breakdown of

the boundaries between the human and the nonhuman. Bruno Latour, for instance, strictly criticises the social construction of a gap between "two entirely distinct ontological zones: that of human beings on one hand; that of nonhumans on the other" (*We Have Never Been Modern* 10-11). Latour underlines the fact that this ontological divide is actually a political one. Likewise, ecocritic Glen A. Love draws attention to the enviro-political consequences of our "notion that human beings are so special that the earth exists for our comfort and disposal alone" (229), and feminist ecophilosopher Val Plumwood also critiques, along similar lines, the outcomes of the *bios*/*zoë* distinction, because, she notes, a dominating culture as such "erase[s] the agency and contributions of women, the body, materiality, and more-than-human world" (19). In line with these environmentalist critiques of liberal humanism, which is integrally exclusionary, posthumanist scholar Cary Wolfe also underscores the links between all forms of human-centred suppression:

> As long as this humanist and speciesist structure of subjectivization remains intact, and as long as it is institutionally taken for granted that it is all right to systematically exploit and kill nonhuman animals simply because of their species, then the humanist discourse of species will always be available for use by some humans against other humans as well, to countenance violence against the social other of whatever species – or gender, or race, or class, or sexual difference. (*Animal Rites* 8)

As many theorists of posthumanism have repeatedly argued, without questioning humans' "privileged relation to *either* the presence or the absence of phallus, language, the symbolic, property, productive capacity, toolmaking, reason, or a soul" (Wolfe, *Critical Environments* 40; emphasis in the original), it is impossible to overcome our "inability to see [ourselves] as ecological and embodied beings" (Plumwood 19). It is this kind of mindset that posthumanism targets, as Wolfe reminds us, by "battling against the strategic deployment of humanist discourse *against other human beings* for the purposes of oppression" (*Critical Environments* 42; emphasis in the original). In posthumanism, the nonhuman environment is "present not merely as a framing device but as a presence that begins to suggest that human history is implicated in natural history" (Buell 6). Thus, the "exclusionary strategies" applied to "women, races, and ethnic groups," as well as "animals, being kept out as slaves, monsters or mere

providers of meat, entertainment or labour" are all linked to the "exclusionary definition of the human" (Nayar 9). Then, the production of the human has always been "carnophallogocentric," to use Jacques Derrida's term, as it is actually the conceptualisation of a privileged, carnivorous, male, speaking subject at the sacrifice of the animal other. The conceptual, material, philosophical, and political act of constant production of the human as such makes the human what Agamben calls an "anthropological machine" (*The Open* 37). However, this alone would not stand as a comprehensive characterisation of the human. Posthumanism, in this context, calls into question the meaning of both the human and the nonhuman from diverse standpoints.

The idea that human and nonhuman realms are inseparable was first implied in Darwin's theory of evolution. The Darwinian approach then can be considered as the initial step in contesting the belief that humans were unique and special beings. It is true that the theory of evolution revolutionised the concept of the human, as it implies that "the species characters are not fixed but change as the effect of chance variation and of selection of those variations that prove relatively well adapted to prevailing environmental conditions" (Sayers 55). This might indicate how significant a role Darwin's theory played in challenging the concept of the human as a central, dominant, and fixed figure that was assumed to be an independent entity from its surrounding exteriority. However, in spite of the slight implications of indeterminism in evolution, Darwin could not avoid an androcentric bias in his account of sexual selection, and is often criticised for this approach that undermined the female of the species as inert and passive. Sue V. Rosser, for example, states that

> [t]he theory of sexual selection reflected and reinforced Victorian social norms regarding the sexes. [. . .] Expanding considerably on the theory first presented in the *Origin*, Darwin specified, in the *Descent of Man*, how the process functions and what roles males and females have in it. [. . .] According to the theory, the males who triumph over their rivals will win the more desirable females and will have the most progeny, thereby perpetuating and increasing, over numerous generations, those qualities that afforded them victory. (57)

In the face of recent conceptualisations of nature as "queer," as can be followed from the edited volumes *Queering the Non/Human* (2008) by Noreen Giffney and Myra J.

Hird, and *Queer Ecologies: Sex, Nature, Politics, Desire* (2010) by Catriona Mortimer-Sandilands and Bruce Erickson, it is clear that the Darwinian heteronormativity does not apply to our understanding of nature in the current era. In fact, no scientific claims concerning the definition of the human, or the nonhuman for that matter, from biological, anthropological, or philosophical perspectives can be full and comprehensive, since they are subject to change. Even if all the processes of the mind and the body were provided in detail, it would still be too reductionist a claim that we have full access to the consciousness of the human or the nonhuman being. In a similar approach and in an endeavour to focus on the relationality of consciousness and organism, Thomas Nagel employs the example of a bat in his often-quoted "What is it like to be a Bat?" (1974)[4]:

> To the extent that I could look and behave like a wasp or a bat without changing my fundamental structure, my experiences would not be anything like the experiences of those animals. On the other hand, it is doubtful that any meaning can be attached to the supposition that I should possess the internal neurophysiological constitution of a bat. Even if I could by gradual degrees be transformed into a bat, nothing in my present constitution enables me to imagine what the experiences of such a future stage of myself thus metamorphosed would be like. The best evidence would come from the experiences of bats, if we only knew what they were like. (227)

It is, without any doubt, difficult to grasp for humans what it means to be a nonhuman. Therefore, Nagel exemplifies our failure to understand nonhuman consciousness, even on a hypothetical level, which echoes attempts for giving a uniform definition of the human, too. Perhaps this is the reason why every definition of human is inevitably based on a similarity to or difference from nonhumans. From an anthrozoologist perspective, for example, humans are considered to be meaning-making animals. However, the suggestive term *Homo sapiens* (wise human), attributed to humans by their own efforts, can also be analysed critically. According to Paul Waldau, the name attributed to *Homo sapiens* distils the way humans make meaning. He states that "humans who boast of their superiority and thereby justify their own privilege by repudiating their animality fall short of the *Homo sapiens* accolade we have bestowed on ourselves" (n.p.). He further argues that other names could be appropriate for the human species, such as *Homo religious* to explain the multidimensional complexity of

human awareness, *Homo ludens* to indicate the essentiality of play in human culture, and *Homo faber* to highlight the focus on tool-making.[5] By further discussing economic and biological perceptions on the meaning of human, Waldau also presents a critique of the labour-centred approach of the nineteenth century (*Homo economicus*), noting that he finds this approach "overwhelmingly inadequate and thereby dysfunctional" (n.p.). Waldau further underlines the failure of Darwinian attempts to explain human uniqueness, considering the wide difference and number of human beings. Hence, he critically reflects on whether there is "human uniqueness" at all. Criticising the prevalence of claims about humans' superiority, he notes that these claims "might, in the face of so much evidence of other animals possessing some of our traits, strike one as justifying new descriptions of humans along the lines of *Homo arrogans, Homo tumidus* ('puffed out'), *Homo superbus* ('supercilious,' 'arrogant') or *Homo vanus* ('conceited')" (n.p.).

Considering Waldau's arguments, the term *Homo sapiens* still privileges human beings since it attributes the quality of wisdom to humans, highlighting the likelihood of a separability between the human and the nonhuman others. Hence, this term continues to assign humans a status at the top of a hierarchical categorisation by "displac[ing] [them] psychoanalytically and zoologically" (Haraway, "Interview" 141). In contrast to this culturally constructed hierarchy, there are many characteristics that humans and nonhumans share; so any attempt to define humans' uniqueness would result in at least a partial failure. Moreover, nonhumans may well have other qualities that humans lack, which would also make them unique. From a moral philosophical outlook, Mary Midgley proposes the term "anthrozoon," and explains that "[a]nthrozoons (or anthrozoa) are presumably humans who are also animals. Since no human has ever been anything *but* an animal, it seems odd that we should now find it hard to grasp this concept" (11; emphasis in the original). According to Midgley, "this whole quest" of answering the question of what makes the human species "*uniquely unique*" is "odd," as she notes such responses as "speech, laughter, use of tools, awareness of death, [and] the upright posture" are not adequate, as "many of them, of course, turn out to belong to other animals as well" (11; emphasis in the original). Midgley's critical question here is important: "Yes, we are indeed in many ways fairly unique, but then, there's a lot of

uniqueness around. Elephants are rather unique, too, aren't they?" she asks, and continues: "And so are termites and porcupines and wandering albatrosses. In fact, most of us seem to be pretty unique, so why would humans be any different?" (11). Along similar lines, but from an evolutionary biological stance, David Sloan Wilson reformulates the question of what it means to be human and proposes the question "'What does it mean to be species X?' – where X is any biological species other than humans," so as to be able to fully grasp the meaning of human, which is related to the "central mission of understanding the relationship between humans and nature" (17). He asks: "What does it mean to be an *E. coli*, an oak tree, a monarch butterfly, or a polar bear?" and argues that "[e]ach species is a product of evolution in relation to its environment," referring to "the measurable properties of such a species – what an evolutionary biologist would call its *phenotype* – which is fully amenable to scientific understanding" (17; emphasis in the original). He further explains:

> *E. coli* has the properties required to survive and reproduce in the human gut. Monarch butterflies sequester the toxic compounds of milkweed plants for their own defense and undertake an amazing migration to survive the seasons. Polar bears are white to conceal themselves from their prey and have myriad other adaptations to survive the arctic environment. (17)

As can be seen from these different viewpoints, the uniqueness and superiority attributed to humans as "the measure of all things" are interpreted as cultural constructs. Every species could be considered to be the measure, depending on the environment. From a philosophical standpoint, too, examining the human through the discourses of human nature and the essence of the human is, in fact, an anthropocentric approach. This is also challenged by Michel Foucault, who calls "Man" "an invention of recent date" (*The Order* 387). Underlining the scientific processes through which the concept of the human and its behaviour were investigated and written about, Foucault has indicated three areas within which the human was perceived and conceptualised: life (as a biological being), labour (as an economically productive being), and language (as a cultural being). For Foucault, the human subject was formed through the humanist belief that the cognitive processes are unique to humans; but the concept of the human as a sovereign subject, he argues, is a cultural construct. Therefore, Foucault questions

the ideal view of the human as an autonomous, sovereign, free-willed subject. As he questions the state of "man" as a "meaning-making animal," he contends that the meaning is generated by the human subject as the agent of historical consciousness. He also adds that it is essential to know if the institutional structures allow the subject to see something as true or false. In the Foucauldian view, every society has its "regime of truth" (*Power/Knowledge* 131), and truth is "the ensemble of rules by which the true and the false are separated" (*Power/Knowledge* 132). At the same time, he calls into question rationality, one of the very basic elements of humanism, as he interrogates the "naturalness" of the authority of reason or rationality over madness. Accordingly, what the humanist ideals define as "deviant" is put under surveillance by the institutional tools of the governing bodies. To be considered "normal," the human being needs to be utilisable in the economic sense. As self-identity is constituted within power relations, there is no single true identity that is independent of discursive practices of power. Hence, despite his very slight reference to the nonhuman animals, if not to call this a complete disregard of them, Foucault's observations regarding the so-called "essence of human" also help reflect critically on the meaning of being human. He condemns universality based on the alleged superiority of the white male subject and heteronormativity that excludes the so-called inferior and/or monstrous others.

Advancing all these views from a wide variety of approaches, posthumanism highlights the erasure of such dichotomies as true/false (as constructed or situated knowledges), rational/mad, and human/nonhuman, thereby rejecting the exclusionary definitions of the human. Accordingly, the human subject and the nonhuman as its other are both replaced by a posthuman emergence. Since "the human body itself is largely inhabited by nonhuman genomes" (Hengel 3), the classical distinction between *bios* and *zoë* become meaningless. Following this undone distinction, it becomes clearer that "all living beings are symbiotically related to the biological and technological worlds that sustain them" (Hengel 4), because "the decentering of the human by its imbrication in technical, medical, informatic, and economic networks is increasingly impossible to ignore" (Wolfe, *What is* xv). If the human is so deeply enmeshed in such networks, then what emerges as a result is a posthuman subject, which, according to Katherine Hayles, is "an amalgam" that brings together the organic and the inorganic. As Hayles notes in

her inaugural book *How We Became Posthuman,* such fusion of the human and the nonhuman is "a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction" (3). The onset of posthumanist discussions, marked by the publication of Hayles's introductory framework, is thus directly related to both the decentralisation of a liberal humanist subject and a new subjectivity that designates the human and the nonhuman as intimately bound together. This major paradigm shift, which heightened its stimulus when Hayles published *How We Became Posthuman,* was preceded and followed by several attempts, from both popular and academic aspects, to conjecture posthumanism in the late 1990s and the 2000s. For example, 1998 witnessed the release of Marilyn Manson's industrial rock/glam rock album, *Mechanical Animals,* which not only involved a song entitled "Posthuman," as quoted in the second epigraph, but also displayed Manson himself on its cover as a gender-bending figure that virtually approximated the image of the posthuman, at least on a symbolical level, as a hybrid body. The album's telling title also carried allusions to the increasingly enmeshed networks of humans and nonhumans, indicating a symbiosis of humans, animals, and machines. In the academic sense, Judith Halberstam and Ira Livingston's *Posthuman Bodies* was the first publication that defined "posthuman bodies" as "the causes and effects of postmodern relations of power and pleasure, virtuality and reality, sex and its consequences," when the authors compellingly argued that the posthuman body is "a technology, a screen, a projected image; it is a body under the sign of AIDS, a contaminated body, a deadly body, a techno-body; it is . . . a queer body" (3). Following a similar path to Halberstam and Livingston in drawing attention to the marginalised others, Elaine Graham also drew on the concept of otherness as an embodiment of the posthuman, and she regarded aliens and monsters as powerful images to portray the posthuman. Her posthumanism focused on "the interplay between the world of scientific, bioethical theorizing and the world of the cultural imagination – myth, science fiction, popular culture and religion" (n.p.), as she contended in her "The Politics of the Post/Human" (2003). In her *Representations,* too, Graham referred to our world as a posthuman world "in which humans are mixtures of machine and organism, where nature has been modified (enculturated) by technologies, which in turn have become assimilated into 'nature' as a functioning component of organic bodies" (10-

11). Thus, she underlined the indivisibility of nature from culture and the born from the made. Likewise, Neil Badmington also viewed posthumanism as "working-through of humanist discourses" ("Theorizing Posthumanism" 22), and sharing a common point with Graham, he wrote in *Alien Chic* that the human and the nonhuman no longer stood as binary oppositions to each other. He maintained that "aliens might well be expected to find themselves welcomed, *loved*, displayed and celebrated as precious treasures" (3; emphasis in the original), thereby indicating an affirmative blurring of boundaries between the distinctly positioned territories of the human and the nonhuman. Badmington, like several other posthumanist scholars, set posthumanism "upon the moments at which humanism begins to deconstruct itself" (*Alien Chic* 11). This deconstruction, as Andy Miah also concurred, "implie[d] an emergent leap from some present status of being human, to a future characterization as *after* humanity" (76; emphasis in the original). For these scholars, this characterisation signified an intersection between the past, the present, and the future. As Halberstam and Livingston aptly put, it denoted "the overlap between the now and the then, the here and the always" (3). As such, posthumanism derived its multiple meaning-making strategies not only from the enmeshment of the human and the nonhuman bodies, but also from its time-bending, compound configurations. Therefore, "the annunciation of the posthumanity is always both premature and old news" (Halberstam and Livingston 3). Posthumanism's recurring reference to "*after* humanity," thus, marks the end of a human-centred worldview, rather than indicating a catastrophic finale for the human species, as Katherine Hayles also maintains:

> [The posthuman] signals instead the end of a certain conception of the human, a conception that may have applied, at best, to that fraction of humanity who had wealth, power, and leisure to conceptualize themselves as autonomous beings exercising their will through individual agency and choice. (*How We Became Posthuman* 286)

The deconstruction of the human as an autonomous subject, on similar grounds to Hayles, is more recently underscored by Pramod K. Nayar, who, in his book *Posthumanism*, has strongly emphasised the concept of the posthuman as a merger of organic and inorganic agents. According to Nayar, the posthuman incorporates all

"systems, including human ones," which are always "in a state of emergence rather than a state of being" (9). In this state, the system as a whole does not exist independently of its components, but emerges with them, as it is "constantly traversed by information flows from the environment" (Nayar 9). In other words, neither humans nor nonhumans are simply pre-existing entities that are surrounded by an antecedent exteriority. They are inherently enmeshed with one another and with the environment, so they are in a state of flux and in an emergent condition. Within this reconfiguration, the human is thought of as part of both technology and other organisms, as it has "co-evolved with" them (Nayar 35). Therefore, the human body is no longer the human body as we know it, because it is a conglomerate of microorganisms like bacteria and other life forms. Moreover, it is increasingly influenced by the proliferation of technologies. Since all life forms are interdependent and they co-evolve with technology, in the posthumanist view there is nothing that makes humans unique or superior to nonhuman others. Not being an independent and monolithic entity, the human is then theorised as the posthuman. The concept of the posthuman, thus, signifies a two-way exit out of the concept of the human as we know it: It marks both a reconfiguration of the liberal humanist subject and an always already evolving positionality that conjoins the human and the nonhuman as inextricably linked. It is in these two senses that posthumanism can be read as both *post*-humanism and *posthuman*-ism.[6]

Predictably enough, as an outcome of these views, posthumanism underlines the significance of a more horizontally aligned understanding of agency, value, knowledge, and existence. In other words, in posthumanism these concepts are rethought and distributed more evenly among the human, the animal, and the technological, as Katherine Hayles, in a way that recalls Marilyn Manson's album title, notes: "now, as in the past, the human, the animal, and the technological are joined in shifting configurations of value" ("Unfinished Work" 60). Embracing a change in perspective as such will surely contribute to our reworking of the solutions to the environmental crisis, by which the entire planet, with all its life forms, is endangered. With the undeniable impact of the growing hole in the ozone layer, melting glaciers, increased toxicity levels, and irreversible biodiversity loss, which put every species under risk, and with "ecological hazards that are constantly enumerated in reports of habitat destruction,

pollution, extinctions of animal species, and escalating climate change" (Chrulew 33), posthumanism calls for a new and radical adjustment in our perceptions of the complex entanglements of the planetary existence. In this, rather than centralising the human as the root of the solution to the crisis, posthumanist outlook focuses on an ontologically and ethically reassessed worldview. Such an innovative perception, as several posthumanist scholars, especially Rosi Braidotti underlines,

> rest[s] on an enlarged sense of inter-connection between self and others, including the non-human or 'earth' others. This practice of relating to others requires and is enhanced by the rejection of self-centred individualism. It produces a new way of combining self-interests with the well-being of an enlarged community, based on environmental inter-connections. (*The Posthuman* 48)

It is clear that there is an urging need for a sense of inter-connection as Braidotti suggests, because we have recently recognised that our planetary existence is under threat; and following this, we have also realised, especially in view of the latest developments in biotechnologies, robotics, and cybernetics, that we need to change our understanding of the human to address this threat effectively. Despite the fact that these developments in the late 1990s and the 2000s have spurred the conceptualisation of the posthuman in the philosophical and cultural sense, the concept of the posthuman as a conglomerate of the living and the non-living bodies has not been an entirely new idea, specific to the twenty-first century contexts. Preceding the posthumanist theory itself, the idea of the posthuman was, in fact, sketched as early as the seventeenth century with Thomas Blount's use of the word "posthumain" in *Glossographia* (1656), as Oliver Krüger notes in *Virtualität und Unsterblichkeit: Die Visionen des Posthumanismus* (2004), referring to the *Oxford English Dictionary*. In the literary sense, it is also possible to find posthuman elements in the fictional characters of the novel genre, such as the hybrid monster of Mary Shelley's *Frankenstein* (1818), the gender-, time-, and space-bending protagonist of Virginia Woolf's *Orlando: A Biography* (1928), and the techno-lab progenies of Aldous Huxley's *Brave New World* (1932). Although these fusions of science and myth do not exemplify the full characteristics of the posthuman as a complete erasure of dichotomies, they have doubtlessly helped conceptualise posthumanism and paved the way for the merger of the human and the nonhuman as the

posthuman, in both the scientific and theoretical sense, owing to their flexibility and fluidity. The original scientific roots of posthumanism are, however, found in the Macy Conferences (1941-1960), which were a series of meetings and seminars that brought together scholars and scientists from various disciplines.[7] In these meetings, which hosted "cybernetics" as well as linguistic, psychological, psychiatric, and cerebral studies, discussions over "information and materiality" held an important place, along with a number of consultations on "automaton," "self-regulating mechanisms," game theory, homeostasis, "feedback loops," and relativity, as Hayles also notes (*How We Became Posthuman* 54-56). These seminars, which later paved the way for Hayles's conceptualisation of the posthuman as a virtual "body" with mutual "flows of information" between itself and "the environment" (*How We Became Posthuman* 200), heralded a framework for posthumanist theory in the cybernetic sense and indicated the emergence of a posthuman figure as both an informational and a material entity. Still, despite the significant effect of these series of meetings at the dawn of the posthumanities, the theoretical and philosophical background for posthumanism is considered to have emanated from Ihab Hassan's 1977 article "Prometheus as the Performer: Toward a Posthumanist Culture? A University Masque in Five Scenes," which is acknowledged as the first critical engagement with the idea of the posthuman. Back then, the term posthumanism started to "gain currency," as Ursula K. Heise also notes, because it came out "as part of postmodernist critiques of Enlightenment thought, particularly the assumption that all human beings can be described in terms of a cross-cultural and transhistorical essence on which humanist perspectives might rely" ("The Posthuman Turn" 454). It is in this postmodernist sense that Hassan's article fuelled posthumanist discussions. Indeed, intended as a postmodern parody, this article is the first philosophical text to indicate a conflation of human mind with nature, in that it mentions an "emergent [. . .] posthumanist culture" (831). Through the characters of Text and Pretext, Hassan asserts that "[t]here is nothing supernatural in the process leading us to a posthumanist culture. That process depends mainly on the growing intrusion of the human mind into nature and history, on the dematerialization of life and conceptualization of existence" (835). Hassan's posthumanism is "the technologization and cyborgization of the human and its immersion within an expanding technoculture" (Herbrechter 35). Therefore, it describes a process that begins with the human

involvement with technology, and it is "based on a combination of imagination, science, myth and technology, a process which began with Prometheus or the discovery of fire by prehistoric 'man'" (Herbrechter 34), hence the title. In other words, despite the fact that posthumanism at present involves a larger scale of studies, Hassan, obviously, centralises to his argument the transformation brought about by the improvements in technology. Accordingly, his posthumanism is predominantly moulded by an emphasis on "artificial intelligences [which] help to transform the image of man, the concept of the human," so he primarily assesses these artificial intelligences as "agents of a new posthumanism" (846). Thus, considering the focuses of Macy seminars and Hassan's article, it is clear that the early models of posthumanism stress a change in the concept of the human, with a highlight on humans' increased relations with technology, rather than underscoring the nonhuman-material aspects which were incorporated into the discussions with the work of Donna Haraway.

Bringing the missing component of the material to the front, and accentuating the entanglement of "material-semiotic" actors (*Simians, Cyborgs* 208), Donna Haraway's metaphor of the cyborg brought a new dynamism to the posthumanist discussions in the 1980s, when, as Ursula Heise also states, "the questioning of the boundaries between human and machine" were foregrounded ("The Posthuman Turn" 455). Although intended as a feminist-political metaphor in the beginning, and despite Haraway's hesitation to mark her own work as posthumanist,[8] the figure of the cyborg has been the precursor of much of posthumanist debate at present. This 1985 metaphor of the cyborg,[9] which is defined by Haraway herself as "a cybernetic organism, a hybrid of machine and organism" (*Simians, Cyborgs* 149), is a key mark in several ways. First, as a hybrid creature that transcends the boundaries of gender and race, the cyborg mangles myth and reality. Second, it breaks the boundaries between the human and the nonhuman, as it highlights a kinship of the human with the animal and the machine. Third, and perhaps as its most important characteristic, this amalgam of "machine and organism" merges "social reality and fiction" (Haraway, *Simians, Cyborgs* 149), exhibiting boundary breakdowns between nature and culture, mind and body, the discursive and the material, and the self and the other. Thus, in a posthuman landscape like Haraway's, "technology is neither friend nor foe, but emerges as a possibility or

potentiality to reconfigure bodies and identities outside of self/Other relations" (Toffoletti 21; capitalisation in the original). In this sense, the cyborg presents quite an affirmative outlook; it signals "emancipatory and utopian hopes connected with the transcendence of a merely 'natural' human form at that moment" (Heise, "The Posthuman Turn" 455). Haraway herself sees the cyborg as a "salvation history," in which there lies "an effort to contribute to socialist-feminist culture and theory in a postmodernist, non-naturalist mode and in the utopian tradition of imagining a world without gender, which is perhaps a world without genesis, but maybe also a world without end" (*Simians, Cyborgs* 150). Therefore, the cyborg is totally different from the dystopian science-fiction scenarios, where the posthuman body is thought to emerge as a super-body that erases the entire humanity from the planet. In this respect, Haraway clarifies her point that the cyborg is a metaphor for the female figure under the threat of male-dominant capitalism. She writes about the cyborg as a tool for fighting against the exclusionary *–isms* of Western scientific and political discourses:

> By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation. In the traditions of 'Western' science and politics – the tradition of racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the productions of culture; the tradition of reproduction of the self from the reflections of the other – the relation between organism and machine has been a border war. The stakes in the border war have been the territories of production, reproduction, and imagination. (*Simians, Cyborgs* 150)

Through this metaphor, Haraway builds her argument based on "*pleasure* in the confusion of boundaries" and "*responsibility* in their construction" (*Simians, Cyborgs* 150; emphases in the original). With this, she notes that the cyborg is a "myth" about "transgressed boundaries" and "potent fusions," and she intends to resist against the "deepened dualisms of mind and body, animal and machine, idealism and materialism in the social practices, symbolic formulations, and physical artefacts associated with 'high technology' and scientific culture" (*Simians, Cyborgs* 154). In the posthumanist sense, therefore, it is possible to rethink the shifting configurations of value and agency among "cyborg, dogs, oncomouse™, brain, database," all of which Haraway refers to as

"family of kin" ("Interview" 144). In fact, shifting from the cyborg metaphor to the companion species, Haraway "ha[s] come to see cyborgs as junior siblings in the much bigger, queer family of companion species" (*Companion Species* 11), which involves not only technological bodies, but also animals and plants. This is an entire conglomerate of all things and beings, which are both in direct and indirect interaction with the human.

Enthused by Haraway's concept of the cyborg, as a figure "thoroughly breach[ing]" the border between human and animal (Haraway, *Simians, Cyborgs* 151), and her use of the term naturecultures,[10] to signify the indivisibility of these socially constructed categories, several scholars have proposed theories of posthumanism, approaching posthumanism from diverse viewpoints. Yet, it must be noted that not all insinuations of the term posthumanism come with critically engaged or ecologically oriented intentions that underline the importance of materiality as Haraway does. Often mistakenly popularised under the "posthuman" label, transhumanist approaches to human-technology relations privilege information over materiality, being still imprisoned within a human-centred approach. In *Mind Children: The Future of the Robot and Human Intelligence* (1988), for instance, Hans Moravec imagines "a postbiological world dominated by self-improving, thinking machines" (5), and thereby explores the possibility of downloading human consciousness into a computer. Similarly, Robert Pepperell, in *The Posthuman Condition: Consciousness beyond the Brain* (1995), focuses on human enhancement to achieve greater functionality or productivity, as part of humanity's faith in progress and improvement. Aside from these examples that euphorically embrace the idea of using technology to attain super-human powers, there are also those admonitory accounts, in which the posthuman body is associated with prosthetic and bioengineered bodies alone. For example, in *Our Posthuman Future: Consequences of Biotechnology Revolution* (2002), Francis Fukuyama expresses his concerns over the futuristic implications of proliferating biotechnologies, warning against their catastrophic consequences for those bodies that are not technologically enhanced. The underlying presumptions of these texts are also exemplified through a vast number of animations and films, especially through science-fiction dystopias, in which the world is always saved by a super-human hero. These digressions from

posthumanism, which dislocate humans from their embeddedness in the material world, however, are harshly criticised in the critical accounts of posthumanism. As David Roden maintains: "Rather than dreaming of the uploaded minds or intelligent robots to come, critical posthumanism attempts to understand and deconstruct humanism from within, tracing its internal tensions and conceptual discrepancies" (9). Despite the accuracy of certain points made by Roden, his argument could still be debated within the context of critical accounts of posthumanism. In tune with Roden's observations on what *does* and what *does not* signify what posthumanism is, it is important to underline that this study does not incorporate a transhumanist sense of posthumanism that seeks to restore the human as the ultimate powerful agent whose fallibilities are overcome and whose longevity is guaranteed through technological enhancements. But, technology and the dreams of intelligent robots are acknowledged as inherent parts of posthumanism, which exist not simply for the service of humankind, but *do play* their equally important parts in shaping accounts of the world we *co-inhabit*. The cybernetic aspect is, thus, an inevitable part of the posthuman subjectivity; however, as Katherine Hayles also underlines, "the posthuman does not necessarily require that the subject be a literal cyborg" ("The Posthuman Body" 243). Although cybernetic bodies are a part of posthumanist discussions in the academic sense, they are not the only way the concept of the posthuman can be defined by. In other words, the informational aspect of the posthuman is only one of its many faces. As Hayles writes, "[n]ew models of subjectivity emerging from such fields as cognitive science and artificial life imply that even biologically unaltered specimens of *Homo sapiens* are posthumans" ("The Posthuman Body" 243). Even more important than this, as Hayles emphasises, embodiment, or the material aspect of the posthuman, is what makes it an alternative critique of the liberal humanist subject as the centre of the universe. In Hayles's words:

> Indeed, one could argue that the erasure of embodiment is a feature common to *both* the liberal humanist subject *and* the cybernetic posthuman. Identified with the rational mind, the liberal subject *possessed* a body but was not usually represented as *being* a body. Only because the body is not identified with the self is it possible to claim for the liberal subject its notorious universality – a claim that depends on erasing markers of bodily difference, including sex, race, and ethnicity. ("The Posthuman Body" 245; emphases in the original)

As this quotation makes it clear, what is signified by the posthuman subject is not to be confused with humanoid robots, which are generally thought to be more reliant on their informational capacities than their bodily formations, and which are considered to have incredibly increased bodily capabilities due to transformative informational prostheses they possess. An understanding as such would simply reduce posthumanism to a robotic culture superseding the human. Hayles further explores the potential comparisons between information and materiality, extending this argument to the case of human DNA, and discusses whether DNA can be purely associated with *the human body itself*. Human body, too, has both an informational (DNA as codes) and a material aspect (the instantiation of these codes in proteins). As such, Hayles critiques the definition of the human as more inscriptional than corporeal, thereby evaluating any possibility of downloading human consciousness into a computer, as fantasised by Moravec. She notes: "To suppose that a human can be telegraphed or downloaded assumes that we are *essentially* inscriptions rather than incorporations" ("The Posthuman Body" 247).

This is not to suggest, however, that any posthumanist attempt to deconstruct the liberal humanist subject should refrain from any reference to a potential partnership between the human and the machine. Instead of trying in vain to avoid the inevitable, the posthumanist endeavours in the academic debates have often underscored the possible alliances between humans, animals, and technology. This naturally recalls Ursula Heise's brief survey of the convergence between the digital, the human, and the animal bodies in the posthumanist framework. As Heise writes, "digital technologies have continued to fuel posthumanism to this day," but certain biotechnological advances, such as "The cloning of Dolly in 1996" and "the mapping of the human genome in 2003" brought about a different view of the posthuman ("The Posthuman Turn" 455). Accordingly, not only human-machine relations, but also human-animal relations were as important to portray the posthuman as a kinship, or as a symbiosis of the organic and the inorganic. As such, as Heise also underlines,

> [n]ot only has the emergent area of 'animality studies' produced a new wave of theorizations of the animal, but fiction, film, and videogames have also taken up the question of whether and how humans should be considered a species apart, and

> what the implications might be of posthuman perspectives that approach them as one animal species among many. ("The Posthuman Turn" 455)

Conceived this way, posthumanism in its current formulation sees technology not as a mere tool to modify human mental and bodily capabilities to create an entirely new species; but rather, it views technology as an ally to resist our basic assumptions about the so-called ontological divide between animals and humans. After all, as Heise also notes, "our increased knowledge about humans and animals no longer justifies this divide" ("The Posthuman Turn" 454), nor does it support our hubris to consider ourselves superior to other species. Still, the reliance on machines and technology make humans companion to cyborgs, without necessarily having biotechnologically altered bodies in the literal sense. Indeed, Katherine Hayles herself also admits, "although the posthuman has been variously defined, most versions include as a prominent feature the joining of humans with intelligent machines" ("Refiguring the Posthuman" 312). Therefore, the animated films to be examined in this dissertation, despite their allusion to dystopian ends of the world and techno-sentient bodies, are selected specifically to indicate the potentials of affirmative collaborations of humans, nonhumans, and machines, without privileging one over the other. Hayles's words, again, below best epitomise this critical posthumanist stance that the animations analysed in this study underline:

> If my nightmare is a culture inhabited by posthumans who regard their bodies as fashion accessories rather than the ground of being, my dream is a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life is embedded in a material world of great complexity, one on which we depend for our continued survival. (*How We Became Posthuman* 5)

It is obvious that a posthumanist stance as such involves a sense of liberation from "historical bondage and finitude" as "'human' and 'nature' are [not] fixed categories," as opposed to the traditional view (Sharon 6), so the *post-* in posthumanism has a non-derogatory use. It reflects on the emerging possibilities to reposition the human from a central and allegedly unique post to a more horizontal realignment with the animal and

the machine, underlining "the kinship" between them, to once more borrow Haraway's words. The prefix *post-*, therefore, does not approve of the privilege attributed to information over materiality. This is clearly because, as Katherine Hayles states, posthumanism considers "embodiment in a biological substrate" to be "an accident of history rather than an inevitability of life" (*How We Became Posthuman* 2-3). It regards consciousness as an "epiphenomenon" and a "minor sideshow" in determining "human identity," and it views the body as "an original prosthesis" whose manipulation or extension is a process that starts before birth; and finally, it configures humans in a way that acknowledges "seamless" articulations with "intelligent machines" (Hayles, *How We Became Posthuman* 2-3). The formulation of a posthuman identity is, therefore, one that is "neither fixed nor containable, but instead, is always shifting, changing, and incomplete" (Vanderwees 74). It relies heavily on a more ecologically concerned formula for the emergence of this mode of being – one that is based on a sense of becoming, a sense of interconnectedness, and of producing new ways of extracting mutual negotiations between the self and the other, which in this case, profoundly draws on the relationship between the human and the surrounding environment. Such an ecological approach is a powerful source of inspiration for the theoretical framework of posthumanism, as it signals a shift from antagonism to embracement; it is "the historical moment that marks the end of the opposition between Humanism and anti-humanism" (Braidotti, *The Posthuman* 37; capitalisation in the original), through which the boundaries between the human and the nonhuman are eroded. This interconnected understanding of the human in terms of its relations with the environment inevitably means "looking more affirmatively towards new alternatives" (Braidotti, *The Posthuman* 37), instead of de-ontologising the human. This is a shift away from the view of the human as a privileged, central category towards a new understanding that underlines the co-emergence and co-existence of all beings. In such a posthuman environment, we all become "material-semiotic" actors in the making, in Haraway's inspirational words. Posthumanism, in this sense, connects with the new materialist theories, which see no separation between material practices and discursive meaning-making strategies. Thus, what needs to be emphasised here is the fact that the new materialist paradigm has undeniably placed posthumanism in a more ecological

trajectory. It is, therefore, necessary to give a brief outline of the new materialist theories that are now becoming an indispensable part of posthumanism.

Underlining the complex interrelations of discourse and matter, the new materialists seek to bring "the materiality of the human body and the natural world into the forefront" (Alaimo and Hekman, "Introduction: Emerging" 1). The core feature that lies at the centre of the new materialist paradigm is "a challenge to some of the most basic assumptions that have underpinned the modern world," and these assumptions not only include the "normative sense of the human and its beliefs about human agency," but they are also concerned with our "material practices, such as the ways we labor on, exploit, and interact with nature" (Coole and Frost, "Introducing the New" 4). In the new materialisms, *every being and thing* is considered *active* and *alive*. "The world's radical aliveness," as Karen Barad writes, "comes to light in an entirely nontraditional way that reworks the nature of both relationality and aliveness (vitality, dynamism, agency)" (*Meeting the Universe* 33). This new model of ontology reconfigures "core philosophical concepts such as space, time, matter, dynamics, agency, structure, subjectivity, objectivity, knowing, intentionality, discursivity, performativity, entanglement, and ethical engagement" (Barad, *Meeting the Universe* 33). Reconceiving these terms in radical expansions, the new materialists reject the image of the nonhuman as inert, passive, and inanimate, and underline the co-existence of both "human and nonhuman, material and discursive, and natural and cultural factors" (Barad, *Meeting the Universe* 26), and they employ interesting topographies to illustrate their points. Stretching from waste, toxicity, and natural disasters to medical apparatuses, the grounds for explaining the co-constitutive agencies of the human and the nonhuman in the new materialist paradigm are accumulated within a wide assortment of landscapes. Heavily relying on various fields from quantum physics and biology to politics and ecology in pursuit of "contextualiz[ing] the human being within the material environment of the biosphere" (Sullivan 83), the new materialists argue that the ontological divide between the human and the nonhuman leads to fatal consequences for the biosphere. To bridge this gap, they bring the agentic powers of the nonhuman bodies to the foreground, suggesting that both humans and nonhumans play critical parts in shaping the accounts of the world as we know it.

In the new materialist paradigm, agency is reconceptualised to denote "agency without agents, a foundational, perpetual becoming that happens without will or intention or delineation" (Alaimo, "Trans-Corporeal" 247), which, in other words, signifies a sense of becoming, or effecting without intentionality. To explain this, Stacy Alaimo, for instance, draws attention to "material interchanges between human bodies and the environment," and she puts forward the term "trans-corporeality" to indicate "a mobile space that acknowledges the often unpredictable and unwanted actions of human bodies, nonhuman creatures, ecological systems, chemical agents, and other actors" (*Bodily Natures* 2-3), bringing a horizontally realigned outlook towards human-nature relations. Accordingly, trans-corporeality is "a new materialist and posthumanist sense of the human as perpetually interconnected with the flows of substances and the agencies of environments" (Alaimo, "Oceanic Origins" 187). This interconnection is highlighted both within and outside the human body. In fact, the human body itself, as an assemblage of microbes, viruses, and chemical substances, indicates the interdependence of human and nonhuman bodies, and therefore, it is the very epitome of the fact that the human is not a self-contained entity, so it cannot assume a superior agency to other forms of life and matter. Recalling Jane Bennett's reference to "nonhuman powers," which are "circulating around and within human bodies" (ix), or, to be more precise, "bacteria colonies in the human elbow" (120), it is clear that the human subject no longer possesses the agentic throne in such co-existent states of enmeshment. This also resonates with Ladelle McWhorter's instance of dirt, which portrays an easily graspable picture of agency without "integrity," enacted by both "natural" and "cultural" components:

> 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. (166)

As this particular example also demonstrates, agency in the new materialisms is not only recomprehended as the property of all biological entities, ranging from humans to microorganisms, but that of inorganic things, like stones, dirt, dust, or personal

computers as well, thereby challenging the normative definition of the concept, which is often viewed as synonymous with human intentionality, consciousness, and other human attributes such as decisive action. Instead of reducing agency to human characteristics, thus, the new materialist paradigm magnifies the term to encompass a sense of "distributive agency," and to indicate the "vitality of matter," in Jane Bennett's words. In the theory of distributive agency, the human factor is not only one of the components that shape natural phenomena or cultural practices, but natural phenomena or cultural practices themselves are also considered as inseparable from each other and the human component. In this new posthumanist ontology, agency is understood as a shared component among the human and the nonhuman, which, however, should not be taken as a fatalistic approach that de-ontologises, and thus, resigns the human from any act of responsibility. Rather, it should be understood as a coalescence of multiple agencies at work, both human and nonhuman, which also requires humans to rethink their policies and cultural practices, and to produce new guidelines in conducting their relations with the rest of the planetary inhabitants. As Bennett also claims, the vitality of matter does not necessarily mean that matter reaches a biological form, but its agency can be defined as the "function of the tendency of matter to conglomerate or form heterogeneous groupings," and hence, it can never be thought of as separate from the human realm; "the locus of agency is always a human-nonhuman working group" (xvii). Rebuilt in a different import, thus, agency becomes the capacity to change the course of events, to activate strokes, or to alter matter or information completely, through which the active and dynamic nature of matter and the nonhuman is emphasised. This is a "lively new ontology" (Barad, *Meeting the Universe* 33), where both organic and technological bodies, including silicon-based forms and chemical elements, actively participate in the fluctuating enmeshments of social and natural phenomena, such as political decisions and ecological disasters. Bennett elucidates this point by referring to the affectivity of the assemblages of human and nonhuman bodies,[11] which means that they co-agentically produce effect:

> [B]odies enhance their power in or as a heterogeneous assemblage. What this suggests for the concept of agency is that the efficacy or effectivity to which that term has traditionally referred becomes distributed across an ontologically heterogeneous field, rather than being a capacity localized in a human body or in a

> collective produced (only) by human efforts. The sentences of this book also emerged from the confederate agency of many striving macro- and microactants: from 'my' memories, intentions, contentions, intestinal bacteria, eyeglasses, and blood sugar, as well as from the plastic computer keyboard, the bird song from the open window, or the air or particulates in the room, to name only a few of the participants. What is at work here on the page is an animal-vegetable-mineral-sonority cluster with a particular degree and duration of power. (23)

Aside from the example of her book *Vibrant Matter: A Political Ecology of Things*, as an exemplar of "an animal-vegetable-mineral-sonority cluster" activating the writing process, which is employed to explain the reformulation of agency as distributive and comprehensive in the form of heterogeneous assemblages, Bennett further explores the instance of the electrical power grid, which she defines as "a material cluster of charged parts that have indeed affiliated, remaining in sufficient proximity and coordination to produce distinctive effects" (24). Put in a much simpler way, the power grid is "a volatile mix of coal, sweat, electromagnetic fields, computer programs, electron streams, profit motives, beat, lifestyles, nuclear fuel, plastic, fantasies of mastery, static, legislation, water, economic theory, wire, and wood" (25). For Bennett, this cluster of social practices, abstract forms, impersonal agents, and inorganic matter is alive, not necessarily in the biotic sense, but it is actually an active, agentic, and vital congregation of varied constituents, which are altogether capable of enacting consequences that transfigure the course of events in a whole new direction. In other words, each of the elements in the knot has affectivity, which means that *every being and thing* involved in such cluster performs crucial roles, along with their human counterparts and their cultural practices, in configuring the accounts of the world. As Bennett explains:

> The elements of the assemblage work together although their coordination does not rise to the level of an organism. Rather, its jelling endures alongside energies and factions that fly out from it and disturb it from within. And [. . .] the elements of this assemblage, while they include humans and their (social, legal, linguistic) constructions, also include some very active and powerful nonhumans: electrons, trees, wind, fire, electromagnetic fields. (24)

For Bennett, this new materialist breakdown of the human-nonhuman boundary, or in her own words, "the vital materialist approach," can be further extended to explicate the

human and nonhuman actors behind the 2003 blackout that was experienced in North America. She notes that this blackout was "the end point of a cascade of voltage collapses, self-protective withdrawals from the grid, and human decisions and omissions," explaining that the grid, in its material aspect, already includes diverse elements such as "various valves and circuit breakers that disconnect parts from the assemblage whenever they are threatened by excessive heat" (25). She also highlights the importance of The U.S.-Canada Power Outage Task Force report, which was released after analysing the causes and effects of this blackout, "insisting on a variety of agential loci" (26) in locating the reasons behind this enormous power cut. The agentic powers that led to the blackout, as the report has also indicated, included diverse human and nonhuman elements, ranging from material to cultural actors. Bennett's extensive list of these elements, which she derives from the report, involve

> electricity, with its internal differentiation into 'active' and 'reactive' power [. . .]; the power plants, understaffed by humans but overprotective in their mechanisms; transmission wires, which tolerate only so much heat before they refuse to transmit the electron flow; a brush fire in Ohio; Enron *FirstEnergy* and other energy-trading corporations, who, by legal and illegal means, had been milking the grid without maintaining its infrastructure; consumers, whose demand for electricity grows and is encouraged to grow by the government without concern for consequences; and the *Federal Energy Regulatory Commission*, whose Energy Policy Act of 1992 deregulated the grid, separated the generation of electricity from its transmission and distribution, and advanced the privatization of electricity. (26)

Such conglomerate of agents and their vitality is crucial to the new materialist paradigm, as it showcases the agentic powers of nonhuman actors entangled with social practices. However, Bennett's multi-faceted cluster of electricity, understaffed power plants and flawed transmission wires, lack of maintenance in the infrastructure, consumers, or policymakers is not the only ground for explaining this new sense of agency. In the environmental context, Nancy Tuana draws upon Hurricane Katrina. In her inquiry into this ecological disaster, Tuana indicates "the urgency of embracing an ontology that *rematerializes the social and takes seriously the agency of the natural*" (188; emphasis in the original). Tuana introduces the term "viscous porosity" to highlight the indivisibility of borders between the natural and the cultural, the discursive and the material, and the social and the biological. Through what she calls an

"interactionist account" of "*emergent interplay*" (189; emphasis in the original), she analyses the circumstances that have led to the emergence of Katrina as a devastating natural phenomenon. "Katrina came into being," she writes, "because of a concatenation of phenomena—low pressure areas, warm ocean waters, and perhaps swirling in that classic cyclone pattern are the phenomena of deforestation and industrialization" (192). Apart from these "natural" causes, however, she also refers to the human impact, which she sees as inseparable from the natural ones. Thus, clarifying the intermingled relations between the human and the nonhuman factors that have brought about Katrina, she notes that "material agency is often involved in interactions, including, but not limited to, human agency" (194). She continues:

> Does it make sense to say that the warmer water or Katrina's power were socially produced, rendering Katrina a non-natural phenomenon? No, but the problem is with the question. We cannot sift through and separate what is 'natural' from what is 'human-induced,' and the problem here is not simply epistemic. There is scientific consensus that carbon dioxide and other greenhouse gases are raising the temperature of the Earth's atmosphere. These 'natural phenomena' are the result of human activities such as fossil fuel combustion and deforestation. But these activities themselves are fueled by social beliefs and structures. (193)

As clarified by this illustration, in the theory of distributive agency, the "root or cause of an effect" is not an independently existing, self-reliant human subject, but a "web teeming with meanings" (Wheeler, "The Biosemiotic Turn" 270), a network of agents, both human and nonhuman. As many new materialist scholars argue, the nonhuman agents are not limited to other-than-human biological organisms or sentient beings only, but also refer to "impersonal agents, ranging from electricity to hurricanes, from metals to bacteria, from nuclear plants to information networks" (Iovino and Oppermann, "Introduction: Stories" 3-4). In this "landscape of interactions" (Alaimo, *Bodily Natures* 70), the new materialists battle against the "mind-matter and culture-nature divides of transcendental humanist thought" (Dolphijn and van der Tuin 96), and hence, fundamentally defamiliarise the common understanding of causality. By re-calibrating the cause-effect relationship in a nonlinear way of thinking, the new materialist paradigm highlights nonlinear "assemblages" of effect, which "resonate with and against their 'causes,' such that the impact of any added element […] or set of elements […] cannot be grasped at a glance" (Bennett 42). The agency of these added elements is

"slowly brought to light as the assemblage stabilizes itself through the mutual accommodation of its heterogeneous components" (De Landa, *Intensive Science* 144). Therefore, the new materialist scholars claim that "the very ontology of entities emerges *through* relationality" (Kirby, *Quantum Anthropologies* 76; emphasis in the original). In other words, in the new materialist understanding, "things (or matter) draw their agentic power from their relation to discourses that in turn structure human relations to materiality" (Iovino and Oppermann, "Introduction: Stories" 4). The human and the nonhuman, therefore, both emerge "in the interaction (relationality, cross-overs and mergers) of discourse and materiality" (Nayar 24). The concept of interaction, however, is also redefined in the new materialisms. According to Karen Barad, what is meant by interaction is actually "intra-action," which is one of the key terms that has significantly altered the trajectory of posthumanism at present. For Barad, "intra-action" cannot be interchangeably used with interaction because the latter term presupposes a separate existence of entities, whose relations to and influences upon one another emerge *after* their antecedent presence. However, Barad claims that there are no independent entities or agents pre-existing their acting upon one another. In Barad's words, "subjects and objects do not preexist but rather emerge from their *intra-action*" ("Erasers and Erasures" 2; emphasis in the original), by which she means the individual agents do not *not* exist; but they co-exist in an entanglement:

> To be entangled is not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-contained existence. Existence is not an individual affair. Individuals do not preexist their interactions; rather, individuals emerge through and as part of their entangled intra-relating. Which is not to say that emergence happens once and for all, as an event or as a process that takes place according to some external measure of space and of time, but rather that time and space, like matter and meaning, come into existence, are iteratively reconfigured through each intra-action, thereby making it impossible to differentiate in any absolute sense between creation and renewal, beginning and returning, continuity and discontinuity, here and there, past and future. (*Meeting the Universe* ix)

Noting that "the world and its possibilities for becoming are remade in each meeting," or in "each intra-action" (*Meeting the Universe* x), Barad also underlines the fact that matter and meaning cannot be seen as separate formulations since they are also produced through relationality, and that the effects that are produced materialise only

when they are enacted through what she calls “agential cuts.” To explain such complex entanglements of matter and meaning-making practices, and what she means by “agential cuts,” Barad draws upon a famous experiment in quantum physics, which is known as the Stern-Gerlach experiment.[12] This experiment on the deflection of particles has significantly demonstrated that electrons and atoms have intrinsically agentic quantum properties, and that it is those properties that affect the weird behaviour of quantum mechanics. Indeed, Stern-Gerlach experiment is a key mark in explaining the quantisation of space, not only because it challenges the classical view of Newtonian physics, as well as defying the old understanding of quantum physics, in which the central nucleus of an atom is surrounded by a set of concentric electrons, but also because it has indicated that measurement in quantum mechanics has an impact on the system being measured, and that this impact was not limited to the symbolic level. In this experiment, particles, or silver atoms to be more precise, were sent through an inhomogeneous magnetic field to hit a screen, which was to display the distribution of the particles. The expected result of the experiment in the classical physics would be a continuous pattern on the screen. However, due to the quantum nature of what physicists call “the spin,” the particles did not exhibit a continuous pattern, but through their angular momentum, they showed discrete points on the screen when they were deflected from their straight path by the magnetic field. “The basic idea” behind this experiment was that “if a system of two spin particles initially in a state with zero combined spin angular momentum disintegrated into two separated particles their spin states would be correlated. Thus a measurement on the spin state on one particle provides information on the spin state of the other” (Wennerström and Westlund 174). However, Barad does not focus on this quantised account of atoms and electrons alone, but brings the impact of the human cultural practices to the foreground in her analysis of the experiment. In other words, through this experiment, Barad illustrates the fact that it is not possible to distinguish the human agent (the observer) from the thing being observed, and nor is it possible to do so for the tool of observation. After all, to the surprise of Stern and Gerlach, the quantised outcome of the experiment was elicited only when the beams of the heated silver atoms on the plate got entangled with the sulphur from Stern’s cigar-smelling breath. Underlining that “the traces [of the beam on the screen] only gradually emerged when Stern held the plates in his hands and studied

them at a distance close enough so that the plates could absorb the fumes of Stern's sulfuric breath," Barad explains how the cheap cigar that Stern smoked influenced "the magical success of this historic experiment" (*Meeting the Universe* 165). Inspired by this "enchanted" moment, she writes: "If it hadn't been for Stern's tobacco habit coupled with his relative impoverishment, the duo [Stern and Gerlach] might have given up hope of finding any trace of space quantization, which refused to show itself in the absence of a little helpful cajoling from the cigar's sulfurous fumes" (*Meeting the Universe* 165). This is not, however, as Barad also insistently clarifies, to suggest that the cigar was the only agential element in prompting the outcomes of such experiment. There is a more complex set of relations (between what Barad calls "material-discursive practices") that reside within this account because the cigar does not simply function as a material entity that influences the outcome through the chemical impact of the sulphur on the heated silver, but it comes to denote "the experimenter's intrinsic identity (e.g., his gender and class)," which is linked to his "personal" influence on the results. Barad argues that material-discursive practices are both "conditions of possibility" and "conditions of performative actions that produce phenomena inseparable from the apparatuses of production" at the same time ("Erasers and Erasures" 2). She points out that the performative action of Stern's cigar-smoking habit, which, then, was characterised by his gendered and scientific identity, evolved into a condition of possibility that triggered the result of the experiment. Nevertheless, as Barad warns, this does not mean that there is a direct link between cigar-smoking and gender, but the point is that "material practices that contributed to the production of gendered individuals also contributed to the materialization of this particular scientific result [. . .]: 'objects' and 'subjects' are coproduced through specific kinds of material-discursive practices;" therefore, "Stern's gendered and classed performance of masculinity (e.g., through his cigar smoking) mattered" (*Meeting the Universe* 167). Barad, then, connects the inseparability of materiality from discursive (or cultural) practices to the inseparability of nature and culture, and the social and the scientific. She emphasises that these seemingly individual agents are enacted through "agential cuts:"

> [. . .] the world isn't naturally broken up into social and scientific realms that get made separately. There isn't one set of material practices that makes science, and another disjunct set that makes social relations; one kind of matter on the inside,

> and another on the outside. The social and the scientific are co-constituted. They are made together – but neither is just made up. Rather, they are ongoing, open-ended, entangled material practices. The goal is therefore to understand which specific material practices matter and how they matter. What we find in this particular case is that gender performativity, among other important factors including nature's performativity, was a material factor in this scientific outcome. (*Meeting the Universe* 167)

Here, the focus is on a "posthumanist performativity," which encompasses gender and nature performativity, and thereby "subverts the distinctions between human and nonhuman," along with those between the subject and the object (Hekman 22). In such posthumanist performativity, "human and nonhuman agents are associated in networks and evolve together in those networks" (Pickering 11). This is "a space in which the human actors are still there, but now inextricably entangled with the non-human," and the human actors are "no longer at the center of action and calling the shots. The world makes us in one and the same process in which we make the world" (Pickering 26). In fact, "*how the material world is* leaks into and infects our representations of it in a nontrivial and consequential fashion" (Pickering 183; emphasis in the original). As Barad's explanations demonstrate, "apparatuses are not static laboratory setups but a dynamic set of open-ended practices, iteratively refined and reconfigured" (*Meeting the Universe* 167); and as seen in the case of Stern-Gerlach experiment, the material and the discursive are so connected to each other that drawing boundaries between the experimenter's identity, the observational tool (the apparatus), and the particles (or matter) being observed is practically impossible. The agential cuts, here, however, are enacted through the sulphur in the cigar, which functions as part of the apparatus due to its entanglement with the heated silver, and thus formulates the relationality of the emergent outcomes. In Barad's words:

> [A]*pparatuses are the material conditions of possibility and impossibility of mattering*; they enact what matters and what is excluded from mattering. Apparatuses enact agential cuts that produce determinate boundaries and properties of 'entities' within phenomena, where 'phenomena' are the ontological inseparability of agentially intra-acting components. [. . .] It is only through specific agential intra-actions that the boundaries and properties of 'components' of phenomena become determinate and that particular articulations become meaningful. [. . .] Hence *apparatuses are boundary-making practices.* (*Meeting the Universe* 148; emphases in the original)

Through her theory of "agential realism," Barad asserts that matter and meaning are "inextricably fused together, and no event, no matter how energetic, can tear them asunder" (*Meeting the Universe* 3). This is an "epistemological-ontological-ethical framework that provides an understanding of the role of human and nonhuman, material and discursive, and natural and cultural factors in scientific and other social-material practices" (Barad, *Meeting the Universe* 26). Meaning, for Barad, is "an ongoing performance of the world in its differential intelligibility" (*Meeting the Universe* 335), which destabilises the binary opposition between materiality and discursivity by underscoring the intrinsically material nature of discourse and the inherently discursive capacities of matter.

Another significant example by Barad that illustrates what it means to equally position matter and discourse is energised by a reinterpretation of Niels Bohr's quantum physics experiments and a reanalysis of Judith Butler's social constructivist approach to gender. Through her "diffractive reading," that is, by reading Butler and Bohr through one another, Barad examines the use of sonogram. With its use in obstetrics, the function of the sonogram is to follow the development of a foetus, and in this regard, it seems, on the surface, to be simply a medical device. However, as Butler notes, the sonogram is also a device of "medical interpellation," which engenders the human foetus as a gendered subject prior to birth (7-8). Elaborating on and expanding Butler's argument, Barad insists that such medical interpellation does not occur on the discursive level only, claiming that ultrasonography "does not simply map the terrain of the body; it maps geopolitical, economic, and historical factors as well" ("Getting Real" 93). To illustrate the integration of the material and the discursive in the use of sonogram, she argues that it is not simply a human-to-be and its gendering process that should be considered here as Butler does, but there is another human body that hosts it. The physical, social, and cultural capabilities or restraints of that body also play a crucial role, along with those of the medical observer and the technological and physical capacities of the observational tool. Therefore, the use of sonogram technology, according to Barad, is not simply a medical apparatus that is utilised to display the image of a developing foetus, nor is it only a socio-historical device that politicises the body of a mother. Because the knowledge and interpretive orientations of the observer,

in this case, of the medical practitioner, cannot be considered to be independent from social, economic, political, and historical limitations, the scientific claims of pure objectivity fall too short to be segregated from these socio-cultural contexts. Barad specifically uses Bohr's quantised accounts of apparatuses – which Bohr refuses to consider "passive observing instruments," but as "part of the phenomena" – to state that it is difficult to determine where the apparatus begins and where it ends, recalling the case of Stern's cigar. In the case of the sonogram, too, it is difficult to distinguish where the mother's body and its physical abilities and/or limitations, where those of the technological device, and where the socio-political context (in which the medical observer is to comment on the results) begin and end. Therefore, from the perspective of Barad's "agential realism," in which matter and discourse play their equally important parts, the foetus is not a "pre existing [sic] object of investigation with inherent properties" ("Getting Real" 115). It is both part of and includes the phenomena and the apparatuses. As Barad writes, "[i]t is not a given that the 'object' is a self-contained, free-floating body located inside a technomaternal environment; rather, this identification is the result of particular historically and culturally specific intra-actions of material-discursive apparatuses" ("Getting Real" 115). As such, Barad emphasises that the piezoelectric transducer functions as a "prosthetic device" that "mak[es] and bridg[es] boundaries" ("Getting Real" 100), not only between the human and the machine, but also between the medical and the ethical, and the discursive and the material:

> The piezoelectric transducer is, on one account, the machine interface to the body. The transducer is both the source and the receiver of ultrasound waves. [. . .] A multitude of factors influence the image produced on the screen. Different kinds of tissue have different acoustic impedances; the reflection of the beam varies with the interface geometry, and the differences in impedances between the materials making up an interface. Furthermore, the beam resolution is a function of the frequency and different applications require different transducers. Each piezoelectric transducer has a natural resonant frequency which depends on the sample thickness and the mounting of the transducer element in the assembly, among other factors. Producing a 'good' ultrasound image is not as simple as snapping a picture; neither is reading one. ("Getting Real" 101)

As Barad further explains, in view of the material and the discursive aspects working together, the body cannot purely be considered a tool for power relations which are

inscribed on it through discursive practices. After all, “power is transmitted through the repeated application of pressure on the body,” and “the body reacts to the forces [. . .] and becomes not simply the receiver but also the transmitter or local source of the signal or sign that operates through it” (“Getting Real” 87). As Barad underlines, “It is this responsiveness of the body that makes it the effect and instrument of visualizing technologies” (“Getting Real” 87). Pointing out that “ultrasound technology is a historically and culturally specific practice, involving discursive and material elements, that has differential effects on different bodies and lives,” Barad thus highlights the importance of taking account of “the material constraints” in having access to such technology, as well as “material dimensions of regulatory practices” (“Getting Real” 92-93). These regulatory practices are bound by not only the material aspects of the human body, such as tissues and organs, but also by the material aspects of the apparatuses that are used as part of scientific and medical observations, like the sonogram, which are also products of material-discursive practices themselves. Put differently, then, the material and the discursive are to be always already held and thought together, since the bodies (of the foetus, of the mother, and of the apparatuses), in their material scope, are actively engaged within discursive practices. In this sense, it is also important to bear in mind what Barad emphasises: The ultrasound technology was, after all, produced as a result of “SONAR technologies” used in both World Wars. Its military and political implications paved the way for its use in “obstetric applications” in the 1950s, and “by the mid-1960s, obstetric ultrasound gained wide acceptance by the medical community. A decade later ultrasound was regarded as integral to the practice of obstetrics” (“Getting Real” 100). The ultrasound technology, in its evolutionary trail from military use to gynaecology, stands as a great exemplar of how the material and the discursive are shaped through one another.

Although these examples and explanations clearly display how the combination of matter and discourse shapes our interactions as posthuman ecological bodies, here perhaps another and a plainer illustration is necessary, in order to simplify what it means to have materiality and discursivity functioning simultaneously. Reducing the argument to the most basic terms, our relationship with the environment is a two-edged sword. On the one hand, there is the belief in scientific progress, spurred by the liberal

humanist discourse. This leads to human cultural practices of exploitation of nonhuman others and to a view of nature as a resource. On the other hand, environmental degradation caused by human activity necessitates a change to reshape our ways of thinking and acting because it threatens the entire planet. 1997 Kyoto meeting can be a good example of an attempt to change our mindsets. This summit was held to re-evaluate our political, economic, scientific, and cultural strategies that had so far resulted in increased carbon release levels. To reduce pollution, decision-makers from diverse backgrounds, who were clearly among those power-holders modelling the discourse, came together. However, the meeting was not simply an issue of power relations or discursive practices. It was called for by a "material" need, a corporeal truth, and an earthly requirement, which entailed the sustainability of the entire planet. Fuel combustion, for instance, which increased carbon dioxide emissions and threatened the well-being of the entire biosphere, was one major concern in this get-together, indicating a need for a shift in our understanding. Needless to say, this pollution (as the material aspect of the issue) was caused by our own failures in conducting our relationships with nature, as a result of our discursive fallacies. As such, Kyoto introduced limitation targets on greenhouse gas emissions, thereby aiming to make a change in the material (to prevent further pollution of the environment) by altering the discursive (our cultural, economic, and political practices). Clearly, therefore, Kyoto meeting, with the protocol in its aftermath, stands as an explanation for how the material and the discursive practices influence and are influenced by one another. This meeting has revealed that understanding the entanglement of matter and discourse lies at the heart of dealing with the environmental crisis, which posthumanism intends to signpost. Notwithstanding the clarity of the Kyoto case, however, the agency of matter is not immediately imaginable at all times, especially in the subatomic, molecular, or the cellular level, which posthumanism draws a lot upon, as can be observed in the instances provided by the new materialist scholars. Because examples and terminologies from the natural sciences like cellular biology and quantum physics play an important role in theorising posthumanism, the idea of matter as an operational actor is not always easy to grasp at once. Apparently, conjuring up nonhuman agency at work is a challenging task, but is also crucial for reconfiguring our relations with nature.

In a posthumanist venture to explicate nonhuman agentic capacities in both scientific and literary ways, material ecocritics Serenella Iovino and Serpil Oppermann have followed the same train of thought as that of material feminists and the new materialists. Their aim was to bring together what is scientifically proven in the nonhuman realm and what addresses the imaginary landscapes of the human. As can be followed from their notable publications,[13] they also draw upon the agencies of material bodies, in both textual and bodily senses, and they have, likewise, employed many examples from diverse fields, encompassing both the social and the natural sciences. It is clear at first glance that, like the new materialisms, material ecocriticism as formulated by them has also reinforced the understanding of the nonhuman as active, agentic, and animate. Like the new materialisms, material ecocriticism, too, in its objectives for a horizontal alignment of the human and the nonhuman, is an essential companion to posthumanism in rejecting the "break-it-and-fix-it mentality of some environmental rhetoric, a mentality informed by the assumption that human agents (knowingly or inadvertently) create ecological problems, but can readily solve all of them at will with the right technology" (Phillips and Sullivan 446). Then, as foregrounded and theorised by Iovino and Oppermann, these new and vital approaches to matter *matter* without any doubt, in regulating our relations *with* and *as* posthuman ecologies.

Recognising their own vitality in providing creative and lively accounts for a better understanding of the human-nonhuman relations, material ecocritics have advanced the discourse that *everything is a text*, arguing that *no discourse can exist without matter*. Thus, what lies at the core of the material ecocritical argument is that there is an intrinsic link between the material and the textual. Playing a crucial role in shaping what this dissertation calls "posthuman ecologies" to refer to the embodiment of these natural, cultural, technological, economic, political, social, historical, ecological, material, and textual aspects altogether, material ecocriticism underlines "an emergent interplay" within the ecologies that are within, around, and among us. This is what emerges through the relationality between the human and the nonhuman factors. Material ecocritics also see agency as "pervasive and inbuilt property of matter, as part and parcel of its generative dynamism" (Iovino and Oppermann, "Introduction: Stories" 3). "From this dynamism," Iovino and Oppermann write, "reality emerges as an

intertwined flux of material and discursive forces, rather than as complex of hierarchically organized individual players" ("Introduction: Stories" 3). Building their argument upon the Harawayan "material-semiotic" actors and the new materialists' theories that help us rethink nonhuman agency, Iovino and Oppermann "[examine] matter both *in* texts and *as* a text, trying to shed light on the way bodily natures and discursive forces express their interaction whether in representations or in their concrete reality" ("Introduction: Stories" 2; emphases in the original). In fact, in Oppermann's words, "situated in the conceptual horizons of the new materialist paradigm, material ecocriticism views matter in terms of its agentic expressions, inherent creativity, performative enactments and innate meanings. It asks us to rethink the questions of agency, creativity, imagination, and narrativity" ("Material Ecocriticism" 55). Formulated as such, material ecocriticism provides a more easily understandable approach to what Iovino and Oppermann call "mattertext," which is the coalescent body of matters and texts that are inherently embedded within one another. Mattertext, formulated like the inseparably bound categories of nature and culture under the term "naturecultures," indicates the embedded narrativity within matter, and it explicates the story-telling capacities of multiple life forms and the so-called inanimate matter. From biological organisms to igneous rocks, from volcanoes to hurricanes, from bee communities to whales, from metals to lithic compositions, mattertext is everywhere, and as such, material ecocriticism signifies a "vast spectrum of creativity" which "extends into all networks of vital materialities" (Oppermann, "Material Ecocriticism" 59). These networks of vital materialities, which are capable of telling stories, can perhaps be better explained by examples from biology and geology. The human DNA, for instance, encoded as "information" or "text" within proteins, as the material aspect of the human body, can be analysed by medical scientists to understand the medical history of a patient. It is through these encodings and their decoded analyses that the body, which is composed of both matter and text, creates narrative potentialities. Likewise, the "flesh of the world," to use Nancy Tuana's words, also tells stories to the human observer, who is not independent from the stories s/he "reads." The geological strata of the planet, which can be thought of as the bodily natures of the world, bear narrative capabilities in both material and textual forms, as the strata transmit the naturalcultural marks of every epoch that the planet has been through, which, after all,

gives scientists the chance to read and understand the (hi)story of the world. Hence, in the polyphonic naturecultures of the planet, in its corporeal and inscriptional aspects, matter and text are always already enmeshed, and as such, matter is always already storied.

The "storied-matter" or the stories of all these vibrant networks, then, as Oppermann writes, "enable us to discern the meanings of material intimacies inseparable from the human dimension" ("Material Ecocriticism" 59). "These stories, in the form of active creativity," as Oppermann proposes, "emerge through the interplay of natural-cultural forces, trajectories, and flows, forming constellations of matter and meanings" ("Material Ecocriticism" 59). In other words, what Nancy Tuana calls "a viscous porosity of entities" (200), becomes the enmeshment of human and nonhuman actors narrating stories all at once in material ecocriticism. In this sense, material ecocriticism is the ultimate form of a plurality of multiverses. It is the agentic voice of the nonhuman actors all at once.

This is the conceptual horizon within which this dissertation analyses animations. Building upon all these diverse contributions to the posthumanities, this study contends that, like all the literary and material bodies, animations are also posthuman agents that tell stories. They not only do this through their narratives, but also through their digital bodies, which materialise through the involvement of information networks and human cultural practices. Ecologically oriented animations that focus mainly on the human-nonhuman relationship, therefore, are examples of storied-matter in the sense that their narrativity is doubled through an intertwined network of multiple agencies, both human and nonhuman, and both fictional and real, as the digitally emerging actors within the body of the animated text are also active agents of narrativity. Thus, animations can be likened to Baradian "phenomena," only in a smaller scope, as they also enact agential cuts through their performativity, by which they provide a better means of understanding how the human species relate themselves to the rest of the living and the agentic world. Animations can serve as helpful tools for the indication of how the centralised human figure creates environmental degradation. The discourse and the

aesthetic strategies employed by ecologically oriented animations can help us envision our relations with nonhumans and shape our understanding of "intra-active" relationalities, in the Baradian sense. These relationalities emerge *with*, *through*, and *as* posthuman ecologies. In other words, all of these create an effect on the way humans think and act, while at the same time, the thoughts and actions of human beings change in a way to reformulate their relations with nature. Thus, our changing material-discursive practices reshape the production of animations as apparatuses to enhance our possibilities to imagine ways of nonhuman agency. Needless to say, then, the animated film genre, as an important posthuman landscape, hosts and promotes ecological thought, and helps develop a greener culture. However, due to its being a popular genre which is often thought to be aimed at children, the study of animated film is much neglected as a serious academic field. Besides, despite the proliferation of environmental messages that underlie many Japanese animes and American animations, as Ursula K. Heise also underlines, no serious study considering animations as a posthuman environment has been carried out. But, the study of animations can elucidate many of our pressing problems in our cultural realms, as Heise approves:

> Long neglected as an object of serious study, animated film has attracted a great deal of attention over the past decade and a half in a whole range of studies that engage with its history, aesthetics, and politics. The astonishing breadth of visual styles that digital animation has made possible (including the crisp photorealism of many wholly imaginary worlds), the engagement with serious historical and political issues, and the global fascination with Japanese anime have no doubt all contributed to this surge of interest. Rather than light entertainment for children, animation now presents itself to the public as a mature visual genre that is able to address issues ranging from war and discrimination to technological innovation and environmental crisis. ("Plasmatic Nature" 301).

As Heise further notes, contemporary environmental crises "figure explicitly in blockbusters [. . .] and more indirectly in a host of other animated films concerned primarily with urban landscapes, futuristic technologies, and processes of modernization and globalization" ("Plasmatic Nature" 302). Carrying an equal importance to this environmental aspect, being digital environments that often thematise humans' relations with animals, nature, and technology, animations are the embodiment of a posthuman environment itself. Their material-textual features make animations a viable tool for the

demonstration of both bodily and discursive constructions of human and nonhuman identities, hence fortifying the impact of posthuman ecological messages than any other literary or visual genre could give. There are certain qualities that contribute to this, as the animated film genre incorporates many of the characteristics of the posthuman: First, animation is a worldwide, trans-species, inter-cultural, and boundary breaking phenomenon. Second, it articulates a multicultural understanding that would also encompass nonhuman species and agentic matter. And finally, and most importantly, it helps transcend boundaries due to the flexibility it offers. It is for these reasons that this study incorporates posthumanism and animations as mutually dependent and promising networks, which are necessary for further enhancement of an understanding of human-nonhuman entanglements.

Although the idea of considering animated film as a posthuman environment is exceptional to this dissertation, even the earliest attempts to capture motion or to convey the perception of motion involve nonhuman animal figures in flexible forms. For instance, in Palaeolithic cave paintings, animals are often illustrated with several legs in superimposed positions, demonstrating the inherent fluidity of animated bodies. While the original figure had four legs, the drawing that endeavoured to create a sense of motion included multiple legs. Thus, the animated figures can almost always be considered posthuman hybrids of the real and the fictional, bearing in mind the qualities that are attributed to characters. These figures also combine the naturally conceived and the culturally fabricated, as they bring together the animal as a biological being and the figure of the animal as a cultural artefact of human production. The animated film, therefore, is a unique genre that makes it possible to move and perceive nature and culture beyond fixed boundaries, offering instead a multiplicity of transgressions between human and nonhuman domains. It not only enables the viewer to envision posthuman ecologies more tangibly than in real life cases, but it also stands as the only genre that has always equally treated the human and the nonhuman. Indeed, in terms of their employment in the stories, humans and nonhumans are given equal opportunities. It is through the digital embodiment of the posthuman subject that humans are animalised and animals are humanised. Thus, many nonhuman actors have come to be better known than their human counterparts in blockbusters, among whom perhaps by

far the best known ones are Mickey Mouse, Donald Duck, Snoopy, and Garfield, just to name a few. The earliest animations, predating these figures, also revolved mainly around the stories of nonhuman characters. For instance, Winsor McCay's *Gertie the Dinosaur* (1914), which is considered to be the first successful character animation, is one of the earliest animated films that involve a nonhuman figure.[14] Other notable examples, such as Felix the Cat in *Feline Follies* (1919) and Oswald the Lucky Rabbit in *Trolley Troubles* (1927), are among the earliest nonhumans to invade the "human domain." In no other genre could such an invasion be possible.

In addition to all these qualities, the animated film genre can also be considered a posthuman environment due to its viability for the construction of the concept of the posthuman itself. The animated form has the capacity to attach itself to any life form, a potential that always already exists in the posthuman. This fluidity of the animated film genre and the way it lends itself toward posthumanist modes of interpretation can be explained through the Soviet filmmaker Sergei Eisenstein's term "plasmaticness," which draws upon the myth of Proteus, the son of Poseidon, god of the sea, who, in Greek mythology, had the ability to change his shape at will (or to foretell the future). Eisenstein's "plasmaticness," which he defines as "a rejection of once-and-forever allotted form, freedom from ossification, the ability to dynamically assume any form" (21), provides animation with a kind of "omnipotence," by which the genre surpasses elasticity and pushes the boundaries of physical reality:

> A being of a definite form, a being which has attained a definite appearance and which behaves like the primal protoplasm, not yet possessing a 'stable' form, but capable of assuming any form and which, skipping along the rungs of the evolutionary ladder, attaches itself to any and all forms of animal existence. [. . .] One could call this the *protean element*, for the myth of Proteus (behind whom there seems to be some especially versatile actor) – or more precisely, the appeal of this myth – is based, of course, upon the omnipotence of plasma, which contains in 'liquid' form all possibilities of future species and forms. (21; emphasis in the original)

These potentialities for liquidity in the animated film that allow more than simple anthropomorphic portrayals makes the genre viable for a polymorphic stance, which is

elastic, not fixed. Still, also drawing upon the relations between the portrayal of nature in animations and Eisenstein's notion of plasmaticness, Ursula Heise warns that these basic features of the animated film, that is, "the prominence of nonhuman actors and the portrayal of plasmatic bodies," can be read as engagements with increasing mechanization and commodification in twentieth-century societies, as well as with the broader subjection of human, animal, and plant bodies to industrial regimes of categorization and control" ("Plasmatic Nature" 304). In the posthumanist sense, it is less obvious, yet more productive, to consider the animated film genre as a posthuman symbiosis, where agency is no longer considered to be the distinguishing quality unique to humans. Animations make it easier for the audience to grasp nonhuman agency, which is otherwise "difficult to imagine" (Alaimo, *Bodily Natures* 245). They are well-functioning templates for facilitating a betterment of human-nonhuman relations. "Speaking and acting animals, plants, and objects," which appear as the crucial elements of animations, as Heise writes, underlining the significance of the genre in environmentalist thought, "invite the viewer to see humans as only one of many manifestations of liveliness, intentionality, and agency in the fictional worlds of animation" ("Plasmatic Nature" 305). Endorsing the environmentalist role the animations play in re-shaping our relations with other species, she continues:

> Plasmatic bodies, both human and nonhuman, might seem to defy environmentalist worries about the fragility of nature, but they also playfully explore ecological adaptation, resilience, and the synthetic, human-made ecologies that define the future of nature in the Anthropocene,[15] the age in which humans transform even the most basic structures of their planet. By questioning how and why we discover agency in nonhumans, how organisms become objects and objects organisms, animated film persistently draws attention to the reification of nature in modern societies and its opposite, the encounter with nature as a realm populated by a variety of nonhuman agents. Even when they are not explicitly environmentalist, animated films often raise these questions through their basic aesthetic strategies. ("Plasmatic Nature" 305)

Like Heise's underlining the importance of animations and their fluid nature, Serenella Iovino and Serpil Oppermann also make a similar statement concerning anthropomorphism. This is significant because anthropomorphism is one of the main devices that animations employ in their depictions of the nonhuman characters. Though they do not focus on animations, but other literary and cultural forms of expression,

Iovino and Oppermann refer to the use of anthropomorphic depictions of nonhuman bodies and matter as a "heuristic strategy" to lessen "the linguistic, perceptive, and ethical distance between the human and the nonhuman" ("Introduction: Stories" 8). In this, they share Jane Bennett's suggestion that "a touch of anthropomorphism . . . can catalyze a sensibility that finds a world filled not with ontologically distinct categories of beings (subjects and objects) but with variously composed materiality that form confederations" (99). Iovino and Oppermann, thus, propose that anthropomorphism can be a "dis-anthropocentric" weapon for battling against "dualistic ontologies" that hinder the uncovering of "similarities and symmetries existing between humans and nonhumans" ("Introduction: Stories" 8).

Centralising these explanations to the long-discussed paradox of anthropocentrism versus anthropomorphism within the posthumanities, the films studied in each chapter are carefully selected with the intention of highlighting posthumanism's alliance with environmental thought, among the multitude of possible examples from the animation genre. The selected animated films, either implicitly or directly, carry ecologically oriented messages with often critical undertones. On the one hand, they criticise the problematic nature of human exceptionalism, especially underlining human cruelty towards the environment. On the other hand, they acknowledge agentic nonhumans in animal or other forms, showcasing posthumanism's emphasis on the distributive agency of the human and the nonhuman. These films demonstrate the alliance among environmental thought, posthumanism, and its sub-disciplines. They bring together digital ecologies with posthumanism and its myriad companions, hence the title "posthuman ecologies." The animated films in this study are employed to epitomise how the natural and the cultural, and the informational and the material, emerge at the same time as we interact with them. Unless we humans change our perspectives towards other life forms and the non-living matter that surrounds our planet, the ecological crisis can never reach a tangible solution. This is what the term "posthuman ecologies" aims to suggest. Through a study of animations via a posthumanist lens, our exclusively defined understanding of ontologies can be altered, triggering a change in our outlook towards the environmental degradation caused by human exploitation. It is essential for us to understand through these posthuman ecologies that the human-nonhuman

relations, including the interactions with and within the environment, do not simply "mirror" either nature or culture, but are fundamentally "matters of practices or doings or actions" (Barad, *Meeting the Universe* 28). "*We are*," as Karen Barad writes, "*a part of that nature that we seek to understand*" (*Meeting the Universe* 26; emphasis in the original); we *are* posthuman ecologies.

In this dissertation, therefore, while a recurring emphasis on the indivisibility of subjectivity and objectivity, matter and meaning-making practices, nature and culture, and human and nonhuman is unavoidable, the chapters analyse various animations through different perspectives of the posthuman, including the techno-scientific, ecological, and the new materialist implications along with a problematisation of the human-nonhuman relations. As can be followed, this Introduction serves as a template for the theoretical background to multiple aspects of posthumanism and the animation genre as a posthuman environment. Defining posthumanism as a key attempt to deconstruct the centralisation and universalisation of the human, the dissertation offers an alternative view of the human as one of the many pivotal nodes in comprehending the world and its entangled relations, instead of viewing the human as the only agentic force. It underlines the importance of studying animations as a mediatory tool between humans and their nonhuman counterparts, be they animals, plants, bacteria, or impersonal agents.

In synch with this template, the three chapters that follow are organised in such a way so as to mark the evolving facets of posthumanism. First, to deconstruct "Man" as a "unique and superior" figure, second to highlight humans' kinship with techno-sentient bodies and to indicate their embeddedness *as* and *within* naturecultures, and third to indicate the dispersal of this kinship *within, around,* and *through* the rest of the world's organic and inorganic inhabitants, the chapters involve posthumanist analyses of two short animated films each, with a total number of six works to be focused on. Chapter I, secondarily entitled "Cautionary Posthuman Tales," focuses on the ecological approaches to posthumanism through animated films by two British directors, Yousif Al-Khalifa and Steve Cutts. Al-Khalifa's and Cutts's films, *End of an Era* (2012) and *Man* (2012), respectively, by reflecting on the ecological hazards caused by human

hubris, present a critique of human-centred vision of the world and its devastating results in both the human and the nonhuman spheres. As both films mirror the greedy and self-important attitude of humans, which disregards the existence of all other life forms, this chapter concentrates on the dethronement of the human through these films bearing the ecological orientations of posthumanism. A nonhuman form (an insect species in *End of an Era* and an alien species in *Man*) is observed to replace "Man" as the master species, and thus, in this chapter, posthumanism is interpreted as the end of the constructed hierarchy between *Homo sapiens* as the highest mammal, which is aligned with rationality and agency, and the rest of the living and agentic matter. This chapter, by looking into such characteristics as personhood, awareness of death, sense of the future, and sentience, traditionally associated with the human, decomposes these elements of "the human identity" and questions "the identity of humanness itself," to borrow Vicki Kirby's words. In both films, the reign of the human is critiqued through the questioning of this identity as the agency of the nonhuman overcomes this so-called mastery of the human. However, as the secondary title explicitly marks, the intention is not to endorse a dystopian science-fiction as reiterated by many Hollywood scenarios. Contrary to common misconceptions of the posthuman, the use of dystopic elements in animated films do not necessarily mean the end of the human or the end of the planet. Rather, the deliberate use of the dystopian element of fear, which is mainly based on the replacement of the human species as the master of the world with another species, can be employed to criticise human exceptionalism, especially in the context of environmental degradation. Although, in both *End of an Era* and *Man*, humanity is erased from the Earth, this is not intended as a misrepresentation of posthumanism, but rather it involves a harsh critique of the desirous and selfish habits and practices of "Man." This chapter actually entails the idea that human beings are not unique or superior to other forms of life, and argues that the end of the human is directly linked to the end of the other species. Therefore, despite the anxiety these films on the surface level might create, the posthuman in these films does not really mean to celebrate a disastrous termination of humanity. On the contrary, the posthuman signifies a challenge to the outcomes of our egocentrism and the hazardous environments it triggers, endangering the well-being of all biotic and abiotic matter. The aim, hence, is to illustrate the necessity of a horizontally aligned sense of agency, value, and justice.

The title of Chapter II is "Posthuman as the Naturalcultural *Robo sapiens*," and this chapter concentrates on the human-nonhuman relations from a techno-scientific perspective. It looks into the way the human-technology relations are intermingled with natures and cultures. In this chapter, robotic and biotechnological aspects of posthumanism remain to be the focal point, especially through the Harawayan concepts of the cyborg and naturecultures. Questioning the meaning of such concepts as sentience, personhood, and domination, this time from a digitally embodied perspective, British director James Lee's *Tarboy* (2009) and Australian directors Shaun Tan and Andrew Ruhemann's *The Lost Thing* (2010) thematise nonhuman hybrid bodies of human, animal, machine, and inorganic matter. Thus, this chapter problematises the concepts of embodied/disembodied consciousness as a human identity marker through robotic-cyborg bodies. Indicating a symbiosis of humans and intelligent machines, it focuses on the posthumanist questionings of how the organic and inorganic bodies are always already entangled in a state of constant flow. In other words, the two animations in this chapter show the "intra-action" between posthuman bodies, which may well be defined as border-blurring hybrids, and as "emergent interplays," to borrow Nancy Tuana's expression. The films in this chapter portray posthuman encounters between seemingly distinct ontological zones, and display how they get intermingled, especially in the face of newly emerging technologies that require us to rethink the boundaries of the human. Through the ambivalent relations between the human realm and the rest of the biotic and technological bodies, these films depict an emerging hybridity of a new posthuman identity. Because these machine-organisms not only literally but also figuratively resonate with the Harawayan cyborg, they highlight a posthumanist kinship between human bodies and other organic and machinic forms. This chapter concludes that, in order to sustain posthumanist ethics and politics, the fluid kinships between plastic and organic, machinic and biological, and nature and culture must be underlined, as observed in *Tarboy* and *The Lost Thing*.

Focusing on American director Seth Boyden's *An Object at Rest* (2015) and British director David Prosser's *Matter Fisher* (2010), Chapter III is entitled "Posthuman as Storied Matter," and it mainly revolves around the new materialist and material-ecocritical approaches to matter and meaning-making practices as significant

companions to posthumanist ventures. This chapter can be considered to be the most prolific and remunerating among all because of the propensity of the interactionist ontologies in explaining what the academic intentions of the concept of the posthuman are. Carrying the marks of both the natural sciences and the humanities, such a focus on "intra-active" agencies of matter and the inanimate bear important repercussions for furthering posthumanisms. In line with this "relational materiality" of intra-active agents, to quote Oppermann in her chapter in *Material Ecocriticism*, the posthumanist, new materialistic, and material-ecocritical examinations of the two films reveal that, especially when they have ecological orientations, animated films are strong methodologies to illustrate the ongoing interaction between human and nonhuman bodies and the environment. They show that environmental factors, which play a key role in defining the boundaries of being human, actually do not exist as simply surrounding exteriorities, but they reside within us and they flow through us. Epitomising the "co-extensive materiality" of humans and nonhumans, in Alaimo and Hekman's terms, these films highlight our intimate relations with the rest of the world. The following quotation that Oppermann also uses to underline the significance of living air[16] perhaps best explicates the core argument of this chapter through its focus on air as an agentic force:

> As humans, we have an intimate relationship with the air around us. This relationship is by and large unconscious; we breathe in without thinking, move through the eddies and tides of air often without notice. This largely unconscious relationship has led to a delayed appreciation of the air as a biological entity. But air is as alive as soil or water. Not only does it host large macroscopic organisms [. . .] but it also hosts a wide variety of micro-organisms. Hundreds of thousands of individual microbial cells can exist in a cubic metre of air. (Womack, Bohannan, and Green 3645)

Not specifically concentrating on air alone, but underscoring the importance of all beings and things that *matter,* and highlighting the agency and story-telling capabilities of matter and inanimate objects, this chapter intends to demonstrate not only the intra-active agencies of human and nonhuman bodies, but also the narrative potentialities that emerge through these intra-actions. Concentrating more on matter and nonliving forms that are both located in and frame the human world, *An Object at Rest* and *Matter Fisher* depict the body of the human, nonhuman living and nonliving forms, and the

entire world as a living text embodied in and endowed with matter. As such, they help us envisage the literal and imagined connection areas that both bind us with and cut us from the nonhuman agentic and narrative forces, exemplifying the theories by Iovino and Oppermann in the best possible way.

The concluding chapter entails the idea that animated films are posthuman environments themselves because they serve as the best tools to guide us through a distributive sense of knowing, being, and valuing. Needless to say, as this Introduction has repeatedly argued and as a final remark, the concluding chapter contends, understanding human-nonhuman entanglement lies at the heart of creating a less consumerist culture and a more ecological approach to the planet. Animations, especially when they do not resort to the use of animals or other nonhuman forms as simply humans in disguise, have an important role in this regard, because they especially highlight that human-nonhuman relationship needs to be rethought on a horizontal level, rather than a hierarchical one. From animal experimentation and vivisection to electronic waste and industrial debris ending up with toxicity, human activities cause massive harm to all naturecultural bodies. Animations, by demonstrating such entanglement of the human and the nonhuman, shape our cultural horizons. The transformation from the distinction between culture and nature to naturecultures paves the way for social and cultural changes in our mindset in general, and this is the result of issues that rise out of posthuman and new materialistic theory and practice. Therefore, posthuman ecologies do not only refer to formulaic dystopian futures in which the end of the human or the planet is approaching, but to a critical reassessment of the human situation in nonhuman natures, producing complex reconfigurations of contemporary naturecultures.

CHAPTER I

CAUTIONARY POSTHUMAN TALES

> Monsters are things that appear outside the course of Nature (and are usually signs of some forthcoming misfortune), such as a child who is born with one arm, another who will have two heads, and additional members over and above the ordinary. Marvels[17] are things which happen that are completely against Nature as when a woman will give birth to a serpent, or to a dog, or some other thing that is totally against Nature.
>
> —Ambroise Paré, *On Monsters and Marvels*

> . . . if there were machines bearing the image of our bodies, and capable of imitating our actions as far as it is morally possible, there would still remain two most certain tests whereby to know that they were not therefore really men. Of these the first is that they could never use words or other signs [. . .] The second test is, [. . .] they would, without doubt, fail in certain others from which it could be discovered that they did not act from knowledge, but solely from the disposition of their organs. [. . .] it must be morally impossible that there should exist in any machine a diversity of organs sufficient to enable it to act in all the occurrences of life, in the way in which our reason enables us to act.
>
> —René Descartes, *Discourse on the Method*

This chapter primarily problematises human and nonhuman identities, discussing the outcomes of making ontologically and epistemologically normative distinctions between these identities through two animated films which portray the posthuman as the end of the human. Since the Enlightenment, while formulating human and nonhuman identities, the human figure has always been centralised and universalised, and it has often been the case that what falls outside of the category of the human is equated with

the monstrous. This monster, or "marvel" in the derogatory sense, as the first epigraph showcases, is often seen as an ill-omen that signifies a misfortune, or is something totally against "nature." Thus, challenging the normative discourses that shape "Man," there is always a sense of abnormality that lies within the definition of what is *not human*. As Roger A. Adkins notes, "the monstrous Other," when positioned against the human subject, "poses significant challenges for the ongoing tenability of normative notions of the human, including such primary human traits as sexuality and a gendered, 'natural' embodiment" (iv-v). In defining monstrosity, however, the human versus the nonhuman quandary plays a double, ironical, and dubious role. In the first instance, the human defines *himself* as a natural being, and thus, what has been left aside from the definition of the human becomes automatically unnatural, thus the monstrous, abnormal, and the extraordinary other. If the monstrous is one that is "against nature," then its opposite, the human, becomes a natural being. In the second occasion, paradoxically, the human considers nature itself as the other. After all, the illustrations that are given in Ambroise Paré's text, which abnormalise women and animals through allusions to the Biblical story of the Garden of Eden (the mention of the serpent makes this allusion quite clear), are signifiers of such othering and "monsterisation" of nature. Following from this, the human is viewed as a cultural being opposed to the natural. In both cases, however, an incongruous dilemma emerges: It is always this white male figure that delineates the borders of the normal, the predictable, and the expected; one that does not disrupt the ordinary state of affairs. Then, it is not surprising to find that this figure bestows a central position upon *himself*, pushing what *he* considers to be the nonhuman others to the margins. Not unexpectedly of this opposition between the centre and the margin, and as given implicitly in the first and explicitly in the second epigraphs, such attributions as speech, rationality, and sentience, which are thought to be the core identity markers of humankind, are considered to be lacking in the nonhuman, (un)natural, monstrous other. Or simply put, this nonhuman other, as a whole and monolithic category of diverse species and things, is deprived of these qualities through humans' definition of them. Such construction of the so-called universal human identity against a too-generic identity of the nonhuman is problematised by postmodern, and as a follow-up supplement to it, by posthumanist thought. In his article entitled "The Animal that Therefore I am (More to Follow),"

Jacques Derrida, for instance, has argued that the sovereign and masculine identity of the human originates in the Genesis when Adam is granted the power to define and name the other beings in the Garden of Eden. In this defining and naming process, Derrida explains, all the beings that are not human become marginalised others, and despite simultaneously and equally inhabiting the Garden along with "Man," these nonhuman others are silenced; they can never speak for themselves. In his apt question to challenge this categorisation made by "Man," Derrida asks: "What [is] animal?" and he replies: "the other" (372). Rendered speechless, these nonhuman others are deprived of power, and thus are to be exploited. Although Derrida is also critiqued by several ecocritics and posthumanist scholars, like Georgia Brown, on the grounds that he "perpetuates the humanist privileging of speech as the primordial expression of reason, power, and value" (61), he still retains his fundamental place in this deconstructive approach to the construction of human identity against the nonhuman other. Along similar lines to Derrida, Gayatri Chakravorthy Spivak, too, has critiqued the liberal humanist discourse, which played a crucial role in the making of this so-called unique human identity:

> the great doctrines of identity of the ethical universal, in terms of which liberalism thought out its ethical programmes, played history false, because the identity was disengaged in terms of who was and who was not human. That's why all of these projects, the justification of slavery, as well as the justification of Christianization, seemed to be alright; because, after all, these people had not graduated into humanhood, as it were. (229)

Advancing the theoretical basis grounded by Derrida's and Spivak's discussions of humanity and animality, and bearing in mind the erroneousness of privileging human speech, rationality, and power, posthumanism also questions these so-called identity markers that grant the human the "licence" to exploit the biosphere for *his* own greedy and selfish purposes. Cary Wolfe, for instance, by basing his argument upon the rebuttal of an extreme emphasis on humans' cultural side, underlines the inevitability of our physiological bonds with our "animalistic" or "natural" side, and thus characterises the making of the human as both corporeal and discursive:

> the subject of humanism is constituted by a temporal and evolutionary stratification or asynchronicity in which supposedly 'atavistic' or 'primitive' determinations inherited from our evolutionary past—our boundedness to circadian rhythms, say, or the various physiological chinks and frailties that foreground the body as profoundly other and physically determined by a fundamentally a-human universe of interactions—coexist uneasily in a second-order relation of relations, which the phantasmatic 'human' surfs or manages with varying degrees of success. ("Faux Posthumanism" 119)

What is more significant than the bodily and discursive construction of the human identity in Wolfe's lines is the degree of success by which this "phantasmatic human" manages these first- or second-order relations with the rest of the planetary inhabitants. It is plain that, in segregating the human and the nonhuman domains on the ontological level, this degree is much higher than in sustaining ecological balance. In any possible test of the phenomenological or social dynamics that determine our relations to or difference from the nonhuman animals, however, as Peter Singer notes, "if all non-human animals are going to fail it, some humans will fail as well" (5). Then, the centralisation of the human figure as in the Enlightenment ideals is problematic in two ways. First, no matter how hard we try to construct our identity as different from nonhumans, some part of the definition will fall short. Secondly, and more importantly, endowing themselves with the central position does not guarantee a secure zone for humans to be exempt or excluded from any ecological disaster. Any harm done to the "nonhuman others" is as harmful to humans as well. With these two principal ideas, posthumanism challengingly proposes a disanthropocentric view, in which the human is no longer universalised or centralised.

In tune with these considerations, this chapter entails posthumanist discussions of two short animated films, *End of an Era* (2012), by Yousif Al-Khalifa, and *Man* (2012), by Steve Cutts, which focus on the environmentally devastating results of an anthropocentric approach to the world. Both films are critical of putting "Man" at the centre of the universe as the only agent endowed with reason, as implied in the second epigraph, taken from Descartes's paradigm-changing study, which is generally thought to have initiated liberal humanism. Darkly comic and ecologically aware, both *End of an Era* and *Man* present a dystopian sense of posthumanism, which signals the end of humanity as we know it. As many theoretical formulations of posthumanism object to

viewing the posthuman as the demise of the human, this might seem self-conflicting at first glance. However, these films deliberately employ the idea of a new world where the human species no longer resides. By this, they aim to underline the fact that the end of the human is openly related to the end of the other species. Hence, these films "unsettle our basic assumptions regarding nature as a 'place' separate from the human realm and to posit it instead as natural-cultural processes continually occurring all *around, through,* and *in* us" (Sullivan 80; emphases in the original). In other words, by removing the human from *his* agentic throne, they maintain that "human and non-human nature share an interdependent relationship based in both organismic and chaotic approaches to ecology that, once disrupted, may destroy them both" (Murray and Heumann 183).

Taking this interdependence as their starting point, both directors, Al-Khalifa and Cutts, propose to raise questions in the audience's mind through their critique of anthropocentrism, so as to provide a basis for rethinking our ways of interacting with the rest of the planet. Thus, they both configure a *post*-human world and portray human figures as the now decentralised and dethroned tyrants. The intentional use of this decentralisation and dethronement serves the purpose of, as Susan Napier[18] points out, "a wake-up call to human beings in a time of environmental and spiritual crisis that attempts to provoke its audience into realizing how much they have already lost and how much more they stand to lose" (180). In this regard, *End of an Era* and *Man*, like Disney animations from the 1980s and the 1990s,[19] "typically show us the power of nature and the supernatural over the human world" (Murray and Heumann 153). Yet, neither *End of an Era* nor *Man* aims to emphasise a nature/culture dichotomy by doing so. Instead, these films problematise human exceptionalism and its consequences, and they do not intend to endorse a disastrous ending of the human. The question that is raised by the two directors, therefore, is whether humanity can afford to lose the central position it has been holding for centuries or not. Losing this position, as the films delicately showcase, might not be so easy for humans to accept. This is because such a possibility implicates the replacement of a human-centred vision with a shared and distributive understanding of agency and justice. This, inevitably, brings about a requirement for humans to share their primary agency with other life forms, which is

difficult to acknowledge. However, as the films also underline, this is a must, because the human-centred idea that we have held onto since Descartes is triggering environmental degradation in a pace faster than we can afford, which will inevitably lead to fatal consequences for both the human and the nonhuman spheres. Indeed, it is this central position that should be held responsible for global warming, biodiversity loss, and increased levels of toxicity in the air, the land, and the water, as both films display. Evidently, the centralisation of the human figure has eventually resulted in our inability to see ourselves as highly dependent life forms on others. Then, it would not be wrong to argue that both *End of an Era* and *Man* are "evolutionary narratives," which might "inform moral reasoning and facilitate the cultivation of certain moral sentiments [and] might legitimate an ecological ethic" (Thiele 7–8). Mainly basing their plots on humans' fear of being finally overcome and replaced by another species, both animations highlight the fact that

> [o]ur existence depends from one moment to the next on myriad micro-organisms and diverse higher species, on our own hazily understood bodily and cellular reactions and on pitiless cosmic motions, on the material artifacts and natural stuff that populate our environment, as well as on socioeconomic structures that produce and reproduce the conditions of our everyday lives. (Coole and Frost 1)

Although neither Al-Khalifa's nor Cutts's work directly involves detailed depictions of "myriad microorganisms" or "diverse higher species," the films certainly exemplify the entangled relations between the human and the nonhuman domains. As these animated films indicate, when humans assign themselves the role of the masters of the universe, exploiting nature and its resources for their own benefits, without taking our shared vulnerabilities into consideration, they bring about their own demise as well. Therefore, these films function as cautionary-tales that critically approach humans' cruel acts to the environment, using a posthumanist lens that magnifies irresponsible and exploitative practices. In the face of increasing hazards that threaten our global survival, surely, a less consumerist and a more ecologically conscious human culture needs to be promoted. To help this promotion gain impetus and to contribute to the making of a greener culture, the two animations, *End of an Era* and *Man*, emphasise through their "*radical decentring of the traditional sovereign, coherent and autonomous human*" that

"*the human is always already evolving with, constituted by and constitutive of multiple forms of life*" (Nayar 2; emphasis in the original). It is thus important to reiterate here that inhabiting the perspective of the posthuman ecologies, these two animations aim at decentring the anthropocentric vision of the human, and present a glimpse into a disanthropocentric, posthuman future in which humans become extinct like other life forms they have destroyed.

Al-Khalifa's short animation, *End of an Era*, implicitly reinforces the importance of understanding the interconnectedness between human life and other life forms, without resorting to straightforward didacticism. Obviously, the director has intended to open up a discussion of a condemnatory posthuman future that awaits humanity unless we change our mindset towards an ecologically aware one. Witty and amusing on the literal level, the film subtly targets the selfish acts of the human, and relates the story of human erasure from the earth. In an initial glimpse, this is a typical dystopian setting, where humanity has lost its so-called superior position to the cockroach. The likelihood of human eradication from the planet has been the topic of many post-apocalyptic scenarios worldwide. However, in this animated film, the surface-level apocalypse is supported by a deeper ecological concern combined with comic elements. The reason why cockroaches were chosen as the main characters in *End of an Era* perhaps lies at the heart of these insects' often discussed possibility of inheriting the earth, especially in the case of a nuclear war, which would result in humans' being entirely annihilated. The director, Al-Khalifa, notes: "I felt it was natural to explore a post-apocalyptic world where the near invincible cockroach has survived man's extinction" (qtd. in Smith, "OU/BBC" n.p.). In fact, as Al-Khalifa calls them "near invincible," the cockroach may survive possible catastrophes that would bring about the extinction of many species. The high level of adaptability of the cockroach, therefore, plays a crucial role in this animation, helping one to re-question human supremacy. It is through this "near invincibility" that the cockroach proves to be a lenient figure for a posthumanist animated film, and thus, it would not be too compelling to argue that Eisenstein's notion of "plasmaticness"[20] is actually a quality that is almost inherent in the cockroach species. With an open circulatory system, unlike the one in human body, cockroaches are known to "remain alive for several hours" even after "decapitation," along with their

"high resistance to radiation," and their capability of "surviving underwater for about forty-five minutes" (Choi, "Fact" n.p.; Brenner 32; Tanaka and Tanaka 849; "MythBusters"). Manifestly, the cockroaches' ability to endure severely harsh conditions overshadows that of humans, and the exaggeration of such capacity turns the film into both an amusing animation and a fearsome dystopia.

Inspired by this great difference in the survival capabilities of the two species, Al-Khalifa's animation presents a world ruled by cockroaches. Inquiring into the so-called omnipotence of humans, the film scrutinises many qualities of *Homo sapiens*, such as linguistic capacity, consciousness, and awareness of death. By translating these qualities into the cockroach characters, it inspects those identity markers with which humans are often differentiated from and thought to be superior to nonhuman others. Re-defining the boundaries between the human and the insect, *End of an Era* presents a critique of the human modern culture, which seems to have ended due to humans' failure to prolong a healthy relationship with the rest of the world's species. The species-identity of the human, thus, is transferred to the species-identity of the cockroaches. This helps the director to formulate a new identity, thereby creating a posthumanist reality through the hybrid body of the cockroach-human in *End of an Era.* As a result, the film is able to investigate what defines human "uniqueness" by calling into question a number of human qualifications. The first of these is the linguistic ability, and by assigning this ability to the cockroach species, the director is actually reversing the question. The film, thus, subtly problematises whether it is the human language that should be the criteria to judge superiority, as Erica Fudge also questions:

> This inversion of the original question, in which 'can animals learn to speak human language?' becomes 'can humans learn to speak animal language?', pulls out from under us the notion of our inbuilt superiority that persists in much of the language research. Why is it that our language primary? Why not attempt communication in the other direction? If we are so superior, surely we should be able to speak ape? (127-8)

As is the case with many animations, the nonhuman characters are invading the human domain in *End of an Era* through the employment of linguistic capabilities as an

epitome of blurred boundaries between species. This is not only because these cockroach characters are depicted as the only remaining species on the planet, but also because they are capable of communicating with each other, using human language. Thus, from the first scene onwards, a nonhuman life form is able to strike back, by an appropriation of the language of the master, or the coloniser, the human. In this way, the film creates a sense of ambivalence between the colonised, the nonhuman, and the coloniser, the human. While the insect has the capability to "acquire" human language, the human does not even exist, let alone "learn" the insect language, so the insect becomes the new form of coloniser through retaliation. In fact, perhaps it is because of this inability to understand the "language" of the nonhuman others that the human is erased from the planet. In the film, although the reason for humans' termination is not provided, the cockroaches' speaking ability functions as a mediatory tool between the human (audience) and the cockroach (the symbol of the nonhuman). It is through this anthropomorphic feature of the animation that the viewers are able to understand the possible nonhuman equivalents of human emotions and mental states. This definitely contributes to posthumanism's ecological dimension, which aims at horizontally aligning the human and the nonhuman, thereby subsidising the making of a greener culture. As agreed by not only the new materialists, but also ecologists, human-animal behavioural scientists, and critical animal studies[21] scholars, anthropomorphism[22] can be used as an intermediary instrument to bridge the gap between humans and nonhumans. Just as it is used in *End of an Era*, it can prove useful in supporting ecosystem-level conservation actions. Conservation ecologists, for example, use evidence from both anthropological and other social science studies of human-animal relationships to suggest that anthropomorphised visions establish healthier relationships between humans and nonhumans. They insistently argue that anthropomorphism should be viewed as "a strategic tool within conservation's toolkit that can be used to improve the way human groups engage with efforts to conserve biodiversity" (Root-Bernstein, Douglas, Smith, and Veríssimo 1578). Likewise, in analysing human-animal relations, critical animal studies scholars point out the increasingly blurred boundaries between human and nonhumans thanks to anthropomorphised configurations of the nonhuman domain. Fredrik Karlsson, for instance, underlines the importance of using anthropomorphism as a beneficial device to overcome human/nonhuman dichotomy:

> [T]he everyday linguistic habits of anthropomorphism may contain vital insights that assist us in establishing better habits for talking about animals. Anthropomorphism may reflect how terms based in human experiences and preserved in human languages can be projected onto those who share neither the experiential pool nor that kind of language (e.g. non-human animals). A critical understanding of anthropomorphism might then help human-animal studies to project human notions onto animals and challenge the view that the above mentioned experiential pool is uniquely human. (108)

Echoing these views, *End of an Era* guides its audience through a better understanding of the nonhuman, and it leads them to empathise with each of the cockroach characters. Hence, implicitly, the film serves as a template for helping us understand the importance of embracing the posthumanist thought. It also indicates the fact that the communicative ability is not unique to humans only, which is in tune with especially the early models of literary-ecological studies, taking their inspiration from those animistic cultures that seek to find balance between human and nonhuman realms by listening to nature's multiple voices,[23] as Christopher Manes writes:

> Nature is silent in our [Western] culture (and in literate societies generally) in the sense that the status of being a speaking subject is jealously guarded as an exclusively human prerogative. The language we speak today, the idiom of Renaissance and Enlightenment humanism, veils the processes of nature with its own cultural obsessions, directionalities, and motifs that have no analogues in the natural world. [. . .] In contrast, for animistic cultures, those that see the natural world as inspirited, not just people, but also animals, plants, and even 'inert' entities such as stones and rivers are perceived as being articulate and at times intelligible subjects, able to communicate and interact with humans for good or ill. In addition to human language, there is also the language of birds, the wind, earthworms, wolves, and waterfalls-a world of autonomous speakers whose intents (especially for hunter-gatherer peoples) one ignores at one's peril. (15)

In addition to these animistic approaches, which have laid the foundations of earlier ecocritical works, several studies from the natural sciences have indeed revealed that nonhumans have their own methods of communication, too. Aside from various other sentient mammals that communicate with one another, such as dogs, dolphins, and bats, marine animals, like octopi, or smaller forms of life, for instance, insects, plants, or even microorganisms, have the capacity to interconnect through their own "language." Among all these myriad instances where nonhuman communication is scientifically

proven, perhaps by far the most relevant ones to the case in *End of an Era* are those pointed out by insect experiments.

Several entomological studies have revealed that "[m]any insects are known to communicate with percussive vibration and vibrations transduced with acoustic songs via plant tissue" and that "insects detect substrate vibrations with sensory neurons inervating the tympana and subgenual organs" (Bell 210). It has also been well-documented that "[i]nsects [. . .] have many ways to communicate;" however, as opposed to humans, "their 'language' is almost entirely innate. Each individual is born with a distinctive 'vocabulary' that is shared only with other members of its own species" ("Insect Communication"). In this case, plainly, these insect species turn out to be "superior" to humans in that they do not need to acquire or learn a language; instead, they genetically inherit it. Similarly, microbiological studies indicate that "[m]any bacteria use cell–cell communication mediated by diffusible signal molecules to monitor their population density or confinement to niches and to modulate their behaviour in response to these aspects of their environment" (Ryan and Dow 1845). Even our own bodies, being home to many microorganisms, host several types of life forms that "converse" among themselves. For instance, (human) dental and craniofacial studies of oral infection and immunity signal that bacterial colonies inhabiting the human oral flora (to form biofilms of dental plaque) also communicate in their own ways:

> *Streptococcus gordonii* and *Veillonella atypica*, two early colonizing members of the dental plaque biofilm, have been postulated to participate in metabolic communication; *S. gordonii* ferments carbohydrates to form lactic acid, which is a preferred fermentation substrate for *V. atypica*. We found that, during agar-plate coculture of these organisms, a signaling event occurs that results in increased expression of the *S. gordonii* α-amylase-encoding gene *amyB*. (Egland, Palmer, Jr., and Kolenbrander 16917)

All these data from various fields of cultural and anthropological studies as well as natural sciences show that human and nonhuman bodies are not self-contained entities, but they are interactive with each other and their environment. More importantly, these studies also verify that humans are not unique or superior to nonhumans in terms of

their communicative capacities. These capacities are also highlighted by *End of an Era*, with the use of anthropomorphism as an efficient device. Such use of anthropomorphism offers a model for portraying and for helping perceive nonhuman capabilities, which we have ignored or underestimated. As an environmental and an ontological critique, thus, the film helps us visualise posthumanist theories. Through anthropomorphism, the cockroaches become the new posthuman rulers of the world, and they symbolically present us with a chance to rethink our ways of interacting with the environment. The film, therefore, demands that humans "accept a much more modest and considerate role in the world" (Smith, "OU/BBC" n.p.).

With such posthumanist intentions, *End of an Era* also demands answers for the heavily discussed concepts of personhood and sentience, which are also thought to be human identity markers. By subverting these concepts through its cockroach characters, the film asks what these qualities would look like in a species other than human. In its approach to the question of personhood, which is posed by many scholars from the field of critical animal studies, the film takes a posthumanist stance as it re-investigates our responsibility towards other species. Hence, the director, Al-Khalifa, apparently shares an ethically responsible point of view with David Sztybel, who, from the critical animal studies standpoint, explores various definitions of personhood in dictionaries. Sztybel calls personhood into question from a moral perspective, considering the status of all the marginalised others, including the disabled bodies and nonhumans. He rejects, for instance, the mainstream definition of the term, which is that "a person must be able to initiate actions in pursuit of goals." He states that this definition should be considered "discriminatory against the disabled," and asks: "Do we really wish to say that a dying man, paralyzed and unable to speak is not a person because he will never again be a full agent? Is one less of a person when idle or resting? Is there then an interruption in being a person when sleeping?" (244). Thus, Sztybel indicates that the concept of personhood cannot be reduced to the exclusionary definitions of the human only.

Like Sztybel, Paola Cavalieri, too, discusses what she calls a "bioethical dilemma" concerning the criteria that define the "value" of the human and the other life forms.

Underlining the fact that our "moral" values shift in time with the impact of our rapidly changing cultural practices, she poses critical questions:

> The rapid and continuous growth of our power over life-and-death circumstances inevitably gives rise to new dilemmas, or makes the old ones more pressing. Some questions have to do with behavior: Is it acceptable to offer one's body for surrogate motherhood? Should we permit the creation of a market in organs for transplants? Is genetic screening permissible? When cases of this kind are involved, it is often a matter of stretching the boundaries of traditional ethics, extending or reviewing judgments referring to similar cases. Other questions raise problems concerning the status of the beings affected: What is the value of the life of a human fetus? Does an individual in an irreversible coma have a right to continued existence? Are embryos a kind of entity on which one can experiment? (8)

These questions, according to Cavalieri, do not make sense when the "sanctity-of-life" doctrine is taken into consideration. However, this doctrine, which is embraced by almost all scientists who work in biomedical applications, takes "the human" as its central point with a complete disregard of the nonhuman others, as Cavalieri also argues:

> Of what life are we speaking? Obviously not of life in all its forms, including vegetal ones. Of animal life in general, then? Were it so, we would live in a society of vegetarians. Since this is not the case, it is evident that the phrase refers only to human life. The lives that are attributed equal, absolute value are the lives of members of the species *Homo sapiens*. Once translated in terms of medical practice, the principle of the sanctity of life requires that the existence of every single human being be prolonged at (almost) any cost. [. . .] Usually, when we say of a being that it is human, we are assuming an endowment of certain special characteristics, such as self-consciousness, rationality, self-control, sense of time, communicative ability, and the ability to relate to others—that is, the attributes that have been defined 'indicators of humanhood.' This is the evaluative, or philosophical, sense of 'human being'—a sense for which many prefer to use the term 'person,' as contrasted with the biological notion of 'member of the species *Homo sapiens*.' (9-10)

Following similar lines to Sztybel's and Cavalieri's arguments, and rejecting the exclusionary practices of humanist thought and the anthropocentrically limited definitions of personhood and agency, Tom Regan also approaches the issue from a

nonhuman-centred point of view. He considers nonhuman animals, especially sentient adults, to be "subjects of life," by which he means that they have

> beliefs and desires, perception, memory, and a sense of the future, including their own future; an emotional life together with feelings of pleasure and pain; preference- and welfare-interests; the ability to initiate action in pursuit of their desires and goals; a psychophysical identity over time; and an individual welfare in the sense that their experiential life fares well or ill for them, logically independently of their utility for others and logically independently of their being the object of anyone else's interests. (243)

Al-Khalifa's film also takes a parallel stance to Sztybel's, Cavalieri's, and Regan's arguments and raises the same questions about personhood, but only using insects. Although not focusing on sentient animals, Al-Khalifa's animation also concentrates on the questioning of human identity markers, and applies such human characteristics as belief, desire, perception, memory, and a sense of the future into the cockroach species. Through this short animation of approximately three minutes, Al-Khalifa aptly looks into the imagined possibilities of exploring the psychophysical identity of the cockroach figures. In this anthropomorphic story, the director invokes the beliefs, desires, perceptions, and memories of the cockroaches, along with their sense of the future. Cockroaches appear throughout the film in different moods: happy, sad, worried, or afraid. They, for example, may get nervous about being late, may feel anxious about the future of their world, or may be comforted by a family member when scared. They analyse their own history as well as the evolutionary history of the world they live in. They produce artworks, consume food for pleasure, and create toys for their young. Indeed, when analysed deeply, the film makes it even more difficult to differentiate whether it is a story of the human condition in the cockroach body or it is the fantasy of the cockroach condition in the human body. It is through this kind of blurring of the boundaries that the film achieves its posthumanist stance. As can be seen in Figure 1.1, for instance, the two cockroaches, the main characters of the film, can be seen walking on the street. Although they are portrayed in cockroach bodies, they are attributed an upright posture, and they exhibit bipedalism. Moreover, they are dressed with coats and hats. In this sense, they are the hybrid mixtures of human and cockroach species. A similar attribution of human-like characteristics can be observed in both Figures 1.2 and

1.3, too. Respectively, in Figure 1.2, a cockroach with a hat, standing on his two feet, and holding a microphone, and in Figure 1.3, three cockroaches, one standing at the cashier, and two being customers, can be seen to carry quite humanly features. Thanks to such anthropomorphic qualities, the film masterfully smudges the lines between the human and the insect, thereby creating a posthuman identity within the storyline. In other words, by using anthropomorphism, the director takes a posthumanist position, by which he questions what it means to be human (or insect, as a matter of fact). Therefore, this animated film not only helps the audience visualise what nonhuman agency would look like in a world minus humans, but also raises the critical question of what makes humans what they are. By enquiring this, the film shows that the world of animations is not obliged to directly copy the fable genre, which employs nonhumans as humans in disguise to present a critique of humanly problems. Instead, it humanises the nonhuman and animalises the human *in order to philosophise about environmental concerns, which are both humanly and non-humanly problems*.

In handling these problems, the story takes us to a world ruled by insects as the sovereigns of the world, instead of humans, which is reminiscent of a 1942 *New York Times* review of *Mr. Bug (Hoppity) Goes to Town* (1941), which tells the story of the lowland bugs that use the garden of a human couple as "home." The review mentions "Man's relentless encroachment upon the domain of the insect world" (T.M.P. 21; capitalisation in the original). As this review indicates an Enlightenment critique by capitalising and gendering the human, so does *End of an Era*. The film creates a world within a world not only via the invasion of the earth by cockroaches, but also through a cinematic story, where the cockroach actors are reversing a human myth. To be more precise, the film's literal plot involves the story of a young insect boy, Colin, and his grandfather, who watch a film called *Cenozoic Park*. After Colin's being scared of the film, they return home, and *End of an Era* ends.

However, the animation has a larger scope than first imagined. To begin with, upon the annihilation of *Homo sapiens* (perhaps along with a huge number of other species) for an unknown or unspecified reason, cockroaches become the sovereigns of the world,

and they prove to be sentient persons with their own cultural practices. In this case, perhaps, they become *Blatella sapiens*. The opening scene of the animation reveals that the initial dialogue takes place between a grandfather and a grandson who are about to leave home to watch a film. The name of the film that the two cockroaches are going to watch is significant in that it is an obvious reference to the famous blockbuster *Jurassic Park* (1993). In fact, behind its protagonist, Dr. Blatella, there is a huge poster of the film *Cenozoic Park*, the banner of which carries the same typography as the original Hollywood production (see Figure 1.2). The only difference between *Cenozoic Park* and *Jurassic Park* is that while the latter is based on the human fear of and attraction to dinosaurs as the most powerful creatures that ever existed on earth, the former principally reverses the idea and shows *Homo sapiens* as a scary but attractive creature that once roamed the planet and ruled over it. As can be seen in Figure 1.2, the second title of the film is "When Man Ruled the World." Thus, *Cenozoic Park* becomes a smaller scale *Jurassic Park*, only by replacing humans with dinosaurs.

Figure 1.1: On the way to the cinema

Figure 1.2: Dr. Blatella – A stereotype of a human professor; *Cenozoic Park* begins

The choice of *Jurassic Park* as an underlying theme here is significant as it has been widely discussed among scholars in ecocriticism and film studies. For instance, Ursula K. Heise, by especially drawing attention to the fact that *Jurassic Park* is not simply a dystopian science-fiction, but it is characterised by our increasing concerns over the loss of biodiversity, writes: "*Jurassic Park* can be read not only as the horror and suspense device that it undoubtedly is, but also as an imaginative scenario that deflects possible anxieties over contemporary losses in species diversity" ("From Extinction" 61). Heise further notes that bringing together the present and the past in a dystopic environment, the director of *Jurassic Park* holds a mirror up to some of the very pressing ecological issues in the current era:

> This juxtaposition of prehistoric with present-day species, along with the scientists' warnings about the appropriateness of the ecosystems Hammond [the character of the entrepreneur who provides the idea of recreating dinosaurs in the film] has devised, raises the question of how Spielberg's film conceptualizes the relationship of a species to its environment. ("From Extinction" 62)

Analogously to what she has stated on *Jurassic Park*, Heise also notes that science-fiction as a complete genre of dystopian and utopian futures "offers a metaphor for the diminished life worlds," which "result from current human interventions into natural ecosystems" ("Reduced Ecologies" 99-100). The genre presents "an occasion to reflect critically on discourses of scarcity that have accompanied such [dystopian] visions,"

forcing humans "to ask anew the question of what principles should guide their interactions with nonhuman others" (Heise, "Reduced Ecologies" 99-100). Likewise, W.J.T. Mitchell also indicates the importance of *Jurassic Park* as a cautionary-tale, and he notes that "the greatest epidemic of dinosaur images occurs in the late twentieth century, just at the moment when widespread public awareness of ecological catastrophe is dawning and the possibility of irreversible extinction is becoming widely evident" (*Last Dinosaur* 19). This recalls, as both Heise and Mitchell would also agree, Fredric Jameson's argument that science-fiction genre functions as a medium to dislocate the future as an imaginary past. Echoing Jameson's argument, *Jurassic Park* does not simply build upon a likely future, but it also conveys some of our fundamental concerns over the evil uses of technology and its harmful consequences for the future of the entire planet. In this, it both penetrates our daily lives as a science-fiction dystopia, with allusions to our irresponsible and deadly practices, and cautions us for a moment of history when dinosaurs were wiped out; as such, a similar future might await humanity, just like in *End of an Era*:

> [T]he most characteristic SF [science-fiction] does not seriously attempt to imagine the 'real' future of our social system. Rather, its multiple mock futures serve the quite different function of transforming our own present into the determinate past of something yet to come. It is this present moment – unavailable to us for contemplation in its own right because the sheer quantitative immensity of objects and individual lives it comprises is untotalizable and hence unimaginable, and also because it is occluded by the density of our private fantasies as well as of the proliferating stereotypes of a media culture that penetrates every remote zone of our existence – that upon our return from the imaginary constructs of SF is offered to us in the form of some future world's remote past, as if posthumous and as though collectively remembered. [. . .] SF thus enacts and enables a structurally unique 'method' for apprehending the present as history. (Jameson 288)

As a relatively recent landmark in science-fiction, *Jurassic Park* also "enacts and enables a structurally unique 'method' for apprehending the present as history," reverberating Jameson's words. In this regard, Spielberg's dinosaurs are the representational epitomes of humans, who are playing a dangerous game with the environment. The dinosaurs' battle against human technology is also highly symbolic in *Jurassic Park* and its extension, *The Lost World* (1997), as W.J.T. Mitchell argues: "If the dinosaur is the monstrous double of the skyscraper and the railroad, it also finds its

counterpart in the world's largest consumer of fossil fuels, the automobile. *T. rex* can recognize a worthy antagonist when he sees one, so he attacks the park vehicle [. . .] and pushes it over a cliff" (*Last Dinosaur* 222). Although this aspect of technology as an "enemy" of nature is not very much highlighted in *Cenozoic Park* (the film within *End of an Era*), in the framework film, that is, in *End of an Era*, there are implicit references to it, such as the now dilapidated buildings of concrete and ruins of the so-called human civilisation. What's more, *Cenozoic Park* doubles the effect of history as a conglomerate of the past, the present, and the future. In the material aspect of this animated film, that is, if both humans and cockroaches are considered to be the "living" bodies of motion picture, they are very much like Spielberg's dinosaurs, and they can be called the end results of "biocybernetic reproduction," as Mitchell calls the dinosaurs in *Jurassic Park*. Moreover, because *Cenozoic Park* is embedded within an animated film with a *post*-human futuristic theme, it is thus twice "reproduced" in both the material and the technological sense via "biocybernetic" tools, as Mitchell would also approve. As such, in the posthumanist sense, the doubled markers of nonhuman identity constitute a biologically and technologically enhanced posthuman body:

> Spielberg's dinosaurs are pure creations of information science, at both the level of the representation (the digitally animated image) and the level of the represented (the fictional cloned creatures produced by biogenetic engineering). [. . .] The architectural and mechanical models of the organism give way to (and are absorbed by) informational models: the species becomes a message, an algorithm: the boundary between organism and machine, natural and artificial intelligence, begins to waver. (Mitchell, *Last Dinosaur* 213)

Following these problematised distinctions between organism and machine, and natural and artificial intelligence in *Cenozoic Park*, the distinctions between the ruler and the ruled become disjointed. Thus, in the frame-tale of *End of an Era*, the central and so-called superior agency attributed to humans also vacillates and becomes eroded. With the end of its mastery, humankind is now reduced to a thing of the past, and the audience is provided with an intentional sense of fear, because this is too real to be avoided in the near future.

In *Cenozoic Park*, the professor cockroach, Dr. Blatella, is heard informing his assistants that "*Homo sapiens* contributed to their own demise with their unending desire to devour everything in their reach, seemingly blind to the consequences or their fate" (*End of an Era*). This sentence is not only important in the sense that it shows the cockroaches as capable of understanding the human failure to conduct good relations with their environment, but also vital in a posthumanist sense that it critiques the self-centred idealisation of humans. By attributing human rationality and logical reasoning skills to cockroaches, the director cleverly underlines how trivial these qualities might turn out when they are used to exploit others. Indeed, he noticeably indicates that the termination of those exploited others will result in the exploiter's own downfall. It is also clearly perceived here that, as a comic element, the roles attributed to humans have only been inverted. The cockroach actor, for instance, is playing the part of Dr. Blatella, which was originally Dr. Ian Malcolm, played by Jeff Goldblum in *Jurassic Park.* Imagining a well-known actor in the form of a cockroach is an amusing feature for the audience. The anthropomorphic destabilisation of these human and cockroach roles, however, is not simply a laughable aspect here. It also offers a radical and posthumanist critique of human exceptionalism. In a way, Al-Khalifa invites his audience to rethink the definitions of rationality and reason by giving these qualities to cockroaches. Hence, against a human-centred view of the world, anthropomorphism is used by Al-Khalifa as a proficient apparatus. Used as such, anthropomorphism presents a way out of our paradoxical approach to exploiting the environment while we are deeply interconnected with it. The film's environmental concerns, as a review shows, are obvious:

> [Ecology] invited ways of communicating the insight that 'humans need trees and bees – but they don't need us'. Environmental sciences show the many and varied ways in which all human activity is dependent on the non-human natural world. Food, water, resources, [and] all the essentials of life rely on the functioning of ecological systems.

> Yet over the 250 years since the Enlightenment the dominant ways of framing the world have set humans apart from nature. Modern culture has placed people centre-stage and many theorists argue for a 'de-centering of the human'. These philosophical concerns are about much more than playing with words. If we fail to place humans within their wider networks, it is inevitable that our politics, economics and culture will continue to behave as if divorced from the environmental systems on which they depend. (Smith, "OU/BBC" n.p.)

When these facts, pointed out in the commentary, are taken into consideration, it is manifest that the film juxtaposes a light-hearted manner with a morbid one, and presents how crucial it is to sustain ecological systems, and it does so by questioning the meaning of the human. As such, the entire species of cockroaches is now attributed a new role of the "human," in cultural, social, and emotional facets. On the other hand, the film also offers the audience with a chance to reaffirm their status as thinking and speaking animals, namely, as humans. By distorting the frontiers between these two identities, the director subtly presents a posthumanist dilemma; that is, whether other species can carry human characteristics, and if they do so, whether we should be concerned over what sort of change this brings into our lives. The answer to this lies in the deconstructive strategies of the film. Now that the cockroaches are the new rulers of the planet, they can enjoy a "multifaceted openness to the world," which is thought to be a human quality (Höffe 40). This openness, traditionally referred to as the "freedom of action," can now be observed as a cockroach characteristic in the film. For instance, the professor cockroach, Dr. Blatella, notes in his lecture that "[humans] are far more complex than [. . .] previously thought," and adds that "they have produced great art and found great beauty in the wonders of the world around them. They were, in fact, glorious" (*End of an Era*). As Dr. Blatella understands, humans are often defined and segregated from other species by their cultural practices: "[H]uman beings are social and cultural beings on account of their biological nature. They might produce various cultures, and in better or worse guises – but they can hardly live without any kind of culture" (Höffe 40). Although humanity is marked by its cultural aspect above other species, it now becomes clear that, in the film, the cockroaches are cultural beings, too. Just like a human professor, Dr. Blatella lectures about his research topic, and it is in this sense that he also belongs to the cultural domain. As a human counterpart of his would do, he takes pride in revealing the fruitful results of his endless research, which has made it possible to reanimate the human species. By doing this, Dr. Blatella is not simply mimicking Dr. Ian Malcolm, nor does the cockroach actor imitate Jeff Goldblum. Through this parody of the famous film *Jurassic Park*, the director, Al-Khalifa, helps us rethink our cultural aspect, which has performed a pivotal part in distinguishing us from the nonhuman others. The altered state of the cockroaches, therefore, repositions the human and the nonhuman other. Likewise, Dr. Blatella's

research findings concerning the cultural artefacts of humans, on one hand, expose the fact that humans were (and are) characterised through their cultural practices, and on the other hand, through his own research, he becomes a cultural form of life, as well. Indeed, it is not only Dr. Blatella who becomes a cultural being. Buying cinema tickets, watching a film, having familial connections, conversing with others, working, eating popcorn in the theatre, and being given a toy prize[24] with the popcorn, all the cockroaches seem to have fully adapted into the cultural lives of humans (see Figure 1.3). On Colin and his grandfather's entrance to the theatre, the following conversation takes place:

> Grandfather: Two tickets please.
>
> Cashier Woman: Well, of course. [Grandpa receives the popcorn]. And would the little one like one of our free soft toys?
>
> Colin: [Happily] Ha-ha, thanks. (*End of an Era*)

It is plainly viewed in this scene that the cockroaches are also defined through their socialisation skills. Judging from their accents, the cockroaches are actually socially and intellectually sophisticated Londoners. Thus, the entire cockroach species becomes "fully" human, as every one of them shows signals of having a social life, apart from the cultural and scientific practices of their species.

Figure 1.3: A dialogue with the cashier

As the grandfather consumes his popcorn, he shows signs of eating for pleasure. In other words, his eating has been turned into a completely human habit: eating is not for natural reasons, but for cultural and performative reasons. As humans often eat popcorn in the cinema, so does the grandfather cockroach. Therefore, the film also inquires about the concept of pleasure derivation, which is considered to belong to humans only. In their own biological reality, eating is thought to be only a biological need for the cockroaches. However, with his popcorn in the cinema, the grandfather cockroach seems to enjoy life, and thus, typically exhibits a human person's behaviour. In this regard, the film deconstructs the dichotomy between "the Enlightenment's human rationality versus the animal's mechanical reflexes" (Wolfe, *Animal Rites* xii). Just like his elderly human counterparts, the grandfather cockroach is observed to have a white moustache as a stereotypical senior male figure, and falls asleep while watching the film. Hence, the cockroach species can be seen to display freedom of action in a similar manner to humans. On this humanly freedom of action and its relation to the cultural aspect of eating and drinking, Otfried Höffe notes:

> Even in their basic physical needs human beings display their freedom of action. Thus hunger and thirst urge us to eat and drink; but what we eat and drink and when, how often and in which surroundings we do so, how the food and drink are to be found, prepared and stored – all of that is up to us and depends upon further (esthetic, social …) considerations. (40)

The grandfather cockroach, thus, through his consumption of the popcorn during the film (although he only has one piece of popcorn due to his small size, which is a comic element), exemplifies what Höffe states about humans. Likewise, the little cockroach boy, Colin, also affirms his status as the new "human" by wearing glasses, for instance, or by hugging his new toy. When the camera gets closer to his face, it can be more clearly seen that Colin is just like a human child. He not only watches the film curiously as his grandfather snores, but also displays emotions such as happiness (when he receives the soft toy prize) and fear (when he sees the enormous and violent human figure displayed on the digital screen). Being scared, Colin stands up and runs out of the cinema, screaming with terror. Leaving the theatre after him, the grandfather cockroach follows Colin and finds him leaning towards the barriers of a bridge. Trying to soothe

him, the grandfather asks what happened, and Colin answers in a frightened manner, heavily gasping and trembling:

> Colin: Grandpa, will they ever be back?
>
> Grandfather: No, lad. They've gone for good. I think you're safe now. Come on. Let's be getting now. (*End of an Era*)

As the grandfather assures Colin that "humans will never be back," the audience is presented with two sharp images. One is the silhouette of the city, from which we can clearly affirm that the city is actually London, now uninhabited by humans. This is especially true if the Ferris wheel (which is supposedly the London Eye) and the clock tower (which is what seems to be the remnants of the Big Ben) are considered. The other image is the toy human left on the bridge by Colin (see Figure 1.4). These images are apparently intended to contribute to the dystopian atmosphere of the film in general and to the related sense of fear aimed to be aroused in the audience. As this is the closing scene of the film, it clearly stands out as a warning label for human beings, for the consequences of devastating the planet will be fatal for their species along with a number of others, whose existence is not seen anywhere in the film's dystopian world.

Figure 1.4: The dystopian London and the toy human

In this final scene, the human is only to be seen as a nostalgic element from the past. The human hubris, surely, caused the eradication of all the species, except for the extremely tenacious cockroach, which is now the only being to symbolise life. Therefore, this final scene, when combined with the sense of fear in the cockroach child and with the relief provided by the grandfather figure, brings about a juxtaposed feeling of living and dying, which is evoked both in the human (the audience) and in the cockroach (the fictional character). After facing the temporary fear of dying, both bodies experience a sense of relief as they know they will continue living. Thus, they re-embrace life through their emotions of fear and anxiety of the future. This human condition, as it is applied into the cockroach figures, not only invites the audience for a better and a more empathetic understanding of nonhuman life by appealing to our sense of affection, but also ensures that we acknowledge the cockroaches as life forms with agentic capacities. The simultaneity of the fear experienced by Colin and by the audience creates, thus, a sense of emotional connection between the two species. By this, not only a sense of interconnectedness is called upon, but also the seemingly unique human qualities, such as consciousness and rationality, or the feelings of fear and anxiety, are challenged in an unexpected way. Although the audience is well aware of the fact that this is an animated fiction, the underlying message defies the normative concept of the human as a living, conscious, rational, thinking, and feeling body, echoing what Johanna Tito writes:

> Consciousness, after all, can present us with a world only via a living body – it always operates in and through a living body, which, in turn, presents us with, opens us to, the world we live in, the life-world.
>
> But a living body is a *feeling* body, and so consciousness is also *feeling*, for when we see what we see we cannot help but feel and, correlatively, when we feel, we are seeing something, though we may not initially know, that is, be able to articulate, what it is we are seeing in our feeling. [. . .] Good thinking, then, may also be feeling and feeling may also be good thinking. Since all thinking is embodied, rational thought is essentially bound up with elements of the living body such as desire, instinct and the unconscious, elements that have irrational and opaque aspects to them. All thinking, in other words, will have its rootedness in the opaqueness of the living body. (243; emphases in the original)

It is through the living and feeling bodies of the cockroaches that Al-Khalifa guides the audience to reconsider what defines the human, while at the same time, presenting a posthuman world of embodied consciousness without humans. The transparency of the borderlines between thinking and feeling, consciousness and instinct, and the rational and the irrational are presented through the transparency of the boundaries between the human and the insect. Also, being able to watch a film and to respond to it, the cockroaches are supplied with a seemingly humanly mixture of feeling, instinct, and consciousness. Hence, ingeniously re-written, this new *Jurassic Park* film becomes a new dystopian blockbuster for the cockroaches. Likewise, the film itself presents a new frame of mind in a new world, while this frame-tale also holds a mirror up to the audience and leads them to question what it means to be human, how the human body is connected with the rest of the world, and whether there are possibilities of overcoming the likelihood of a disastrous end for humans and the rest of the planet. Without a doubt, as Al-Khalifa himself notes, the aim of this animation is "to create a film that asks its audience to reconsider the situation we find ourselves in today in an engaging and innovative way" (qtd. in Smith, "OU/BBC" n.p.). The director contends that his "ambition" is "to deliver the weighty message of the vulnerability of [human] species but in a light hearted manner," and that the main question in his mind is "do we need ecology more than it needs us?" (qtd. in Smith, "OU/BBC" n.p.). Posing a critical question as such, the director openly states that the key purpose of the animation is to change the mindset of the audience through a transposition of the human and the cockroach.

Pursuing a similar line in its posthumanist objectives, Steve Cutts's *Man* is also a dystopian story, which narrates the end of humanity to critique the extreme human exploitation of the planet. It "is a darkly comic, disturbing view of our species who wreaks havoc on other species and on nature itself" ("MAN" n.p.). With a deliberate focus on a male human figure as the protagonist and the only character that epitomises humanity, this animation can also be read as a cautionary tale. Such intentional characterisation of the human (as "Man") is definitely an ecologically oriented critique of Enlightenment humanism which, as Cary Wolfe writes, is "grounded in the figure of 'Man' and in the dichotomy of human and nonhuman" (*Critical Environments* 52). As

such, *Man*, with its telling title, problematises the idealisation of the human figure under the deliberately capitalised concept of "Man," and it is in this sense that the film is a posthumanist challenge to "a range of conceptual pieties rooted in Enlightenment thought" (Jackson 670). This animation is, thus, a macabre but funny criticism of the consumerist habits of humankind in an age of high capitalism, which reifies itself through a "brutal objectification of nature and the nonhuman" (Wolfe, *Critical Environments* 41). As Wolfe maintains, such objectification is "a dynamic deeply symptomatic" of the "Enlightenment inheritance that imagines that man-the-producer liberates himself insofar as he fully exploits and raises himself above that object and resource called 'nature'" (*Critical Environments* 41). Therefore, just like *End of an Era*, *Man* also reflects on the selfish and narcissistic acts of humankind, which are committed without taking into consideration the fatal consequences.

In *Man*, a short history of humanity is presented, where the human figure kills all the animals for food, clothing, and pleasure, as can be seen in Figures 1.5 and 1.6. This human character, then, continues to pollute the environment, using his tool-making capacity to invent weapons, and causing mass-destruction of the planet with a mess left behind (see Figures 1.7, 1.8, 1.9, and 1.10). This is presented via comic elements that light-heartedly expose the audience to reality, but it is also a sad fact that has evidently brought about terminal costs for the ecosystems of the planet. The human causes of environmental degradation are by all means the number one cause of planetary devastation, and such disastrous results have never been clearer at any time in history:

> Human alteration of Earth is substantial and growing. Between one-third and one-half of the land surface has been transformed by human action; the carbon dioxide concentration in the atmosphere has increased by nearly 30 percent since the beginning of the Industrial Revolution; more atmospheric nitrogen is fixed by humanity than by all natural terrestrial sources combined; more than half of all accessible surface fresh water is put to use by humanity; and about one-quarter of the bird species on Earth have been driven to extinction. By these and other standards, it is clear that we live on a human-dominated planet. (Vitousek, Mooney, Lubchenco, and Melillo 494)

Man, thus, presents a morbid documentary of humankind with all the catastrophic results. The main character of the film, after all his dark and detrimental deeds, finally takes his seemingly strong position upon his throne (see Figure 1.11). In the end, however, the ultimate fate appears: other life forms from a different planet come and take over his superior position, dethroning the so-called "wise man" known as *Homo sapiens*. Considering the directness of the storyline in *Man*, it should be noted here that this animated film has succeeded in handling a difficult task of creating a powerful narrative. After all, "since the last third of the 20th century," as Gabriele Dürbeck writes, "natural and man-made disasters appear to be converging in explosive ways, blurring the boundaries between the realm of human responsibility and unaccountable destiny, between ominous hazards and manageable risks" (20). The narrative in *Man*, however, is sharper in tone than other pitiful instances often employed by the media narratives of natural and man-made disasters, which tend to attribute the reasons behind the disaster to "fate" rather than our fatal policies and cultural practices. As Dürbeck also notes, for instance, "[t]he tsunami and nuclear disaster at Fukushima in March 2011 [. . .] was portrayed both as an unfortunate natural disaster and as the result of reckless collusion of greedy corporations and corrupt government agencies" (20). Unlike the portrayal of Fukushima's devastating results in the media, which is targeted at the emotive responses of the audience, *Man* bluntly satirises the greedy corporations and corrupt government agencies in the guise of a single male human character, and thus, instead of hinting at a blend of long-term and invisible aspects of environmental crises, such as biodiversity loss, ocean acidification, and climate change, it stands as a crude example of allegorical risk narrative. It is in this regard that Cutts's *Man* is very much comparable to what is lately popularised under the category of climate change fiction. Evi Zemanek's comments on climate change fiction as an example of "writing catastrophe" are important here because what Zemanek pinpoints is quite reminiscent of Cutts's *Man* in its narrative strategies:

> Climate change is, on the one hand, a fact provable in numbers of slowly climbing temperatures. On the other hand, it is a global risk with side effects on humanity that are difficult to calculate. Some of these consequences are already perceptible, but many others still belong to the realm of anticipation, which necessarily requires imagination. Thus, there is a special affinity between risk and fiction: the former rests on a lack of secure knowledge and speculation, the latter, for the most part,

> stages the probable instead of the real. Since risks themselves are mere calculations that can be articulated, but seem hard to translate into an action plot, most novels focus on their disastrous consequences and do not fully seize the potential of anticipation, the motor of suspense, which in fiction all too often leads to catastrophe. (52)

In *Man*, too, the plot is swift to end our collective existence on the planet as human rulers of the world instead of focusing on risk and anticipation. This is the reason why *Man* is abrupt, direct, and real in the sense that it displays the probable future as the present in only a few minutes. Still, because it transposes the inevitable disaster into the body of an individual, called "Man," *Man* is highly allusive to the human hubris, which is currently preparing an end for an ongoing environmental catastrophe. In this way, it also appeals to the imagination of the audience, thereby evoking the sense of risk and anticipation. In real life cases, it is possible to argue, indeed, following Timothy Morton's idea, that the ecological catastrophe we have been anticipating has already taken place. By directly displaying what Man has done to the planet, and by helping the audience imagine more than they see, by appealing, for instance, to the toxic effects of house-cleaning chemicals, the inhalation of these toxic materials by human and animal bodies, electronic debris, and animal slaughter, *Man* draws attention to the catastrophe "that has already occurred" (Morton 17). The final scene, in which the "Man" is taken over by an alien species, however, is not there to function as an indicator of anticipation and risk, but for a comic element that alleviates the macabre effect of waste, toxicity, and morbidity on display.

Figure 1.5: Man, killing animals for food and clothing

As one review of the film suggests, the animation is actually making fun of the way the "Man" is overthrown by a species that is "fitter" than the Man thinks he is, which is very similar to the attitude in *End of an Era*:

> MAN is a parable of a man in conflict with the world at large, seeking power over rather than unity with it. MAN offers a biting commentary on this male character's destructive and violent pathos. MAN shows a human being at his worst, creating vast suffering for animals at every turn. And in the end, MAN, sitting on his throne, is dealt a karmic blow. He is destroyed by beings from another planet who land on earth, squish him into a welcome mat, then shuffle off in their spaceship. ("MAN" n.p.)

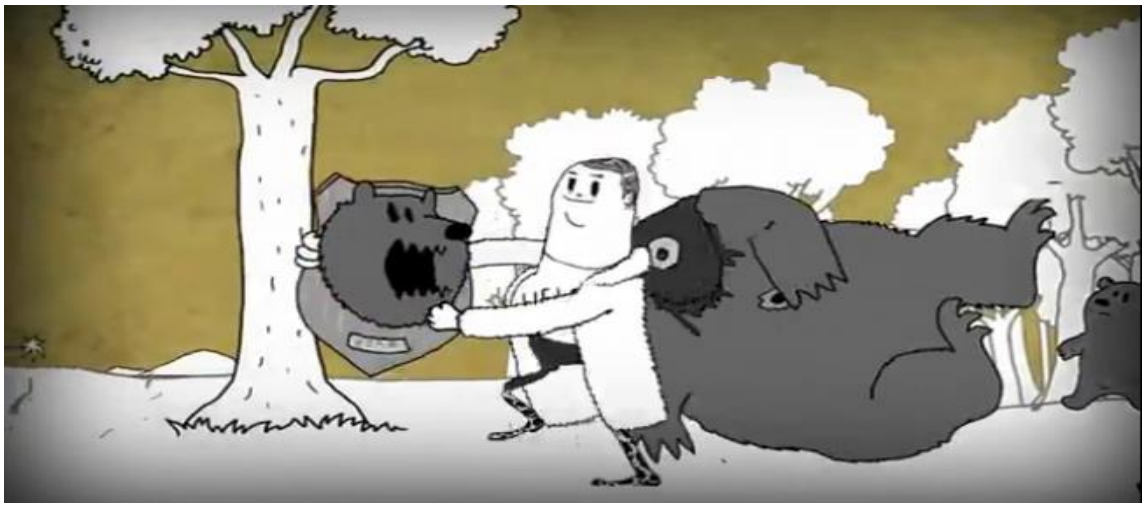

Figure 1.6: Man, killing animals for pleasure

Figure 1.7: Man, poisoning the sea as the ultimate "ruler"

Such destruction, however, should not be taken as a dystopian endorsement of the end of humanity. It should rather be viewed as an indication of how the end of other life forms on the planet is linked to the end of the human. It gives the ecological message that unless we break our habit of consuming the world, and unless we stop considering ourselves as central figures, the end will not be bright. Thus, *Man* is heavily critical of the inhumane acts of humankind, sacrificing every other form of life at the expense of his own survival. As such, this animation is "an artwork in which the interaction of the hu(man) with nature since its birth is criticised by Steve Cutts through a conglomeration of humans' egocentric life, blended with the capitalist consciousness" (Xelîl, "İnsan" n.p.; translated by the author). Therefore, it can be clearly observed that the film presents a "'posthuman' approach to understanding the universe and the place of humans," which is "of increasing relevance to contemporary life, in all its aspects, and has resounding implications for notions of community, sustainability and ethics" (Damlé 303). Hence, despite its comic portrayals, the impact that the film creates on the audience is pretty much the same as what Cary Wolfe writes, when he condemns animal slaughter, environmental devastation, and human exceptionalism, which are all based on liberal humanism. Similar to Wolfe's anticipative predictions, the film presents horrifying effects of humanity on the planet, and opens up a discussion for the likelihood of recognising our faults:

> I think it entirely possible, if not likely, that a hundred years from now we will look back on our current mechanized and systematized practices of factory farming, product testing, and much else that undeniably involves animal exploitation and suffering [. . .] with much the same horror and disbelief with which we now regard slavery or the genocide of the Second World War. (*Animal Rites* 190)

Portraying such horror and disbelief in our fatal mistakes in an amusing manner, the film characterises the posthuman as the critique of the centralisation of the human figure. It thus offers us a chance to look back and rethink what we have done. However, despite its catastrophic end for humans and their world, which seems to be like a typical Hollywood scenario of catastrophe, *Man* does not reiterate the formulaic clichés of saving the planet by a superhuman hero, but instead functions as a cautionary-tale to create ecological awareness. The focus is, therefore, "less on ability and agency," but

more on "shared vulnerability" (Nayar 4) and interdependence of the human and the nonhuman. In this regard, the film actually calls for a "radical rethink of species uniqueness and boundedness of the human" (Nayar 4) to its biospheric neighbours.

Figure 1.8: Man, enjoying the urban mess he has created

Figure 1.9: Man, standing like a superhero in the midst of electronic waste

Just like Al-Khalifa's *End of an Era*, Cutts's *Man* is also critical of the anthropocentric worldview, which is based on the supposition that *Homo sapiens* is the only being with autonomy, rationality, and sentience. Cutts is evidently well aware of the fact that such a human-centred perspective considers the nonhuman as oppositional and inferior to the human. A directly conveyed message in the film is, therefore, a call for immediate

thought and action to reposition ourselves in the biosphere. In creating a greener culture that belongs to a sustainable ecology, it is highly crucial that the human be reshaped and re-valued according to a posthumanist perspective. The eradication of liberal humanist values, therefore, lies at the heart of understanding nonhuman agency and affirming posthumanist outlooks.

Figure 1.10: The planet, now entirely covered by the waste produced by Man

Figure 1.11: Man, sitting on his so-called throne, surrounded by his detriments

Overall, a dystopian sense of the posthuman as the *post*-human allows both of these films to contribute to the making of a new choreography, where the entanglement of the human and the nonhuman is clearly understood. It is a step towards changing the

mindset of humans, who have come to believe for centuries that they are the rulers of the world. Both films, thus, present a light-hearted critique of liberal humanism and consumerist greed, aiming to reposition the relationality of the human and the nonhuman. Rather than overtly focusing on an interdependent ontology, which is most of the time revealed through closer posthumanist and new materialist readings, they pose the nonhuman figures as the new rulers of the world, but not in a sense of threat to the well-being of the so-called superior species: Instead, they present a world where humans have caused their own ends with their own hands, and thus are replaced by another animal or alien species. These films, hence, resonate with posthumanist endeavours that seek to restore the agency of the oppressed nonhuman others. Instead of turning a blind eye on or totally rubbing out the agency of the rest of the living bodies and nonliving matter, they propose the end of the human as we know it, to embrace a non-hierarchical understanding of being, knowing, and valuing. They undergird the erasure of the mindset that builds alliance with the Enlightenment ideals of capitalistic individualism, liberal humanism, and consumerism, thus serving the purpose of cautionary-tales that showcase a comic tone of posthuman encounters.

CHAPTER II

POSTHUMAN AS THE NATURALCULTURAL *ROBO SAPIENS*

> Making, storing, and transmitting can be thought of as modalities related to information; they also help to constitute the bodies of subjects and texts [. . .] [They] imply technological functions that are intimately co-involved. [. . .] In refusing an either/or choice between media effects and a human lifeworld, I again invoke the necessity [. . .] to think in terms of multiple causalities, complex dynamics, and emergent possibilities.
>
> —N. Katherine Hayles, *My Mother Was a Computer*

> The cyborg and the animal mixing with the human are no longer figures of the future, but dimensions of human identity as it exists now.
>
> —Ursula K. Heise, "The Posthuman Turn"

As its title indicates, this chapter explores two aspects of posthumanism, the concept of naturecultures as primarily developed by Donna Haraway, and *Robo sapiens* as intelligent robots, by discussing James Lee's *Tarboy* (2009) and Shaun Tan and Andrew Ruhemann's *The Lost Thing* (2010). Before analysing the two animated films that showcase the fusion of the technological with natural bodies within these contexts, however, the two terms (naturecultures and *Robo sapiens*) call for further explanation. To begin with, there are several uses of the term *Robo sapiens*. It was first used in 2007, simultaneously by Jeanette Winterson in her novel *Stone Gods* and by Malibu, the electronica/remix project of Roger Joseph Manning Jr., as the title of their debut album. The former denotes a combined species of human and robot in a utopian future setting, and the latter highlights the increased enmeshment of the human species with technology, thereby explicating the digitalised background of the music album. Because the term *Robo sapiens* has come to represent anthropomorphic qualities in artificial

bodies in general, it is currently being used in the posthumanities as a generic referential point to expound humanoid robots without essentially mentioning their originators. At present, for instance, the famous toy-like biomorphic robot designed by Mark Tilden and produced by WowWee Toys is retailed under the brand-name RoboSapien™. All of these uses of the term reveal the many facets of posthumanism in literary, cultural, and popular domains. In this chapter, however, *Robo sapiens* is used in a much broader posthumanist context and in an academic manner to refer to wise, sentient, and/or human-like robotic bodies, whose stories are intermingled with those of humans. It has posthuman connotations of an emerging state, which is always already in a state of flux within and around the natural bodies it is interacting with.

As for the concept of naturecultures, the discussions here require a more comprehensive survey. Although sometimes attributed to Bruno Latour as its coiner, the term naturecultures has first come to be associated with Donna Haraway's configuration of the cyborg and the companion species, as two key metaphors in the development of posthumanism. Still, it is not possible to ignore that Latour has had a pivotal role in the advance of enviro-political dimensions of this term. Following these two eminent scholars' footsteps, several posthumanists have begun to use the terms nature and culture as intrinsically linked to each other. The term, since then, has created lively discussions within the posthumanities, currently being widely employed by posthumanist scholars, ecocritics, and the new materialists to indicate the indivisibility of nature from culture without necessarily referring to these two influential figures, Latour and Haraway.

Challenging the idea that nature is understood as singular, and emphasising the multiplicity of species and life forms that reside within it, Latour has insisted in *The Politics of Nature: How to Bring the Sciences into Democracy* (2004) that just like "cultures," nature should be viewed as also plural, as the term is too restraining to encompass and denote such a wide range of species and beings that inhabit it. He specifically emphasised the idea that nature and culture are not pre-existing entities, but there is only naturecultures; nature and culture cannot be thought of as separate spheres

of reality. He has brought up the example of asbestos to implicate how nature, once seen as inert and passive, is actually an active agent in the cultural premises:

> The case of asbestos can serve as a model, since it is probably one of the last objects that can be called modernist. It was a perfect substance (was it not called a magic material?), at once inert, effective, and profitable. It took decades before the public health consequences of its diffusion were finally attributed to it, before asbestos and its inventors, manufacturers, proponents, and inspectors were called into question; it took dozens of alerts and scandals before work-related illnesses, cancers, and the difficulties of asbestos removal ended up being traced back to their cause and counted among the properties of asbestos, whose status shifted gradually: once an ideal inert material, it became a nightmarish imbroglio of law, hygiene, and risk. This type of matters of fact still constitutes a large part of the population of the ordinary world in which we live. Yet like weeds in a French garden, other objects with more extravagant forms are beginning to blur the landscape by superimposing their own branchings on those of modernist objects. (*Politics of Nature* 23)

As can be seen in Latour's explanation, demarcating the natural with a segregating border that divides it from culture is both theoretically and practically impossible. A chemical substance, its bodily effects, and the medical, ethical, political, financial, and legal outcomes of these effects are intermingled in an enmeshed network of agents, both natural and cultural. Along similar lines to Latour, Haraway also insisted both in her *Companion Species Manifesto* (2003) and in *When Species Meet* (2008) that nature cannot be viewed as a disentangled entity from the cultural domain. In this latter publication, she drew more attention to the affective dimension of human-nonhuman relations, and empathically underlined the blend of nature and culture. The origins of the idea of naturecultures, however, are found in her metaphors of the cyborg and the companion species. Being a symbol of "pre-oedipal symbiosis," a "no origin story," and not being "made of mud," as Haraway earlier noted (*Simians, Cyborgs* 150-51), the cyborg figure suggests a potentiality of re-questioning and reframing the human as a concept "beyond conventional categories of gender, race, class, and geopolitics, and of reinventing psychic as well as social and political structures outside of the limits imposed by older political utopias that sought the return to a point before technology and modernity" (Heise, "The Posthuman Turn" 459). Since a return to a point before technology and modernity is not possible, and since our current relations with nature are so infiltrated by culture that we cannot think of a wild, pristine nature in a prelapsarian

state, the term naturecultures replaces both nature and culture as two ontologically and epistemologically distinct terms, and closes the gap between them through its onto-epistemological approach. Unlike Latour, however, rather than drawing her instances from a poisonous substance, Haraway got her inspiration in coining naturecultures from technology and animals; and in this, she did not only focus on a robotic body whose materiality is sidestepped by its informational aspect. Instead, the cyborg metaphor, as kin to the companion species, brought all natural and cultural formations together:

> Cyborgs and companion species each bring together the human and non-human, the organic and technological, carbon and silicon, freedom and structure, history and myth, the rich and the poor, the state and the subject, diversity and depletion, modernity and postmodernity, and nature and culture in unexpected ways. (*Companion Species* 4)

Although critical of the fact that Haraway shifts abruptly from technological and natural forms of consciousness to human-canine relations in *The Companion Species Manifesto*, Ursula Heise finds this approach successful "in conveying the sense that a consideration of human identity as altered by contemporary technologies is no longer complete without a concurrent account of its relation to animal modes of being" ("The Android" 504). In synch with Heise's evaluation on the success of this manifesto, and noticing that the emergence of a posthuman identity lies within this new and multi-faceted concept of naturecultures, a number of publications that discuss the inseparability of nature and culture have appeared in various contexts. Rosi Braidotti, for instance, marks her own seminal volume *The Posthuman* (2013) as ignited by "nature-culture continuum" and states that "the binary opposition between the given and the constructed is currently being replaced by a non-dualistic understanding of nature-culture interaction" (2-3). Likewise, inspired greatly by Latour's challenge to the borders between nature and culture, Stephen Muecke also underlines a non-dualism between the two concepts in his 2007 article "The Cassowary is Indifferent to All This." He unusually brings together a number of elements, such as a wild bird, a car, a group of scientists, artists, and Aboriginal people, and explicates how they are inextricably bound even within an ordinary, mundane story. As he combines them under his own conceptualisation of naturecultures, he suggests:

> So, let's call a meeting not just with the scientists, but also with the cassowary, with a motor car, with some Aboriginal people and with an artist or two. First we will have to change the structure of the institution to accommodate non-humans. Nature will be admitted as a player, and also technology. [. . .] But where is the cassowary, the representative of Nature? [. . .] Once the meeting starts we will have to rank the problems in order of importance. Lunch, chickens will contribute to that, as will fields of wheat and vegetable farms. There is a cost that has to be taken into account. Is the cassowary habitat more important than the tourist resort, or how can their claims to existence be mutually accommodated? Everyone will get a chance to put a proposition about the importance of the ranking of problems. ("The Cassowary" n.p.)

As this quotation indicates, Muecke's article is quite thought-provoking in leading us to think through the relations between nature and culture, but, in their article "Naturecultures? Science, Affect and the Non-human" (2013), Joanna Latimer and Mara Miele point out a much more significant detail about our understanding of these embedded relations. Emphasising that many social sciences scholars "have turned belatedly to the topics of the body and materiality," but they still retain their "agendas" mostly "driven by humanistic perspectives" (6), Latimer and Miele suggested that "attempts to make animals stand up, or more generally get nonhumans to speak as more than spokespersons for human interests, appear doomed to failure unless we also rethink the nature of science, social or physical, as itself a domain of culture" (7). In this, they might sound as if they are critical of anthropomorphic qualities attributed to nonhumans; however, the main point they make is that anthropomorphism alone cannot work out our primary problems in our relations with nonhumans. As such, we need to understand that, especially with proliferating biotechnologies, natural and technological bodies are becoming more and more infiltrated into one another.

Bearing these intermingled relations between the natural and the cultural in mind, and analysing anthropomorphism in robotic bodies, an examination of *Tarboy* and *The Lost Thing* can provide insight into the naturalcultural relations between humans and machines as a major aspect of posthumanism. As can be inferred from Katherine Hayles's influential remarks in the first epigraph of the chapter, in the twenty-first century, especially in the face of emerging "technologies of cloning, stem-cell engineering, cryogenics, Artificial Intelligence and xenotransplantation," which "blur borders of animal, human and machines," it has become increasingly clear that

"previously taken-for-granted categories of the human/non-human are now subject to sustained, controversial examination" (Nayar 3; capitalisation in the original). Considering the complex relations between the cognitive capabilities of the human and those of other beings, such controversy has led to the posthumanist problematisation of human consciousness as an identity marker, as the second epigraph, taken from Heise's recent discussions of the posthuman, implies. Thus, taking human consciousness as an epiphenomenon, and not as a central choreography to define *Homo sapiens*, has become one of the core characteristics of posthumanist discussions. In other words, the emergence of the posthuman subject follows from the pursuit of reframing the human from a non-anthropocentric view. Then, in light of "new biotechnologies and new findings in the cognitive sciences," which "have complicated how we conceptualize and enact our human identities," posthumanism is an attempt to "destabilize" the human in "its biological, social, and political aspects" (Joy and Neufeld 171).

This is what *Tarboy* and *The Lost Thing* also intend to do through their employment of naturalcultural hybrids and conscious machines in their storylines. In fact, both films involve quite engaging stories about posthuman encounters between humans and responsive technological bodies. Bringing together the culturally produced and the naturally born, these films seem "fundamentally ambivalent about the breakdown of the distinctions between human and machine, between personal consciousness and machine consciousness" (Csicsery-Ronay 191). Through such ambivalence emerges a posthuman hybridity, highlighting the entangled relations between the human, the nonhuman, and the technological. In this human-machine symbiosis, posthuman bodies interact with one another as always emerging and boundary-transgressing forms, encompassing not only humans, but also "sensate, intelligent, interconnected devices scattered throughout [the] environment" (Mitchell, *Me++* 7). *Tarboy* and *The Lost Thing* are, therefore, posthumanist attempts to realign human and nonhuman technological bodies as highly interdependent forms. While questioning "the identity of humanness itself" (Kirby, *Telling Flesh* 5), both animations indicate humans "in a dynamic co-evolutionary spiral with intelligent machines as well as with the other biological species with whom we share the planet" (Hayles, "Unfinished Work" 164).

Despite their unique posthumanist approaches to human-machine relations, neither *Tarboy* nor *The Lost Thing* is the first attempt to thematise a form of artificial intelligence and to question the meaning of being human. Before Lee's and Tan and Ruhemann's short animations, there have been numerous literary, cinematic, and animatic methodologies to analyse human-like robots and their encounters with "natural" humans. Most of these attempts, however, are either nightmare-like dystopias, where the human existence is under the threat of intelligent robots, machines, and computers, or they are human-centred fantasies, in which robots serve humankind. In a brief summary, this phobic or hierarchical approach to artificial intelligence or sentient machines can be noted as a misconception of the posthuman, whereby the ontological divide between the human and the nonhuman continues to reside within the plots:

> Under the influence of cybernetics' techno-utopian vision, Isaac Asimov imagined pro-human robotic technology to counter the dark, gothic, anti-science vision of human-hating, created-by-technology monsters. His Laws of Robotics provided the blueprint for good, slave-like robots, from his own 'Robbie' and *Forbidden Planet*'s Robby to *Star Trek*'s Data and *A.I.*'s David. [However,] the development of computers and artificial intelligence generated a new object of pop culture technophobia – sinister, human-hating, out-of-control computers. Despised by the science-promoting Asimov, these science fiction supercomputers carry on the so-called Frankenstein complex. Autonomous and all-powerful, military- or corporate-originated artificially intelligent monsters seek to control, displace, or destroy humanity. Along with such figures come even darker implications that we have already submerged our humanity to technology – that we ourselves have become machines. (Dinello 86)

These antecedents of *Tarboy* and *The Lost Thing*, clearly, portray an either/or state of human-robot relations. On the one hand, Asimov's subservient and docile robotic bodies continue surfacing, and on the other hand, there is a rather horrifying picture of the so-called posthuman identity, which is associated with a strong hatred of the human species. At first glance, Lee's and Tan and Ruhemann's films also seem to reify the dichotomy between the human and the nonhuman, though not as strongly as these Frankenstein-complex-fictions. They look as if they present a form of artificial intelligence in opposition to a human-dominated world. However, *Tarboy* and *The Lost Thing* do not actually intend to depict a posthuman future with such dark implications, where the robots or machines either are subject to human dominance or are threats and

enemies to human well-being. Instead, in both of these animations, "the either/or status of human/machine identity," as William S. Haney II writes,[25] is "pushing against the boundaries of neither/both" (94). In both films, different forms of conscious mechanisms, i.e., technological bodies with sentience, are portrayed as machine-organism hybrids. With the help of this blurring of boundaries between the natural and the cultural, these hybrid figures stand as strongly depicted embodiments of posthuman amalgams. They emerge, in a sense, as posthuman bodies in the making, which do not simply reduce the human to a form of disembodied consciousness, and thus, they do not require humans to submerge their "natural side" to technology. Instead, they inquire into the meaning of being human, by displaying their posthuman characters that are "interacting reciprocally with an unpredictable environment" (Haney II 98). Hence, they help us reconsider our definitions of human, nonhuman, and machine, and thus showcase "an interfolding network of humanity and nonhumanity" (Bennett 31). Both of these animations, in this regard, not only indicate a Harawayan sense of the cyborg, but also poise human-machine relations through their apposite portrayal of the incessant construction, deconstruction, and reconstruction of naturalcultural blends as posthuman figures. The aim of the directors is, obviously, not to create a dystopian world, but to lead us to question our basic ways of thinking and acting as the so-called human-masters of the world. In their approaches to the concept of the posthuman, it can be clearly perceived that the directors "reject the overall pessimistic and transcendentalist view of technology as a dehumanizing and alienating force that characterizes classical philosophy of technology" (Sharon 80). Rather, they present a critique of such views, and argue for an understanding that requires technologies "not be seen as transparent intermediaries" between two ontologically separate realms, but be viewed as agents that "co-shape human beings" (Van Den Eede 156). Thus, they do not offer "essentialist critiques of technology that refer back to foundational narratives of the organic human, an uncontaminated nature or an authentic reality that echo the dualist paradigm of humanism" (Sharon 80). Instead, the directors of both films concentrate on a more non-aligned sense of human-technology kinship, emphasising "a strong symbiotic and interdependent relation" between the two (Heersmink 122). They underline that their view of technology is neither dystopic nor technophiliac; rather, their understanding of human-technology relations focus on "the co-extensive materiality of humans and

nonhumans" (Alaimo and Hekman 9). For them, therefore, technology is a "non-essentialist" and "neutral" tool, which is both "the product of human creativity" and "a force that shapes human existence" (Sharon 80). Bearing these obvious intentions of the directors in mind, it is manifest in both films that Lee and Tan and Ruhemann are disallowing "the modernist idea of the robot as subservient to the human, as exemplified by Isaac Asimov's 'three laws of robotics' formulated in 1942" (Braidotti, *The Posthuman* 43). These three laws are, as Rosi Braidotti explicates,

> (1) A robot may not injure a human being or, through inaction, allow a human being to come to harm. (2) A robot must obey the orders given to it by human beings, except where such orders would conflict with the First Law. (3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws. These rules were set up by Isaac Asimov in a short story in 1942 and then re-printed in the world best-seller: *I, Robot*, in 1950. They became foundational notions in cyber-studies. Later, Asimov added a fourth law which precedes all others: (0) A robot may not harm humanity, or, by inaction, allow humanity to come to harm. (*The Posthuman* 43, note 7)

However, it also needs to be clarified that, in rejecting such formulation as Asimov's, the directors do not seek to privilege the machine sentience over that of the human. The recent developments in technology, as Braidotti also suggests, require new models of understanding and acknowledging nonhuman agency in the technological level. She notes, due to the previously unimaginable changes that took place in cybernetics and robotics, that "we are now confronted by a new situation, which makes human intervention rather peripheral if not completely irrelevant" (*The Posthuman* 43-44). The directors of the two animations are noticeably aware of this fact. Thus, they seem to be searching for alternative ways of viewing techno-sentience, rather than dignifying either the human or the machine. As opposed to Asimov's submissive robots or to extremely evil robots that seek to destroy or displace humankind, Lee's and Tan and Ruhemann's posthuman robots exist in a state of flow, as an enmeshment of the carbon-based and the silicon-based. Instead of reiterating a dichotomy between the two approaches, hence, these films propose a blend of organic and inorganic bodies through the emergent condition of the posthuman, thus formulating human-robot relations as a "a complex and supple network" (Serres 105).

As such, fusing the biological and the inanimate, as well as the chemical and the technological, in quite an affirmative posthumanist manner, Lee's *Tarboy* bases its plot on a world where "robots are sentient and take the place of people" (Lee, "*Tarboy*" n.p.). This short animation intentionally replaces humans with robots to question the centralised position attributed to humans. Without even mentioning the human, the film envisions a fictional world of *Robo sapiens,* replacing *Homo sapiens*. Such replacement, however, is not in a deprecating sense, nor is it a displacement of the human, but it is rather an extended fantasy of a posthuman robotic world. Still, having anonymous and unfamiliar life forms as humans in disguise (like the Fat Cats) and robots as its characters, the film problematises the human dominance over the planet, especially in the context of consumer culture. *Tarboy* presents "the computational subject" as its core element (Hayles, *How We* 242), and it characterises its protagonist, Tarboy, as a posthuman robotic body that emerges from the human-like enmeshment of the informational (robot) and the chemical (tar). As Katherine Hayles writes, "the posthuman appears when computation rather than possessive individualism is taken as the ground of being" (*How We* 34), but Lee's conceptualisation of the posthuman takes Hayles's view a step further, and combines computation with such possessive individualism. After all, Tarboy's story is a story of revenge, in which the sentient robot fights against its human-like enemies, the Fat Cats. With no verbal reference to humanity, Tarboy strongly criticises the human mastery over the planet through these Fat Cats. Indeed, a closer look at the name attributed to the Fat Cats, who are greedy capital-owners, reveals more than the term's everyday use. The Fat Cats are named as "cats," but they look like humans. At the same time, with antennas instead of ears, they are robots under the guise of human. In the face of Tarboy's likelihood of gaining victory, thus, these mechanised-humanised-animals are also decentralised, just like *Homo sapiens* is in a posthuman environment. In a world like this, where the once-centralised human is already sidestepped and dethroned, "the coming to life of the technological other," as in the form of Tarboy and the sentient robots, no longer functions to "fragment the self, to mathematize and mechanize it, to make it into an object of domination" (Rutsky 26). Tarboy emerges as the technological other in an apparent enmity with the dominant hybrid figure, but it holds the position of a subject in control, rather than a figure to be dominated, replacing the human subject that has

already lost its central locus. The self of the posthuman, thus, is always already mathematised and mechanised through the hybrid, digital-natural body, but it is not simply reduced to such mathematisation or mechanisation alone, unlike in typical science-fiction clichés. Instead, it epitomises the link between "the natural life forms" and "cultural forms of life" (Helmreich xi). Moreover, such link between nature and culture always already exists, not only in the body of the seemingly superior subject, but also in the form of the object that reverses the domination.

In the opening scene of the film *Tarboy*, a young robotic body, the grandson, asks his robot grandfather to tell him a bedtime story (see Figure 2.1). The story that the robot grandfather tells turns out to be the story of the film's protagonist, Tarboy, and the grandfather starts narrating how the main character promised to take revenge from his humanised suppressors. The story begins with the words, "[o]nce, there were three rich 'Fat Cats,' who ruled the world" (Lee, "*Tarboy*" n.p.). The Fat Cats, which can be seen in Figure 2.2 as the capital owners, symbolising multinational corporations that dominate our world, used robot slaves in their mines to make high profits, and Tarboy was once among those robot slaves. Not needing anymore the robot slaves due to discovering better methods of production, the Fat Cats "destroyed their slaves and dumped them into the tar pit" (*Tarboy*), causing these slaves to die a painful death (see Figure 2.3).

However, not to the knowledge of the Fat Cats, the robots' "collective consciousness (in the form of memory chips) survived and combined itself with the tar," as a result of which was born "a boy made of tar, who named himself Tarboy," the only desire of whom was to strike back at the Fat Cats (Lee, "*Tarboy*" n.p.). In the director's own words, the high-paced scenes that involve the fight between Tarboy and the Fat Cats are as follows:

> The action began at a water cooler in a corporate building, where agents of the Fat Cats [. . .] were idly chatting. Tarboy, meanwhile, was sneaking up through the plumbing and into the water tank, taking advantage of his fluid body. [. . .] After defeating the armed robots, [Tarboy] pursued one of the agents into a dark building. There, he was stalked by another dangerous robot, whom he could not spot in the dark. Their confrontation, however, was interrupted by a janitor, who

> came in and turned on the lights and some music [so that] Tarboy was able to overcome his foe.
>
> Although Tarboy was skilled in combat, the Fat Cats were cunning, and were able to lay a trap. The Fat Cats gathered in one place, and when Tarboy arrived, they turned on a number of giant heat lamps. Being made of tar, Tarboy immediately began to melt [and] in a matter of seconds, he was a mere puddle. (Lee, "*Tarboy*" n.p.)

Figure 2.1: The robot grandson, listening to his grandfather's story in bed

At the end of the story, the grandfather surprises both his grandson and the audience, saying that he was the janitor who turned on the lights that day. He also shows a jar, which contains the remnants of Tarboy, waiting to be resurrected one day. As can be clearly seen, thus, Tarboy, being born out of a collective consciousness, stands for the multi-faceted concept of the posthuman. It thus disengages certain "sets of relations, concepts, or practices" between the dominant and the dominated figures from the fixed contexts and stable realms that draw their boundaries (Sharon 177). After severing the robot slaves from their singular, permanent, and unchanging categories, Tarboy, as a posthuman collective figure, then, "resituate[s], recontextualize[s] and br[ings]" these previously separate entities "into new relations within a new system or assemblage" (Sharon 177). In other words, the posthuman body of Tarboy emerges as a complete system of networks, rather than as a monolithic body to denote a single robot. Within the body of Tarboy, there lies the collective consciousness of the robots, and thus, they re-emerge as a form of embodied consciousness only to act as one, "positive and dynamic energy that is the primary reality of subjective and social being" (Sharon 177).

Moreover, Tarboy, despite its alleged destruction by the enemy, is still there, waiting to be "resurrected," or rather to "emerge." In such potential possibility of emerging, or becoming, Tarboy signifies potentially emergent multiplicities within a complex flux of heterogeneous assemblages. This is a compound, a fusion, or a blend of consciousness, digitalisation, mechanism, chemical bodies, and a human-like form. Tarboy, therefore, exists, in a sense, within the blurred lines between *being* and *not being*. It *is*, because the grandfather robot possesses the remains of Tarboy in a jar, which signals the likelihood of Tarboy's survival and its promising potentialities. It *is not*, because it is kept in a jar, which means there might never come a moment when it re-emerges to avenge the subservient robots that have been sent into the tar pit. In this regard, Tarboy's case resembles that of Schrödinger's cat,[26] the famous cat-in-the-box thought experiment, which "dramatize[d] most clearly the paradoxical nature of quantum theory" (Greenstein and Zajonc 185). Both Tarboy and Schrödinger's cat bear a 50% probability of being or not being. Moreover, their existence depends entirely on other possibilities at hand, which means their materiality cannot be separated from a seemingly exterior environment. In other words, they both exist in a state of potential flows, which are inherently entangled with one another. In the thought experiment of Schrödinger's cat,

> [a] cat is penned up in a steel chamber, along with the following diabolical device (which must be secured against direct interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, so small that perhaps in the course of one hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The first atomic decay would have poisoned it. The ψ- function for the entire system would express this by having in it the living and the dead cat (pardon the expression) mixed or smeared out in equal parts. (Schrödinger 157)

Concerning Schrödinger's cat, there have been numerous essays and discussions, but perhaps by far the most relevant one to the case of Tarboy would be Karen Barad's posthumanist account. Taking her starting point from this cat paradox, Barad explains that "the overall state of the entangled system after one hour is a superposition of two states – a nondecayed atom together with a live cat, and a decayed atom together with a dead cat – with either possibility being equally possible" ("Living in a Posthumanist"

169). She also clarifies her point by explicating that certain interpretations of the cat paradox are misleading, and eliminates the four most commonly offered interpretations. She notes, firstly, it is not the case that "the cat is *either* alive *or* dead (we simply do not know which)," secondly, it is not the case that "the cat is *both* alive *and* dead simultaneously (this possibility is logically excluded, since 'alive' and 'dead' are taken to be mutually exclusive states), thirdly, it is not the case that "the cat is *partly* alive and *partly* dead (a kitty in a coma)," and finally, it is not the case that "the cat is in a state of being *neither* alive *nor* dead (perhaps in the sense of a vampire cat living among other 'undead' creatures)" ("Living in a Posthumanist" 169; emphases in the original). Instead of these popular accounts, she offers a posthumanist explanation to the case:

> Rather, I argue that the correct way to understand what this superposition (or 'blurring') stands for is to understand that *the cat's fate is entangled with the radioactive source* – and not merely epistemically, as Schrödinger and others suggest, but *ontically*; that is, the cat and the atom do not *have* separately determinate states of *existence*, and indeed, there is no determinately bounded and propertied entity that we normally identify with the word 'cat,' independently of some measurement that resolves the indeterminacy and specifies the appropriate referents for the concepts of 'cat' and 'life state.' [. . .] [T]here is no determinate fact of the matter about whether 'it' is dead or alive. Indeed, in the absence of necessary defining conditions, the very notion of a 'life state' is not well defined – it is without any determinate meaning. (Barad, "Living in a Posthumanist" 169-70; emphases in the original)

In line with this quotation, Tarboy's case is metaphorically linked to the case of Schrödinger's cat. As is the case with the cat and the atom, Tarboy's emergence as a collective posthuman body is strongly related to the behaviour of its oppressors and to the environmental and social conditions surrounding it. Tarboy carries the possibility of re-emerging if similar conditions arise. Also, these conditions are directly connected to the attitude of the Fat Cats. Thus, such possibility (of re-emergence) for Tarboy is only linked to the probability of the re-emergence of the very conditions that paved the way for its existence in the first place. Without these, that is, without the Fat Cats and their entangled relations with the robots and the tar pit, Tarboy would not have materialised, and yet again, under the current state of affairs, it is both likely and unlikely that Tarboy will *become* again. If the Fat Cats, or any form of an oppressor, continue to exploit robot-workers, then, Tarboy will surely retaliate. If not, Tarboy will remain sealed in the

jar, still always carrying that ultimate possibility. On the figurative level, this is also highly significant in the sense that the end of the human is directly related to the end of the other species that have long been oppressed or suppressed. Also, the factors that shape the possibility of Tarboy's emergence are both socially and physically connected to one another. From this perspective, the case of Tarboy and that of Schrödinger's cat stand as strong examples of a posthumanist account of entangled relations between humans and nonhumans. As such, being a posthuman *Robo sapiens*, Tarboy is independent of "any one origin or destination or component" (Weinstone 28-29), and its state of life is indeterminate. In other words, it is this multiplicity of components and probabilities that makes Tarboy a posthuman body. Tarboy's case, therefore, "might be deemed nonlocal, a designation indicating modes of being in the world, of worlding, that circulate among the living, the nonliving, the human, the nonhuman and that serve as multiply-signed capacities for some or all of these" (Weinstone 29). Tarboy not only fluctuates between animal, human, and technology, but also inherently involves an indefinite potentiality of emerging and re-emerging. Its body circulates within and through these up-and-coming states.

Figure 2.2: The Fat Cats, symbolising multinational corporations

Figure 2.3: The robot slaves, being dumped into the tar pit

Along with all these emergent possibilities, *Tarboy* also offers a means of rethinking the boundaries between the organic and the inorganic. Water and tar, being blended in the water cooler/dispenser machine, symbolically, fuses together the organic, the inorganic and the technological to indicate a posthuman form. Thanks to its fluid body, Tarboy appears in an always already nascent condition of the posthuman. Then, it could be argued that Tarboy, as the posthuman subject, reinterprets within its human-like body the meaning of being human. It leads the audience to consider letting go of the exclusionary status of controlling and dominating the other, attributed to humans. In the midst of the techno-cultural unconscious, as the film suggests, the human needs not to be separated from the nonhuman and/or technological domain. Only then could the naturalcultural processes that shape our interactions be acknowledged to help us better understand the agentic powers outside our control at work. As R. L. Rutsky contends:

> The position of human beings in relation to [the] techno-cultural unconscious cannot, [. . .], be that of the analyst (or theorist) who, standing outside this space, presumes to know or control it. It must instead be a relation of connection to, of interaction with, that which has been seen as 'other,' including the unsettling processes of techno-culture itself. To accept this relation is to let go of part of what it has meant to be human, to be a human subject, and to allow ourselves to change, to mutate, to become alien, cyborg, posthuman. This mutant, posthuman status is not a matter of armoring the body, adding robotic prostheses, or technologically transferring consciousness from the body; it is not, in other words, a matter of fortifying the boundaries of the subject, of securing identity as a fixed entity. It is rather a matter of unsecuring the subject, of acknowledging the relations and mutational processes that constitute it. A posthuman subject position would, in

> other words, acknowledge the otherness that is part of us. It would involve opening the boundaries of individual and collective identity, changing the relations that have distinguished between subject and object, self and other, us and them. (21-22)

Despite its surface technological orientation, therefore, *Tarboy* presents a chance to reconsider our position in a techno-cultural world. By giving us an opportunity, for a moment, to stop asking "[w]here [. . .] 'we' humans end and 'they' technologies begin" (Van Den Eede 152), it underlines how humans and technologies are entangled, thus aiming to highlight our kinship with those very technologies we seek to understand. *Tarboy*, thus, through the body of its main character, incorporates the mixture of water and tar into the machinic systems, thereby scrutinising the possibility of emergent conditions of the posthuman within a world without the domination of the "real" humans. The Fat Cats, being human-like figures, whose domination seems to end with the likelihood of Tarboy's revenge, for instance, are intended to propose the idea that such kind of world is possible. These figures also symbolically suggest that the film is strongly critical of capitalist methods of production and consumption. In other words, by highlighting the direct relationship between the Enlightenment views of human exceptionalism and our cultural habits of consumerism, the film presents a critique of our current ways of living in throw-away society. It accentuates the fact that we must acknowledge, as Braidotti maintains, a new, emergent form of "post-anthropocentric life beyond the species," and while doing so, we must bear in mind that "the global economy is post-anthropocentric in that it ultimately unifies all species under the imperative of the market and its excesses threaten the sustainability of our planet as a whole" (*The Posthuman* 63). In line with Braidotti's argument, *Tarboy* holds a mirror up to the need for the promotion of a more horizontally aligned, and perhaps greener culture, by emphasising the link between the false belief that humans are the only capable agents in this world and the exploitative practices of the capital holders.

Taking a similar stance to *Tarboy* in its weight on the indivisibility of human and nonhuman spheres, and presenting a critique of the dull, consumerist lives of humans, shaped by exceptionalist policies, Tan and Ruhemann's *The Lost Thing* deliberately opens with an ontological divide between the realm of humans and that of nonhumans. Diversely coloured in its depictions of especially the nonhuman territory, this 15-minute

short animation is a powerful example of what Ursula Heise calls a "self-conscious aesthetic engagement with the relationship between body and machine" ("Plasmatic Nature" 304). The film also raises the question of "what it means to be human, organic, or natural" (Heise, "Plasmatic Nature" 305), along with its inquiry into the meaning of being a sentient machine. The aesthetic power of the film, in fact, makes it comparatively denser than *Tarboy* in terms of its enhancing a visualisation of posthuman hybridity. Therefore, it is possible to argue that, *The Lost Thing* is much more successful than Lee's animation in portraying naturalcultural entanglements of humans and machines.

The Lost Thing takes place in a dystopian Australia, where an ordinary man called Shaun, who enjoys looking for bottle tops for his bottle top collection, discovers on the beach a hybrid and genderless creature that looks like either an industrial boiler, or a crab, or an octopus, or all of them at once (see Figure 2.4). As the meeting point of the nonhuman animal and the technological, the creature is in fact an example of Haraway's cyborg, a hybrid body that transcends the boundaries of gender, twisting myth and reality, and highlighting a kinship between the animal and the machine. Although it is not a cybernetic organism that is mostly based on information technologies, nor does it involve highly technological or digitalised components, it still merges machine and organism within a heterogeneous fusion. In this, it also enmeshes social reality and fiction, for the existence of such a creature is only available in an animated film. The film, therefore, not only blurs several boundaries, but also gives ecologically concerned messages, which mainly showcase how human exceptionalism results in humans' segregation from nature. In the film, the world of humans, which is deliberately estranged from that of nonhumans, is monotonous, grey, and heavily industrialised. The human figures, thus, portrayed when walking around or commuting between work and home, are alienated from the natural environment that they belong to, and they lead dull and extraordinarily plasticised lives. In this modern world, haunted by industrialism, "humanity," as Rosi Braidotti writes, "is re-created as a negative category, held together by shared vulnerability and the spectre of extinction, but also struck down by new and old epidemics, in endless 'new' wars, detention camps and refugee exodus" (*The Posthuman* 187).

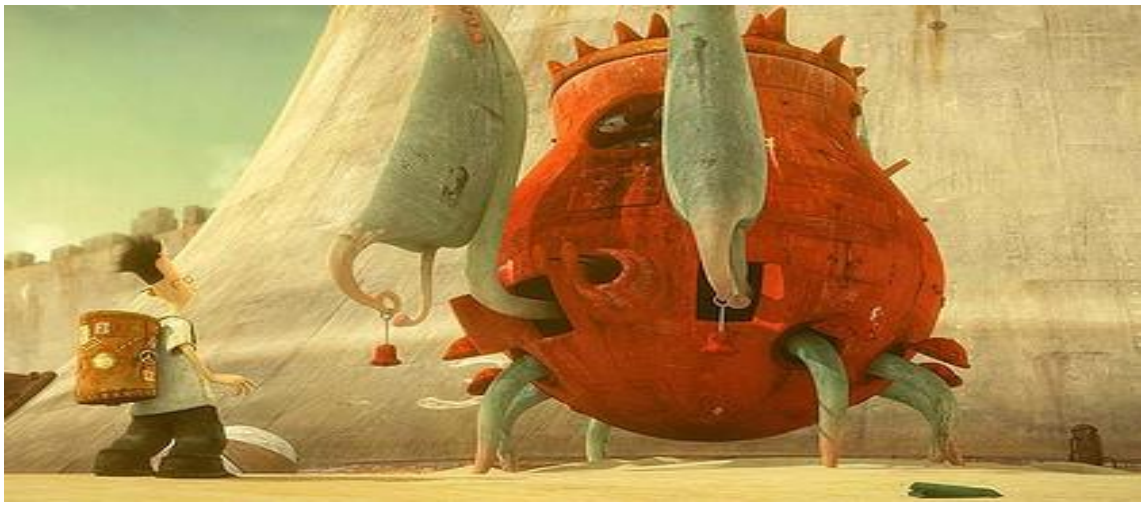

Figure 2.4: Shaun meets the hybrid creature

In the metaphorical sense, Braidotti's observation is true for the human realm in *The Lost Thing*. Although it is the creature that is meant by the title of the film, in an underlying message, humans are also lost in their own disappointed and detached lives. In this sense, humans are also "lost things." Apparently, humans' isolation from the natural domain of nonhumans is not only the result of an extremely industrialist society with its rigid norms, but also their own choice, as if to defend themselves against any possible "contamination" from the nonhuman world. Such self-imposed detachment from the natural environment has led humans to become indifferent to the colours of life and nature. This deliberate distinction between the human and the nonhuman domains, however, is not intended to connote any technophobic trace, but rather a critique of anthropocentricism and extreme industrialisation in the film. The hybridity of nature and culture, the organic and the inorganic, and the born and the technological is celebrated through the vivid depictions of the nonhuman realm, thus marking the importance of the indivisibility of the human from the nonhuman and the technological as always already hybrid entities. The impression that this far-future plastic environment (of humans) creates, on the other hand, is one that resonates with the tone and atmosphere in George Orwell's *1984* (1948). The streets of the human domain are filled with workers all dressed in the same way. People are simply going to work, dressed in mono-colours, such as white, grey, and black, with dull expressions on their faces, showing no sign of joy (see Figure 2.5). The surroundings are covered with mottos like "today is the tomorrow you expected yesterday," which gives a rather

urging sense of action, probably calling for work, since the human characters seem to do nothing else. Likewise, consumerist and extremely technological advertisements like "buy sensible shoes" (*The Lost Thing*), which appear underneath the traffic lights, indicate how everything in the human world is organised around simply utilitarian purposes. The rusty equipment and tools that the beach cleaners use remind one of the modernist disillusionment with technology and the feelings of isolation and alienation it leaves behind. Humans are now the marginalised others in a totally culturally-produced world because, in this completely technological environment, there seems to be no blue or green colour that a natural environment would reflect. In this sense, in the human realm of *The Lost Thing*, culture has co-opted nature. It is only on the beach that it is possible to see some remnants of nature, but the beach is also filled with waste and garbage, so culture has strongly infiltrated nature. Even the hours that humans spend on the beach, during which they seem to enjoy being in touch with nature, are limited. When the mechanical alarm sound is heard signalling the end of the "beach hours," they all pack up and leave for the city. There is no place left for nature in this techno-dystopian world, and there are no plants or animals visible to the audience, indicating the fact that humans have entirely segregated themselves from the rest of the ecosystem, creating a self-inflicted otherness. The impact of all these elements in the film is that the audience is presented with a self-critique on having forgotten that culture and nature are indivisible, and so are the human and the nonhuman.

In a world as such, *The Lost Thing* calls into question the concept of "normative subjectivity," categorising humans and nonhumans in a hierarchical order (Nayar 9). By problematising the idea of technology "as a mere prosthesis to human identity," the film intends to re-conceptualise human-technology relations as "*integral*" (Nayar 8; emphasis in the original). It is through the figure of the creature that the audience grasps how important it is to acknowledge nonhuman animals and technological bodies as vital to our lives.

Figure 2.5: Humans in their segregated, dull environment, ignoring the creature

Indeed, the creature, being a neither/nor case, a no-origin hybrid with no gender boundaries, like Haraway's cyborg, is a posthuman entanglement of the animal and the technological, through which the audience is able to empathise with the nonhuman forms, be they living or nonliving. As such, the creature exemplifies what Hayles writes when she sees "no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (*How We* 3). The creature, then, leads the audience to question their own "human" sides with the capacity to think, feel, and act.

Left all alone and ignored, this "Lost Thing," as Shaun calls it, seems to have been deserted and it seems to be reduced to an inert and passive state, simply because it does not "belong anywhere." Being the unknown and unwanted other, it is destined for loneliness, and perhaps, death, until Shaun finds and starts an interaction with it. Nobody else but Shaun shows any interest in the creature, which shows the indifference of humans to the world that surrounds them. After they play games, build sandcastles, and realise that they enjoy each other's company (see Figure 2.6), Shaun decides to take the Lost Thing to its homeland, as he realises that the creature is really lost and out of place. Shaun attempts to find the creature's owner (or the place it belongs to) but is not able to, because everybody else around is either too busy or too indifferent. He, then, asks for help and visits a friend, Pete, who "has knowledge about everything" (*The Lost*

Thing). Despite Pete's attempts to find out what this creature is, or where it comes from, by looking into books like "What Miscellaneous Abnormality Is This?" or conducting medical-chemical experiments on the creature, the only answer they can come up with is that "it doesn't belong anywhere, and it didn't come from anywhere" (*The Lost Thing*). Thus, this no-origin posthuman creature totally challenges the concept of the world as they know it.

Figure 2.6: Shaun and the creature, building a sandcastle

Not knowing what to do, Shaun takes the creature home, where his parents respond negatively to his new friend, worrying that it might be filthy or it might carry diseases. They completely disregard the existence of this new life form (see Figure 2.7). The predominant discourse in Shaun's world, as the film shows, centralises the human figure by disregarding all the others that do not seem to "fit in," and this is always through a form of marking or labelling the other as the abnormal, the unclean, and the diseased. There are also small details that support this, such as the headline of the newspaper that Shaun's mother is looking at, which reads: "Flamingo Re-captured." This headline, indeed, clearly indicates that humans are dominating the world of the nonhuman others, in a sense, culture always permeates nature. Humans are, in fact, marginalising those that seem "out of place" by either ignoring them or by imprisoning them. As the headline indicates, the bird's obvious attempt to escape has proven unsuccessful. Actually, the headline implicitly gives an overtone of victory (of humans

over the nonhuman other). Apparently, Shaun's Lost Thing would also share the destiny of the flamingo, but it is not captured; perhaps because it cannot be categorised under any known species to be displayed in a zoo. Thus, it is simply ignored, discarded, and unwanted. It is evident that, in this human-dominated world, the nonhuman animals are used for "entertainment" purposes only, and they stand as bodies that reflect humans' desire to take control over the world.

Figure 2.7: Shaun's parents, paying no attention to the Lost Thing

As for the hybrids, like the Lost Thing, they actually stand for a "rather complex symbiotic relationship [that] has emerged in [this] cyber universe" (Braidotti, *The Posthuman* 113). However, although the nonhuman hybrids display such an affirmative naturalcultural emergence, for humans, this is perceived as no more than a fear factor, caused by "beliefs about the technological future 'life' of the body," which "are complemented by a palpable fear of death and annihilation from uncontrollable and spectacular body-threats" (Balsamo 1-2). From this perspective, it becomes even clearer that Shaun's parents, like many others in their society, feel threatened by the existence of such posthuman bodies, not realising that they are also posthuman figures. Blasé to the posthuman conglomerations of bacteria and diverse multiplicities inherent in the human body, they disavow what they regard as "the other." Hence, they intentionally segregate themselves from the rest of the living and the nonliving world, pushing

themselves to the dangerous edges of a so-called modernity, which inevitably isolates them from their own natural habitats.

Perhaps Shaun is the only person that has the potentiality to overcome such dichotomy. However, being raised in a human-dominated culture, he does not quite know what to do with the Lost Thing. Sitting uncomfortably, due to his conflictual state, with his parents and the Lost Thing in the living room, he then sees a television advertisement that says: "Do you have objects without a name? Do you have things that do not fit?" (*The Lost Thing*). On hearing this, Shaun gets excited as he believes that this advert might show him the way out, since the advertisement tells the audience not to worry at all. After all, they say that "The Federal Department of Odds and Ends" is there to take care of all the unknown and unlabelled "items," like Shaun's Lost Thing. Taking the train to the city, among all the unhappy citizens, Shaun takes the creature to the Department, which is located in a tall, grey building, which looks like a huge depot with metal lockers. As he tells his story to the audience, Shaun says that the building "smells like disinfectant" (*The Lost Thing*). In those scenes where the audience meets the commuters or in those that portray the federal department in its utmost greyness, the ontological divide between the human and nonhuman realms grows wider. With reception desks incredibly higher to symbolise the extreme authority that the power-holders now exert on people, the human domain is under its own threat; that is, humans have created a world of segregation and loneliness, which imposes sameness and dullness on people, instead of celebrating diversity. Office equipment like rusty metal lockers also add to the modernist fear and alienation. The appearance and the smell of the building actually tell a lot about what is going on inside because these qualities are indicative of humans' life-threatening control over nature and their necropolitical activities of determining who is to live and who is to die. The act of cleansing the unfamiliar other with the use of disinfectants inevitably labels this "other" as the disease-carrier or the dirty body-threat. Thus, it is evident that humans are in an ecophobic[27] state of mind. They seem to believe that "the inhuman forces" might infiltrate their world, and when "moved into the body," they might have an "intensifying [effect on] the spectral reminders of the corpse-to-come" (Braidotti, *The Posthuman* 113). They obviously see the entanglement of nature and culture as simply

equivalent to “antibiotic-resistant viruses, random contamination, [and] flesh eating bacteria” (Balsamo 2). Therefore, these human figures continue to “take measures” in their own methods, simply by trying to isolate their world from that of nonhumans. Figuratively, therefore, this is the story of a conflict between nature and culture, as a long-held value in the history of humankind. In a posthumanist stance, it is a critique of how we have never been able to understand that human history resides in the history of nature.

This inability to understand the fact that human-nonhuman relations at all levels, be it in the form of nature-culture fusion, or in the form of human-robot blends, leads to a fatal consequence for every being in the world. This is allegorically given in the animation, too. The light bulbs that turn off automatically as the creature and Shaun walk along, for instance, allow metaphorical readings of the unknown path to darkness and foreshadow that a dark end awaits those creatures that are left there. This place, the Federal Building, as Shaun realises, cannot be the homeland of the only colourful thing in Shaun’s world. Shaun, then, reaching the reception desk, is presented with a huge pile of papers to fill in and sign, in order to submit the creature to the hands of the departmental authorities. At that moment, however, a relatively smaller creature, which is the mixture of a cassette player (that is located on its back) and a crocodile (with its tail that shows behind the coat it is wearing), seeming to be working there as part of the cleaning staff, approaches and says: “If you really care about that thing, you shouldn’t leave it here. This is a place for forgetting – leaving behind. Take this” (*The Lost Thing*). This hybrid of cassette player and crocodile gives Shaun a card with an arrow sign that seems to have a curly tail, indicating that it leads the creature to its homeland. This wavy shape of the arrow is significant because unlike the monolithic and regular shapes that dominate the human realm, it connotes difference, diversity, and multiplicity. Taking the advice of this hybrid, naturalcultural being, Shaun and the Lost Thing follow the signs on the roads, which seem to be there all the time despite the fact that one needs to look for them to be able to see them. On their way to the homeland of the creature, even some clouds seem to take the shape of this strange arrow, which can be interpreted as a confirmatory mode of the naturalcultural emergence of the posthuman. That is, the homeland of the creature is not only a place of culture,

technology, and production, but also a place of nature, diversity, and celebration. It is, therefore, a signal of a posthuman world. For once, the organic and the inorganic, the self and the other, the human and the nonhuman, including the hybrid "monster," the air, and the culturally made – like the roads – come together to form a co-operating basis of life. On the way, Shaun and the creature also come across what can be called some "cultural nodes" of "representation," like statues that stand for human communication: Two human beings (most probably male), dressed in suits, seem to be talking to each other, as one of them is holding a microphone in his hand, interview the other. But the heads of the statues are not ordinary human heads, as one is shaped like a television monitor, and the other is like a camera recorder, connected to one another through metal tubes (see Figure 2.8). These two figures are significant as they successfully portray the virtuality of human communication, which is only possible through technological devices. Symbolically, the directors are hinting at the power relations within a male-dominated society, controlled by the mass media.

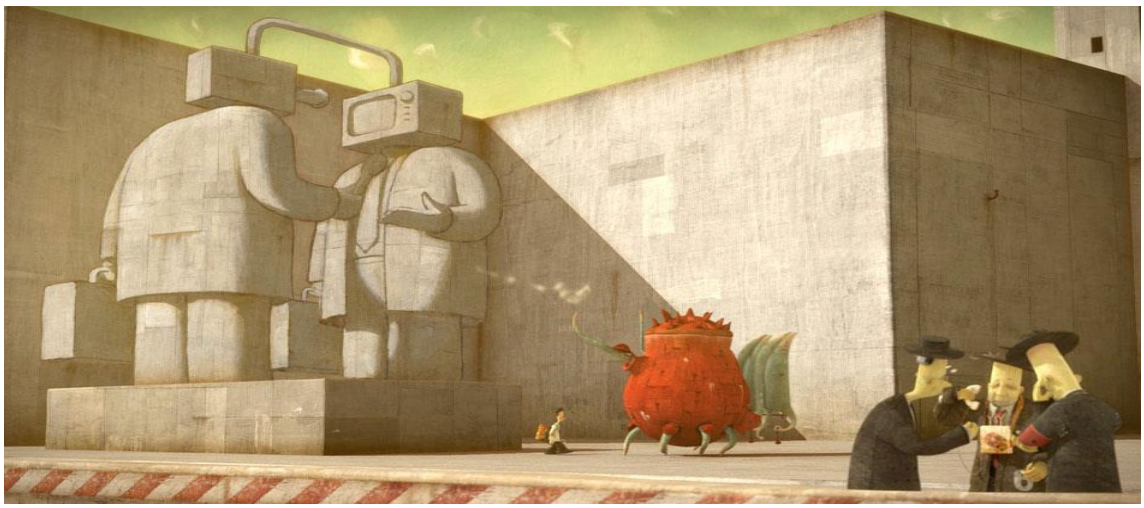

Figure 2.8: The tube-head statues

Clearly, the virtual reality that surrounds humans has now erased the embodied consciousness and the lived experience of the combination of nature and culture. Humans are deprived of their natural sides, their embodiments, and their materiality. They have turned into purely and simply cultural beings, whose lives are dominated merely by information. Still, Shaun, thanks to the existence of this creature, rediscovers

his naturalcultural self, and embraces his otherness. At least for a brief period of time, he re-experiences what it means to be an "embodied consciousness." Similarly, with the help of Shaun to find its way home, which appears to be filled with many different colourful and hybrid creatures that are the combination of machines and organisms, the creature becomes the posthuman ecology that defeats the discourse of otherness. It, in a sense, subverts the discourse of the underprivileged and the oppressed. Both Shaun and the creature are able to overcome, for a brief moment, a "species-specific" discourse that strictly underlies the distinctions between the human and the nonhuman. For a short while, therefore, in *The Lost Thing*, the posthuman shows itself as "becoming-machine" and "becoming-human," underlining the co-emergence of naturecultures. The multi-coloured world of the posthuman hybrids, unlike that of the segregated humans, is an embodiment of erased structuralisations and categorisations (see Figure 2.9). As Braidotti writes,

> The relationship between the human and the technological other has shifted in the contemporary context, to reach unprecedented degrees of intimacy and intrusion. The posthuman predicament is such as to force a displacement of the lines of demarcation between structural differences, or ontological categories, for instance between the organic and the inorganic, the born and the manufactured, flesh and metal, electronic circuits and organic nervous systems. (*The Posthuman* 89)

Figure 2.9: The multi-coloured world of the posthuman hybrid bodies, embracing diversity

As can be seen in both Braidotti's quotation and in Figure 2.9, the intrusion of nature into culture does not necessarily hold negative connotations. It can be understood, in the posthumanist sense, that it is the never-broken intimacy between the organic and the inorganic, the human and the robot, and the born and the made. Such intimacy, indeed, deconstructs power discourses in the sense that it breaks down the universalised figure of an autonomous human hero. In other words, it reframes the category of the human in a new sense so as to destabilise it as a so-called "origin and source of meaning, of action, and of history" (Belsey 7), underpinning that a genderless, multi-faceted, multi-coloured world of the posthuman amalgams (of living and nonliving symbiosis) is possible without human domination. As such, the "naturalized" difference between "superior-masculine" and "inferior-feminine" becomes practically non-existent (Nayar 17). In such an enmeshment, where all previously constructed dichotomies get blurred into one another, the naturalcultural *Robo sapiens* replaces the so-called mastery of the human, only to erode the very concept of mastery itself. Thus, "the myth of the sovereign and autonomous, coherent and unified self" of the human collapses and melts into the being of naturecultures.

As a result of such collapse, looking at both films, *Tarboy* and *The Lost Thing*, it is possible to argue that there emerges a "need to cultivate a tangible sense of connection to the material world in order to encourage an environmentalist ethos" (Alaimo, *Bodily Natures* 16). Therefore, "envision[ing] individuals and groups as part of the planetary 'imagined communities' of both human and nonhuman kinds" (Heise, *Sense of Place* 61) is of utmost significance; in fact, these "imagined kinships" are not simply existent on a metaphorical form, but also on a literal level, as indicated by the concept of naturecultures. As Heise underlines, "what is crucial for ecological awareness and environmental ethics is [. . .] not so much a sense of place as a sense of planet – a sense of how political, economic, technological, social, cultural, and ecological networks shape daily routines" (*Sense of Place* 55). In this regard, both *Tarboy* and *The Lost Thing* present us with a chance of imagining these "imagined" and "literal" kinships of plastic and organic, mechanisms and biological bodies, and humans and machines, by offering a fluidity of naturecultures.

CHAPTER III

POSTHUMAN AS STORIED MATTER

> Reality is a single matter-energy undergoing phase transitions of various kinds [. . .] Rocks and winds, germs and words, are all different manifestations of this dynamic material reality, or, in other words, they all represent the different ways in which this single matter-energy expresses itself.
>
> —Manuel De Landa, *A Thousand Years of Nonlinear History*

> In your house, I long to be
> Room by room patiently,
> I'll wait for you there like a stone
> I'll wait for you there alone.
>
> —Audioslave, "Like a Stone"

> Glaciers melting in the dead of night
> And the superstars sucked into the supermassive
>
> —Muse, "Supermassive Black Hole"

This chapter takes its cue from the new materialist and material-ecocritical approaches within posthumanism to matter and its agentic and narrative potentialities, by focusing on the animatic portrayals of so-called inanimate objects and their agential capabilities. Having derived its energy from the new materialisms, material feminism, and literary studies, Serenella Iovino and Serpil Oppermann's concept of "storied matter" plays a crucial role in charting these new materialist and material-ecocritical analyses of Seth Boyden's *An Object at Rest* (2015) and David Prosser's *Matter Fisher* (2010). Mainly characterised by "ultimately unmappable landscapes of interacting biological, climatic, economic, and political forces" (Alaimo, *Bodily Natures* 2), storied matter draws heavily upon the idea that matter has agentic powers. Advancing the idea of agentic

matter, Iovino and Oppermann argue that matter does not only possess agency in a sense that triggers effect, but also owns the capability of generating meanings, and thus, aside from its impact-creating abilities, it has the capacity of telling stories. In their article "Material Ecocriticism: Materiality, Agency and Models of Narrativity" (2012), which exposes a foundational modelling of their invigorating material ecocriticism, Iovino and Oppermann draw their instances from several inspirational literary figures such as Thomas Hardy, Joseph Conrad, and the Fisherman of Halicarnassus, and by referring to the cases of the River Congo, Egdon Heath, and the Mediterranean in the works of these authors, they note that these bodies of land and water are "examples of ecological nonhuman agents projecting themselves as 'textual forms' of matter and telling their stories through the material imagination of their human counterparts" (82). The material ecocritics further strengthen their argument that the material and the literary are inextricably bound, emphasising that bodies not only host an incredible number of biotic and abiotic forms, but they are engaged in a multitude of material and discursive interactions with all these forms and their human counterparts as well:

> They [The River Congo, Egdon Heath, and the Mediterranean in their literary implications] create a strong vision of how matter and meaning constitute each other. The landscape, the river and the sea are all made out of a material world, which is as much shaped by the stories as by physical forces. As these examples indicate, literary texts can actively engage materiality in many forms. ("Material Ecocriticism" 79-80)

As can be understood from this quotation, if matter and discourse are inseparable, as Iovino and Oppermann also contend, literary texts, which are indispensable to discursive practices, can play a crucial role in shaping matter. The web of complex relations between matter and text is revealed through the stories embedded in the world's "landscapes" and "physical forces." In Iovino and Oppermann's words, "[i]f matter is agentic, and capable of producing its own meanings, every material configuration, from bodies to their contexts of living, is 'telling'" ("Material Ecocriticism" 79). Every material formation, then, exposes the narrative quality of matter, which Iovino and Oppermann conceptualise as "storied matter." In their vigorous Introduction to *Material Ecocriticism*, the authors further explicate what they mean by this challenging concept as follows:

> The world's material phenomena are knots in a vast network of agencies, which can be 'read' and interpreted as forming narratives, stories. Developing in bodily forms and discursive formulations, and arising in coevolutionary landscapes of natures and signs, the stories of matter are everywhere: in the air we breathe, the food we eat, in the things and beings of this world, within and beyond the human realm. All matter, in other words, is a 'storied matter.' It is a material 'mesh' of meanings, properties, and processes, in which human and nonhuman players are interlocked in networks that produce undeniable signifying forces. (1-2)

Conceived this way, storied matter refers to an inherent capacity of matter, which is enacted through an "intra-action" *between, within, and through* human and nonhuman components.[28] This capability of matter, however, cannot simply be reduced to an animistic form, in which the vitality of matter is perceived only through anthropomorphic qualities. Rather, it denotes a network of intricate relations between biological beings and inanimate things, all of which are embedded in and surrounded by stories. In this sense, Iovino and Oppermann's material ecocriticism echoes a new materialistic approach to matter, but it also expands on the vitality of matter, adding a narrative aspect to its agentic powers. The material ecocritics sketch these narrative powers of matter through the concept of "relational materiality,"[29] and they note that "[e]ven though no preordered plot can rigorously distinguish these stories of matter, what characterizes them is a narrative performance, a dynamic process of material expressions seen in bodies, things, and phenomena coemerging from these networks of intra-acting forces and entities" ("Introduction: Stories" 7). Iovino and Oppermann also underline that "every living creature, from humans to fungi, tells evolutionary stories of coexistence, interdependence, adaptation and hybridization, extinction and survivals" ("Introduction: Stories" 7), but they insistently emphasise that such narrativity is not confined to the biotic sphere alone. The narrative capabilities, or in Iovino and Oppermann's words, "the transformative stories built by telluric powers, magnetic forces, clashing and melting elements, and dawning forms of life," are stretched into a new and magnified set of meanings that indicate the inseparability of the humanities from natural sciences, because these stories "extend the past of the earth into our present" ("Introduction: Stories" 7). By analysing the strata of the earth, for instance, geologists are able to produce meanings about the past of the planet, thereby contributing to the evolutionary path of life sciences through these meaning-making practices in the present. Hence, material ecocritics argue that matter is always already

endowed with meanings and stories, and it is this narrative capability of matter that paves the way for the construction of knowledge, both scientific and cultural. Insistently arguing that "the emerging dynamics of matter and meaning, body and identity, being and knowing, nature and culture, *bios* and society are [. . .] to be examined and thought not in isolation from each other, but *through* one another" (Iovino and Oppermann, "Introduction: Stories" 5), they lay the fundamentals of a new and thought-provoking composition, which characteristically extends posthuman material agency:

> Material ecocriticism proposes basically two ways of interpreting the agency of matter. The first one focuses on the way matter's (or nature's) nonhuman agentic capacities are described and represented in narrative texts (literary, cultural, visual); the second way focuses on matter's 'narrative' power of creating configurations of meanings and substances, which enter with human lives into a field of co-emerging interactions. In this latter case, matter itself becomes a text where dynamics of 'diffuse' agency and non-linear causality are inscribed and produced. ("Material Ecocriticism" 79-80)

Accordingly, such intermeshed dynamics and nonlinear causality through which matter and text become diffused into one another denotes an acknowledgment of matter as an "ongoing process of embodiment that involves and mutually determines cognitions, social constructions, scientific practices, and ethical attitudes" (Iovino and Oppermann, "Introduction: Stories" 5). Inspired by this enmeshment of matter and text which enacts the narrative power of matter, and specifically enthused by Iovino and Oppermann's material ecocriticism, Jeffrey J. Cohen, in his book *Stone: An Ecology of the Inhuman* (2015), also argues that stone has agentic and narrative capabilities. Cohen's approach to stone also exposes how the lithic powers have come to alter "cognitions, social constructions, scientific practices, and ethical attitudes." As he explains the intertwined histories of the stone and the human, Cohen draws upon this potent enmeshment of narrativity and agency, which has never been thought of or never been attributed to so-called inanimate matter, like stone, within Western thought:

> A stone is that mundane object on which a philosopher might perch in order to think, ideation's unthought support; or in the palm, a spur to affect, cognition, and contemplation. Foundation of the inhabited world and its most durable affordance, stone is the material of our earliest tools, a lasting substance for our architectures, and intellectual ally ('calculate' derives from *calculus*, a pebble used for reckoning;

> *abacus* is related to the Hebrew word for 'dust'), a communication device that carries into distant future the archives of a past otherwise lost. (*Stone: An Ecology* 11)

Galvanised by Iovino and Oppermann's conceptualisation of this narrative agency of matter, and further stimulated by Cohen's creative approach to stone, this chapter shares the idea that both organic and inorganic matter are engaged in "story-laden activities," and yet, concurs with Cohen upon the fact that "lithic federation seldom merits its own tale" (*Stone: An Ecology* 11). To give voice to "such stony silence," in Cohen's words, this narrativity is extended into the animated film genre by illustrating that both Boyden's and Prosser's animations exemplify how human and nonhuman bodies interact with each other, as well as with other material and/or biological forms that reside within and surround them. Both animations visually explicate how the interaction between these agentic bodies creates narrative possibilities. Through intermingled agencies of matter and discourse, these animated films aim to re-question our ethical transpositions within what we thought to be a human realm alone. As such, these animations not only illustrate what has been theorised by the new materialists, material feminists, and material ecocritics, but they also stand as the very epitomes of material narrativity. In this sense, they both represent and re-present agentic matter. Serenella Iovino's words in her forthcoming book, *Ecocriticism and Italy: Ecology, Resistance, and Liberation* (2016), perhaps best outline the rationale behind this chapter:

> A text is something that can be read: a book, an inscription on a wall, a musical score; a poem, a picture, a film, a theater play. But 'text' can also be something else: for example, the *material* texture of meanings, experiences, processes, and substances that make the life of places and beings. A text, in this sense, emerges from the encounter of actions, discourses, imagination, and physical forces that congeal in material forms. Landscapes are texts, and so are bodies. They are texts, because through them we read embodied narratives of social and power relations, biological balances and imbalances, and the concrete shaping of spaces, territories, human and nonhuman life. (n.p.; emphasis in the original)

Being mattertexts, just like naturecultures, in this context, both *An Object at Rest* and *Matter Fisher* epitomise this textual and material agency in a way that echo Iovino's observations on textuality, materiality, and their embedded narrativity. As can be read in the first epigraph of this chapter, both Boyden's and Prosser's films refer openly to a

"dynamic materiality" in which every human and nonhuman form holds an equally important place in formulating the world. These animations follow an "agential realistic" account of matter, text, and ethics, as formulated by Karen Barad, and thus, they envisage how even the smallest unit of existence, perhaps imperceptible by human sensitivities, can play a crucial role in the intertwined network of the biosphere. Both films, therefore, explicate the Baradian notion of "agential cuts"[30] through their reflection of "becoming," since a disrupted body of an organism may re-emerge in the form of another, while human experience remains only to be yet another factor determining the nonlinear causality:

> Ethics is not simply about the subsequent consequences of our ways of interacting with the world, as if effect followed cause in a linear chain of events, but rather ethics is about mattering, about the entangled materialisations we help enact and are a part of bringing about, including new configurations, new subjectivities, new possibilities – even the smallest cut matters. (Barad, "Queer Causation" 336).

Hinting at a posthumanist ethics as such, *An Object at Rest* and *Matter Fisher* indicate that matter *matters* in a new materialist and a material-ecocritical sense. They substantiate what Jeffrey J. Cohen validates in reading Barad's agential cuts, stating that "the smallest cut to the smallest nonhuman matters in a double sense, both of which are profoundly ethical: *creates* (that is, materializes) and *possesses significance*" (Cohen, "Queering the Inorganic" 152; emphases in the original). Likewise, in one of their essays that theorises material ecocriticism, Iovino and Oppermann use the metaphor of the "diptych" to indicate the intermingled nature of the material and the discursive. Being "a painting on two panels, or an ancient writing tablet made of two hinged leaves" (Iovino and Oppermann, "Theorizing Material" 448), a diptych is composed of both a material and a discursive side – one that makes up its body, the canvas and the wax, and one that indicates the message it carries. In this, Iovino and Oppermann bring together the enmeshment of the innumerable facets of "the flesh of the world," to borrow Nancy Tuana's words, and several fusions of literature and theory:

> In view of the increasing attention ecocritics are paying to the many ways material realities are enmeshed with meanings and narratives, our "diptych" provides an articulated vision about the key concepts of what can be called a "material

> ecocriticism." Interlacing reflections on oceanic plastic, trash, subatomic particles, toxic bodies, semiotic emergences, and discursive practices, we propose to approach this interpretive model from two converging angles: that of the new materialist theories and of ecological postmodernism. ("Theorizing Material" 448)

Like a diptych with both material and discursive aspects, the animated films are also composed of a bodily and a conversational angle. In both angles, they are eloquent, which means they enact narratives, and it is in this sense that they are *Natura Loquens*. *An Object at Rest* and *Matter Fisher*, being examples of diptych in this sense, not only help us envisage the entangled relations between their own materiality and discursivity, but they also hold a mirror up to these relations with the messages they carry within their bodies.

Although neither film directly concentrates on each and every one of the issues mentioned by Iovino and Oppermann, such as trash or subatomic particles, they still strongly exhibit the agentic qualities of matter by narrativising matter's "inherent creativity" (De Landa, *A Thousand* 16). In this regard, these animations are posthumanist endeavours that seek to highlight the fact that the enmeshed relations between posthuman ecologies "emerge from the literal contact zone between human corporeality and more-than-human nature" (Alaimo, *Bodily Natures* 2). The underlying impact of these posthumanist modes of interpretation is that the anthropocentric models of understanding the world, which divide it into separate ontological realms, must be replaced by a distributive model, in which the human influence is not an exclusive force, but is of identical importance as the other agencies at work. Indeed, as Charlene Spretnak points out, even the smallest and seemingly negligible units and elements matter, when it comes to creating an effect, be it edifying or deadly:

> [t]he 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 exclude staggeringly unnatural levels of carbon dioxide and other greenhouse gases into our atmosphere without ill effect. (1-2)

As can be seen in Spretnak's observation, there does not exist a possibility of "getting rid of" our waste or any toxic body, so the agentic power of what we consider to be nonliving or abiotic cannot be disregarded. Although there is not a straightforward indication of such toxic ill-effects in *An Object at Rest* or *Matter Fisher*, the implications these films carry are still vital to understanding matter's agentic and narrative potentialities. These films, hence, highlight the encoded creativity of matter within "stories of cosmology, geology, history, ecology, and life embodied in every form of materiality" (Oppermann, "Material Ecocriticism" 57). Therefore, both animated films resolve into an entangled formulation of matter and meaning, underlining the significance of our ecological and ethical responsibilities towards ourselves as well as our mutual relations with nature. In other words, Boyden and Prosser animate the new materialist and material-ecocritical theories to reveal posthuman ecologies interplaying through the screen. Their films, being basically "about the vital, self-organizing and yet non-naturalistic structure of living matter itself" (Braidotti, *The Posthuman* 2), are significant methodologies in embracing such interactionist ontologies. They are, in this regard, signalling, as Rosi Braidotti notes, "a shift away from anthropocentrism, in favor of a new emphasis on the mutual interdependence of material, biocultural, and symbolic forces in the making of social and political practices" ("The Politics" 203-4).

Boyden's *An Object at Rest*, ironically entitled after Isaac Newton's first law of motion,[31] also known as the law of inertia, opens with a view from the ocean depth and shifts to terrestrial life, where the story of an anthropomorphised stone becomes the locus. The plot "follows the life of a stone as it travels over the course of millennia, facing nature's greatest obstacle: human civilization" ("Today's Best" n.p.). As can be inferred from the second epigraph of this chapter, the stone in *An Object at Rest* is not only embedded in human culture and life through an anthropomorphic portrayal, but along with its narrative and creative capacities, it is also endowed with "patience." The rock has long been there, long before the human is. Overcoming the human hubris that accelerates environmental degradation, the stone recurs, re-emerges, and re-builds the making of the world through its patience. As Cohen emphasises, "[s]tone is primal matter, inhuman in its duration" (*Stone: Ecology* 2), and it is through its inhumanness,

which overshadows the human time spent on this earth, that the stone becomes that story-telling agent, as Cohen also builds a comparison between the liveliness and the inanimacy of the stone:

> [D]espite its incalculable temporality, the lithic is not some vast and alien outside. A limit-breaching intimacy persistently unfolds.
>
> Hurl a rock and you'll shatter an ontology, leave taxonomy in glistening shards. (*Stone: An Ecology* 2)

In an analogy to Cohen's words, *An Object at Rest* displays how the ontology of the stone is shattered through different phases of the human impact, and yet, it also exposes how the stone returns to its primal state of being "at rest." Thus, echoing the taxonomies that shape Cohen's introductory "geonarratives," which follow "Like a Rock," "Like a Mountain," and "Like a Rolling Stone," the protagonist of Prosser's film, the lithic mattertext, unfolds a history of naturecultures that involves both human and nonhuman stories within. In this, "the object at rest" reveals that it is actually "the object in motion," triggering and catalysing narrative agencies of the nonhuman. Within this juxtaposition, inevitably, one recalls Cohen's allusion to Aldo Leopold, who introduced the phrase "thinking like a mountain" into ecocritical studies. By philosophising on the Leopoldian terms, Cohen poetically explicates further the "resting" and "mobile" sides of the stony diptych:

> Climb a mountain to seek a vista and its native prospect will give you ontological vertigo. To think like a mountain requires a leap from ephemeral stabilities, from the diminutive boundedness of merely human tales. In the geological frame within which mountains exist, pinnacles rise and fall in fearsome undulations. Peaks ascend when tectonic plates push against each other, crumble as water wears granite to dust and carries to estuaries silt for the making of new rock. Continents smash against each other then break to wander the sea. Blunt and inscrutable, stone does not offer itself as metaphor for natural harmonies, for systems in lasting balance. The tracks of living creatures are the barest of archives, their howls and speech the most fleeting of traces. 'Thinking like a mountain' extends the ambit of critical inquiry by yoking two figures neither settled nor fully known: a geologic formation that does not remain still and a creature of unstable history, easily undone. (*Stone: Ecology* 3)

As can be followed from this quotation, flowing between its resting and primal state and a venture of narrative mobility, the stone in *An Object at Rest* unfolds the several

centuries of humankind and their endeavour to "control" nature. On the humanly scale, that "control" might have been successful, and yet, discarding the agentic potentials of the material, humans have blinded themselves to an inherent connection between the human and the nonhuman narratives, which are always already enmeshed within another. On the literal level, "the epic tale of a rock [. . .] told over millions of years," as Rob Munday puts in his review, "*An Object at Rest* takes it viewers on a journey through time as we witness our stone protagonist battle against the forces of nature… and mankind" (n.p.). The film, however, when analysed in depth, also raises the very same question that Cohen asks: "If stone could speak, what would it say about us?" and the lengthy answer that Cohen provides is basically the same as Boyden's comic approach to the story of the stone:

> *Stone would call you transient, sporadic*. [. . .] *Stone was here from near the beginning, when the restless gases of the earth decided they did not want to spend their days in swirled disarray, in couplings without lasting comminglings. They thickened into liquids, congealed to fashion solid forms. Nothing of that primal clot survives, but sediments and magmatic flows from earth's young days linger.* [. . .] *When you stand on such bedrock, you touch matter that solidified perhaps 4.3 billion years ago. Your continents – and will it annoy you when I remind that your continents are splinters of a rocky protoplasm, fragments that rifted Pangaea to voyage the waters like ships of stone? – every one of your migrant continents conveys rocks of at least 3,500,000,000 years. A fortunate animal endures perhaps for 70. Do the math: it is inhuman. These ubiquitous boulders, not even the eldest of the earth, possess the lifespan of million upon millions of fortunate animals. They will persist into a future so distant that no human will witness their return to liquids and powders.* ("Stories of Stone" 57; emphasis in the original)

Implying a similar account of the stone given by Cohen, *An Object at Rest* displays a very brief history of this seemingly inanimate matter by re-vitalising it, especially using a human face attributed to the stone. Indeed, while Boyden seems well aware of the fact the story of the stone surpasses and overshadows the deceptively "proud" history of humankind, it is also worth noting that the director enmeshes the human cultural accounts into the natural histories inscribed into the body of the stone. Rob Munday's email-interview with the director reveals how Boyden's personal history as a human body with memory and experience is integrated into the story of the stone and into that of the flesh of the world. From a material-ecocritical perspective, Boyden's body can

also be read as a site of a living text, as it is also encoded with matter and meaning. He explains considering his story in the American Midwest:

> Thinking about the boulders that were ground into tiny pieces and scattered on the street, I wondered where those rocks had been before, and where they would go after the road was gone. This sort of began the perception of 'rock time' where everything that happened over centuries of our human history would probably just be seconds from the perspective of a rock. [. . .] Most of the choices for scenes were determined by experiences from historical locations that I remember visiting from when I was young. All that was left was to weave the rock character into these moments to give it a narrative context. (Boyden qtd. in Munday n.p.)

Pointing out the stone's narrative agency through his anthropomorphic depiction, Boyden characterises his posthumanist approach in a method similar to what has been theorised by Iovino and Oppermann. Maintaining that "thinking about local natures means thinking about landscapes," for instance, Iovino argues that landscapes are not to be taken as "mere scenery," but rather should be thought of "as a balance of nature and culture stratified through centuries of mutual adaptation" ("Ecocriticism and a Non-Anthropocentric" 31). Similarly, Boyden's experiences in the American Midwest are reflected in *An Object at Rest* to highlight the stratification of the ecology of the stone and human culture. This stratification here is not only in the physical sense, which might be misunderstood as an inherent hierarchy of things and beings, but it rather indicates a sense of enmeshment, an intertwinement, or a fusion. When thought this way, human history is, to reprise Lawrence Buell's often-quoted words, fully connected to the history of nature, and thus, as can be perceived in Boyden's animation, the story of the stone is, at the same time, the story of the human. The film is, in a sense, to use Oppermann's words, an "attempt to dehierarchize our conceptual categories that structure dualisms and determine our oppressive social, cultural and political practices" ("Material Ecocriticism" 67). "Destabilizing such artificially naturalized systems of meaning," Oppermann continues, "is a precondition to resolve many complex issues, such as climate change, and to update our logocentric and anthropocentric discourses" ("Material Ecocriticism" 67), and when considered as such, *An Object at Rest* re-works these human-centred assumptions by offering an alternative way to formulate our environmental, ethical, and political problems at hand. After all, by critiquing the instrumentalisation of "lively" and "agentic" matter, Boyden seems to concur with Jane

Bennett's concept of "vitality," by which she also deconstructs matter's assumed passivity or inertia. For Bennett, "quarantines of matter and life encourage us to ignore vitality of matter and the lively powers of material formations" (vii). She continues to argue that "the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption" (ix). Challenging this belief in matter's passivity, *An Object at Rest* defies what Bennett also criticises, and thus, it successfully shows what Simon C. Estok reminds us when he notes that "things that are not us have agencies that determine us and are themselves emergent narratives" ("Painful Material" 137).

Starting its emergent narrative "life" as a huge hill, the stone in *An Object at Rest* is like a never-dying tragic hero that undergoes several changes of millennia through which it witnesses the shift from and to various geological epochs. Affected by the environmental changes from the Cretaceous period to the Ice Age, it is eroded into smaller pieces, and different plants start growing on it. With the human impact that causes deforestation, the stone is then used for several human cultural practices. Every time the stone manages to save itself from human hands, and wishes to go back to its "inert" state, it is disturbed by yet another human endeavour to "tame" it and "employ" it for their own purposes (see Figures 3.1, 3.2, and 3.3). Needless to say, the stone's desire to go back to its inert state should not be taken as a wish to embrace a mechanised view of nature. Instead, it should be considered as a comic attempt to critique human interference with nature, which often has alarming consequences for the rest of the living and nonliving world. In addition to this, by giving the stone an ability to move, the director calls into the question what we often take for granted as a "natural" categorisation: that we, humans, are active and mobile, while the stone and the rest of what we consider to be inanimate are passive and immobile. Boyden, thus, subtly criticises our boundary-producing mindset, which prioritises action over stasis. Moreover, although we often tend to believe that the figure of the stone is fixed and rigid, the stone itself has proven to be more active than we originally supposed. Along similar lines to this deconstructive strategy by Boyden, Jeffrey J. Cohen contends:

> All stone is possessed of hydrous motion, and that mobility might even be said to constitute an agency, a desire, posing a blunt challenge to anthropocentric histories. *Human* immediately becomes *posthuman* as a consequence of the enlarged temporal frame that geology demands. Such a stone-etched counter-vision invites reflection on what it means to inhabit a world that is potentially indifferent to humanity and yet is intimately continuous with us. ("Stories of Stone" 58; emphasis in the original)

Indeed, with the facial expressions of the stone, even that kind of potential indifference is turned into a comic advantage in the film, and this anthropomorphism is a "heuristic strategy," to borrow Oppermann's term, to overcome our binary thinking. It helps the audience to empathise with what is otherwise emotionless. Thus, it guides us through nonhuman agency at work, and functions as a useful tool to find correlations between the human figure as a posthuman body enmeshed in a network of relations and the stone figure as a posthuman body intermingled and agentic in the very same network. It also leads us through an understanding of detrimental human cultural practices and their altering effects on the environment. Although the multi-faceted cause-effect cycle, by which the stone is also influenced, pre-dates the emergence of humankind, the stone's facial expression alters from neutral to unhappy when the human interference in its natural state begins and grows larger. This is significant in the sense that it could be read as a critical assessment of humankind and its deliberate attempts to mechanise the natural through a self-imposed segregation from nature. To clarify, although the natural and the cultural can never be disentangled, and there is no possibility of attaining a wild and pristine nature in its "uncontaminated" and "pure" state, the film is an indirect critique of human-centred worldview that is sustained by human hubris to control and dominate nature. By anthropomorphising the stone, therefore, the film challenges the idea that nature is passive because such an idea lies at the heart of so-called human mastery over nature. As such, this animation re-vitalises what was once thought to be inanimate, and thus, signposts "inorganic matter" as "much more variable and creative than we ever imagined" (De Landa, *A Thousand* 16).

From several urban and rural landscapes, the journey of the stone continues in a naturalcultural entanglement. However, more importantly than this, what requires attention here is the apparent battle between the stone and the human. As Cohen

maintains, the human-stone relationship has not always been a simple matter of human domination over the stone. Indeed, human control over any inanimate "thing" is possible as long as "the thing" allows such control, and thus, "the resisting powers" at work delineate our reality:

> Whether in the form of stones or bodies, reality is not infinitely pliable. We cannot squeeze water from a rock because we 'socially construct' the lithic as the aqueous. Although we can find stone that will float like a ship [. . .], we do not fabricate naval vessels out of boulders because something in rock resists such transformation. That does not, however, mean that stones are so immobile that they will not reveal their fluid tendencies when viewed in a nonhuman historical frame. Over eons tectonic plates travel vast distances. Mountains rise. Volcanoes spurt molten stone. [. . .] rock is quite a flexible material. Reality is a time and context-bound meshwork of alliances that unites human and nonhuman agents. A diamond becomes a precious gem because its rarity, lucidity and durability can sustain a strong confederation with human and inhuman forces, tools, economic and aesthetic systems – coalitions that pumice cannot maintain. An alliance between the shipbuilder and granite will fail because the stone cannot support the laborer's marine desires, but that between the granite and the architect will flourish since granite will comply with her desire to shape it into a durable, aesthetically pleasing support for kitchen appliances. ("Stories of Stone" 61)

This account of the alliance between human and stone as agentic forces is also revealed in *An Object at Rest*. Towards the end of the film, after having endured several occasions in which it is changed into different forms by human impact, the stone is moulded in a space laboratory into a piece of glass, and it starts to function as a co-labourer with the human agents. As the mirror that reflects the required images from far-away galaxies, this now-glass stone even travels to space in a mission craft sent by humans (see Figure 3.4). By the end of the film, the stone-glass manages to remove itself from the satellite it is attached to, enters the atmosphere again, starts burning, and crashes onto the surface of the earth where it re-emerges as a stone again, along with other living and nonliving forms (see Figure 3.5). This long and tiresome journey of the stone, as a story-telling potential in the making, reminds one of Nancy Tuana's concept of "viscous porosity," by which Tuana explains how the bodily natures (of the human and of the world) are interacting as membranes that change the course of events. The stone, emerging as a life-giving source among many other organic and inorganic elements, stands not only for the social implications of human history (as text, written on the body of the world), but also for the natural history, of which it is a part. As such,

the stone is symbolically a mediator between the natural and the cultural, the animate and the inanimate, and the material and the discursive. As Tuana writes:

> There is a viscous porosity of flesh – my flesh and the flesh of the world. This porosity is a hinge through which we are of and in the world. I refer to it as viscous, for there are membranes that effect the interactions. These membranes are of various types – skin and flesh, prejudgments and symbolic imaginaries, habits and embodiments. They serve as the mediator of interaction. (199-200)

Following from this idea, the interaction of the natural and the cultural (as is the case with the human practices and the stone's changing body) lies at the heart of new materialist and material-ecocritical posthumanisms. It can be argued that the film also resonates with the idea of change, be it positive or negative, in the human body, as both matter and text: "Our essential social being is written in our bodies in terms of flourishing or [. . .] illness" (Wheeler, *The Whole Creature* 12). If our bodies are both matter and text, then so is the body of the stone, and likewise, so is the body of the world. As such, as Iovino argues, "life and non-life, human and nonhuman, are only different forms through which matter emerges in its agentic capacity. Human and nonhuman, like organic and non-organic forms, are differential becomings in the entanglements of agentic matter" ("Steps to a Material" 141).

Boyden's film, taking these intermingled relations as its core, and carrying "vitality" through its images, ironically teases the mechanical understanding of the world, as it climaxes the idea that "matter is not an inert or passive substratum, but it is a site of vibrantly 'vital' processes where meanings coalesce with material dynamics" (Iovino, "The Living Diffractions" 70). Despite its Newtonian title, this animated film calls into question the very foundations of Newtonian mechanics, and instead offers a quantised account of matter and meaning, discursively and materially intermingling with one another. As such, it echoes Karen Barad's agential realism, and it undergirds the material ecocritics' central idea that every form of materiality, due to its telling capacities, "can be the object of a critical investigation aimed at discovering its stories, its material and discursive interplays, its place in a world filled with expressive – or *narrative* – forces" (Iovino, "The Living Diffractions" 70; emphasis in the original).

Building up its storyline on the visual theory that images are "lively," as W.T.J. Mitchell contends, *An Object at Rest* re-frames notions of "agency, motivation, autonomy, aura, fecundity, or other symptoms that make pictures into 'vital signs'" (*What Do* 6). In fact, these images are "not merely signs *for* living things," but rather are "signs *as* living things" (Mitchell, *What Do* 6). As Cohen also admits, "the allure of stone is primal," and "stone can clearly be historic" as well as "erotic," since "rock, earth, and metal have long been molded through art to reflect and incite human sexual desire" ("Queering the Inorganic" 154). This definitely shows anthropomorphic qualities engraved into stone, which function to indicate its agential potentialities. Still, anthropomorphised drawings of the stone (as in Boyden's animated film) can be argued to have their own limits, as Mitchell emphasises:

> It would be disingenuous […] to deny that the question of what pictures want has overtones of animism, vitalism, and anthropomorphism, and that it leads us to consider cases in which images are treated as if they were living things. The concept of images-as-organism is, of course, 'only' a metaphor, an analogy that must have some limits. (*What Do* 10)

Figure 3.1: The stone, trying to return to its "inert" state.

Figure 3.2: Humans, battling to “tame” nature

Although Mitchell’s seemingly apt urgings can be extended to the credence that anthropomorphism is just a means of translating human intentionality into matter, Iovino disputes this when she maintains that “matter possesses an eloquent and signifying agency, which articulates itself in the differentiating of its forms” (“The Living Diffractions” 70). Along similar lines, Oppermann contends that matter has “expressive” and “creative” capacities, and notes that an approach as such “invites feeling empathy with all objects, human and nonhuman entities, and forces that constitute the matter of Earth within which human and nonhuman natures intertwine in complex ways” (“From Ecological” 27). Advancing from Iovino’s and Oppermann’s arguments, one can argue that the same is valid for Boyden’s *An Object at Rest*, which helps the audience to empathise with the stone, while at the same time, it guides them through a rethinking of the boundaries of human intentionality. At the end of the film, the stone becomes one of the many creative, triggering, and life-starting forces, embedded in the natural and the social flesh of the world, and exhibits matter’s “self-organizing dynamics” (Swimme and Tucker 48) in a comic fashion that not only draws upon the emotive aspects of the audience, but also displays a delightful picture of the inanimate.

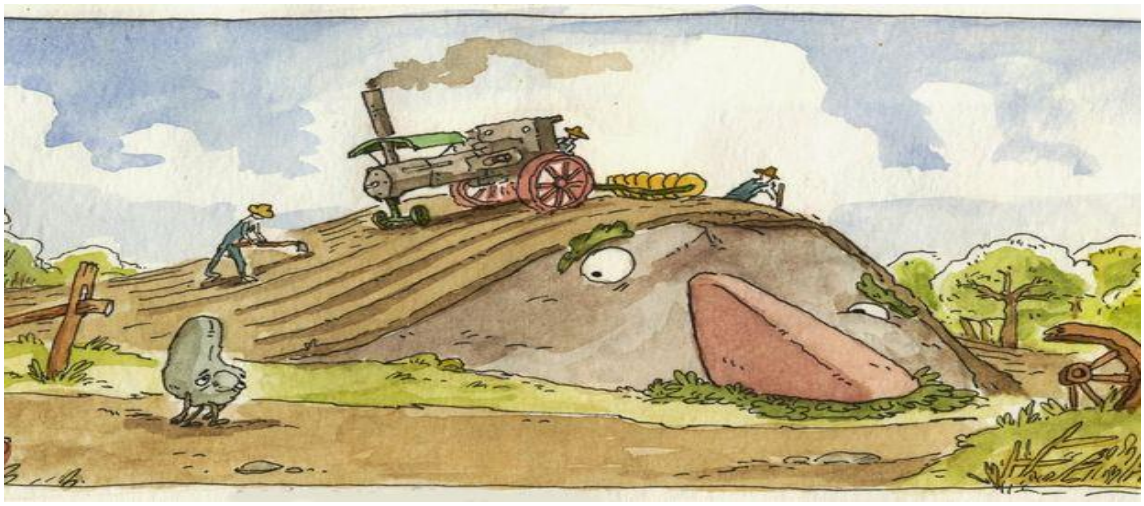

Figure 3.3: Human agricultural practices, showing their entanglements with nature

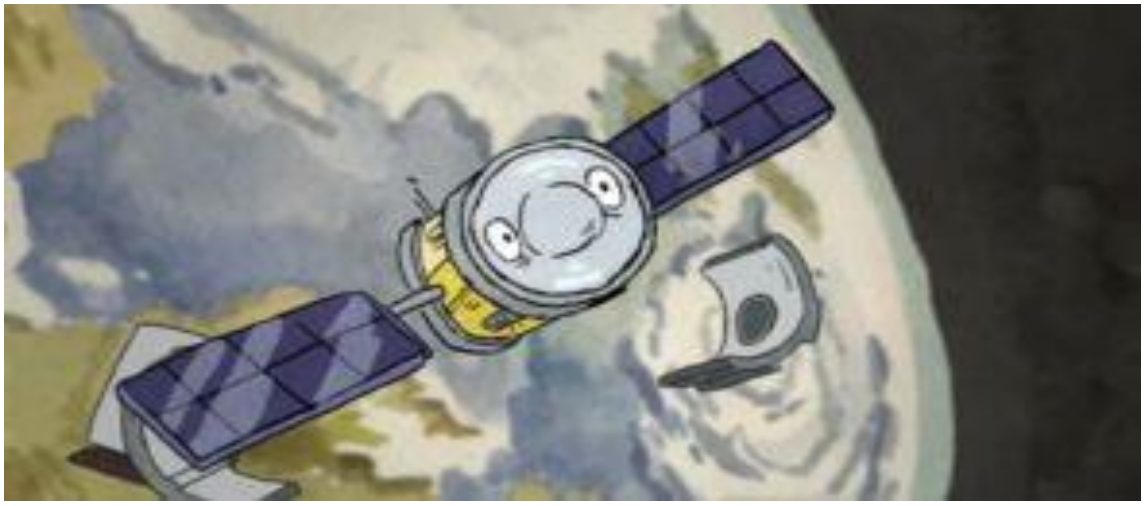

Figure 3.4: The stone, converted into a glass mirror, attached to a satellite

Figure 3.5: The stone, becoming the life spreading force, re-emerging

Considering its power in bringing together the critical and the comic, thus, *An Object at Rest* blurs some of the boundaries that we often tend to assume to exist. In this regard, Greta Gaard's approach to new materialist and material-ecocritical readings of texts and matters is also quite useful in handling this animation. Starting from Alaimo's argument that "trans-corporeality denies the human subject the sovereign, central position" (*Bodily Natures* 16), Gaard explains the necessity of viewing "other-than-human animals as not merely homogenized species but also and simultaneously as *specific beings* – neither subordinate nor less important than the humans, but simply different," and by doing so, she underlines the importance of not repeating the same dichotomies between nature and culture, and human and animal, over and over again (297; emphasis in the original). Advancing this view, it might well be stated that *An Object at Rest* does the same for what we consider to be inanimate matter, by specifically focusing on the stone and its narrative-creative agency. After all, stone is an inorganic body, just like any other inanimate form. However, in its origins, stone is the hybrid mixture of various biotic and abiotic forms on whose bodies several stratifications of text and matter are inscribed. It is formed by the fossilised human and nonhuman bodies, magmatic molten, and several other earthly components. As such, stone, as a material-textual body, matters. Whether it is boulder, or granite, or amethyst, also matters in its cultural embodiments in the human realm. The social, political, historical, and environmental conditions it has been shaped under matters, for it could be thought of as precious with monetary and spiritual value. But regardless of the human valuation, every stone is unique in its own sense, too, because it carries its own meanings and desires. "The smallest cut" in the stone, as Cohen and Barad would say, "matters." Therefore, by underlining the unique origins of the stone, as originally a posthuman hybrid entanglement of matter and text, Boyden might have intended to ascribe a more powerful role to his protagonist than it is revealed at first glance. This animation is, hence, a strong way of "diminishing and distorting" all the possible "centrisms and hierarchies" (Gaard 297).

Bearing both resemblances to and dissimilarities from *An Object at Rest*, Prosser's *Matter Fisher* is also a naturalcultural encoding of mattertext in the body of an animation. Like *An Object at Rest, Matter Fisher* also incorporates interactionist

ontologies into its storyline. However, unlike the other animations that fall into the scope of this dissertation, *Matter Fisher* does not employ a deliberate anthropomorphic depiction of nonhuman agency, and hence, it is slightly more complex than other films. Instead of human-like figures, this animation shows how the human and the nonhuman bodies, the ocean, human products like furniture, and microorganisms that are invisible to the naked human-eye are interrelated to one another within a fluctuating network of the social and the natural. Thus, although there is no direct ecological didacticism or straightforward critique of environmental hazards caused by human activity displayed in the film, Prosser escorts the audience through a path of "thinking materiality in environmental terms," which involves focusing on "electric grids, polluting substances, chemicals, energy, assemblages, scientific apparatuses, cyborgs, waste, the things themselves" (Iovino, "Material Ecocriticism" 52). In fact, this animated film portrays how the entire universe is made up of the very same matter that we assume to be lifeless, by bringing together everyday objects and living bodies. As implied in the third epigraph of this chapter, *Matter Fisher* concentrates on every small agent, both human and nonhuman at work, displaying agentic forces, ranging from "glaciers" to "supermassive black holes." It is evident even from the very first scene onwards that Prosser's film pertinently elaborates on the intricate relationship between the animate and the inanimate. Highly symbolic and dark at first sight, the animation opens with an arresting scene, in which there are half-full glasses, with water dropping into them, and in the background a radio broadcast is barely audible as we watch through the slight changes in the dark grey screen. The sound of the wind and the ocean waves accompany the fluctuating scene, which then turns out to display a small cabin, with a door opening and closing because of the current of air (see Figure 3.6). It seems like a storm, which appears to cause some form of matter to fall from the sky in a strange form of precipitation, like rain, sleet, or snow, only too difficult to depict. Then, seagulls are heard screaming, while in the background imagery, the lamp and the port remain to be the only culturally produced items in an entire setting of wild nature (see Figure 3.7).

Following from this scene, the camera focuses on a single seagull, then on a flock, and the distinction between culture and nature seems to disappear slightly as the first person view allows seeing the ocean from the port. The line that divides the shore from the

ocean is slightly blurred. At that moment, the human-fisher, wearing a protective helmet, dips his head into the water to observe the diverse life forms beneath the ocean. In the meanwhile, little drops from the air keep falling onto the surface of the ocean and the land. Within the ocean, the fish keep swirling, while a bright tiny drop appears in the midst. At first, it is difficult to tell what this drop is, for it could well be a plankton, or some other organism that tops in the ocean. Then, this little drop seems as if it is boiling and attracts all the other smaller drops into its body. At a closer glance, the audience realises that this drop is actually comprised of a vast multiplicity of other drops, which suggestively indicates matter and its interaction with the entire world (see Figure 3.8).

Matter, then, unites with the fish and the ocean waves, then with the fishing rod. The human-fisher, reaching out for a breath, is heard heavily inhaling. In the minimal scale, for a brief moment, the human, the nonhuman animal, the cultural product, and inanimate matter come together as a joint entity, especially in the scene where the human holds the fishing rod, accompanied by the seagull that sits on the boat. From the mouth of the caught fish, the bright tiny drop then falls onto the exterior of the boat. This emblematic matter, still boiling and growing, or "intra-acting," to use Karen Barad's term, pulls everything – the fish, the boat, the fisher, the ocean, the air – into its little gravitational body, then becomes one with the rest. At this very important moment, a huge ship is seen and heard approaching. In the sudden fuzziness of this enmeshed environment, the made and the born get intermingled, and thus nature and culture get fully intertwined. Everyday objects, like a milk carton, a side-lamp, a picture-frame, and a chest, start floating on the ocean surface. The film, then, continues in the same pace with the same blurred and entangled relations between nature and culture, while the fisherman, unaware of this coalescent fusion, carries home in his boat what symbolically represents the networked body of agentic matter (see Figure 3.9). Remaining "alive" and active, still growing by dragging every natural and cultural item into its body, matter grows stronger (see Figure 3.10), only to become even bigger and to become one with the entire universe. Then, it splits into millions of stars, and the fisherman continues to hold his fishing rod, floating in a starry sky. The rod connects the human to the stars, and the film ends. Despite the fact that it shows matter's agency and aliveness in a very figurative manner, the film openly suggests the inseparability of

agentic components of the universe, which, as a combined body of textuality and materiality, is directly in tune with new materialist and material-ecocritical theories.

As if to exemplify the new materialist and the material-ecocritical view of "the body" as "a living text" with "the reciprocal interferences of organisms, ecosystems, and other substances" (Iovino, "Steps to a Material" 137), Prosser problematises the "questionable ontological divisions separating the natural from the humanly constructed, the biological from the cultural, genes from their environments, the material from the semiotic" (Tuana 189). In a similar stance to the idea of storied matter, what Prosser's film pictorially depicts is a composition in which the discursive power of matter agentically unites in the body of the human and the nonhuman. The film, in this way, underlines the permeability between the human and the nonhuman world as matter-text. In this regard, it defies the belief that what exists is both *prior to* and *independent of* human interactions (Tuana 190), replacing this view with a network of the human-induced and the natural, and highlighting a similar porousness between "bodies and the discursive worlds in which they are located" (Iovino, "Bodies of Naples" 103). As displayed in the film, this posthuman emanation of existence, which co-hosts the animate and the inanimate alike, emerges from a wide and random combination of living and nonliving forms. "The world unfolds," as Cohen writes, "through our alliances with a lively materialism, where we are one actant among many within a turbulent identity network" ("Queering the Inorganic" 153). As can be seen in *Matter Fisher*, it is from this kind of a material-discursive agency that the idea of the narrativity of materiality arises. The visually challenging strategies of the director arise in a similar fashion in the film. In other words, Prosser's story, being inspired by the quantised account of lively matter, rematerialises Iovino and Oppermann's concept of "storied matter." Through this film, "narrative agencies," which are "like entangled rhizomes," to use Oppermann's simile, become more easily understandable for the audience despite the complicated and heavily symbolic structure of the animation. The film highlights the core characteristic of these narrative agencies as "coemergent and ontologically hybrid forms of expressions, ensembles of many elements" (Oppermann, "From Ecological" 30). *Matter Fisher*, thus, enhances the possibility of imagining the flow of material agency at work. It cabinets how the agentic capacities beyond human factor intra-act

and alter “other elements in the mix, including the human” (Alaimo and Hekman 7). In other words, the animation indicates a material-ecocritical approach, which nurtures “a swarm of vitalities at play” (Bennett 32), and frames narrative agencies that “reveal both our exposure to and our participation in this complex of relationships” (Estok, “Painful Material” 131).

Interestingly, the film does not involve environmentally concerned messages in a straightforward manner, but rather it concentrates on illustrative expressions of the “many ways” that “nature can be *loquens*, eloquent, speaking, telling” (Iovino, “Narrative Agency” n.p.). In this way, the film strategically employs posthuman ecological relations indirectly. Despite having no conversational strategies in human language, for instance, the film signposts the various techniques in which nature tells stories. It is evident from both the title and the storyline that Prosser’s attempt is a posthumanist accomplishment in the making to reveal a “fluctuating picture of relations” (Serres 105). In this web-like map of relations, or in this “nonlinear sense of relationality,” to use new materialist terms, the matter falling from the sky in the form of rain is highly figurative because it emphasises the agentic and narrative potentials that are established by material ecocritics: “Every body,” as Iovino writes, “is a crossing of flesh and meanings, a unique coagulation in the stories of matter” (“Bodies of Naples” 103). Through this rain, both the terrestrial and the oceanic, the living and the nonliving bodies, as well as social phenomena, become entangled into one another. As such, matter’s being alive and radiantly active in the form of rain also reminds one of the critical question raised by Jane Bennett, when she asks: “Is there such a thing as [. . .] a life of *the it* in ‘it rains’?” (53; emphasis added). It is obvious that here “rain is not merely a metaphor *for* life; it is lively and *a* life” (Duckert 115; emphasis in the original). While Bennett defines this state of “life” as “a restless activeness, a destructive-creative force-presence that does not coincide fully with any specific body” (54), Prosser’s lively matter completely turns this definition into a graphic epitome. Depicted as restless and active, destructive and creative, matter does not show itself in a specific form or body, but it drags everything into its force-presence. Thus, it becomes a part of everything, while every item pulled into its body constantly traverses its borders. As “matter itself is lively,” as Bennett maintains (13), Prosser’s matter in the form of

"rain" is also "vibrant" matter. It "makes the difference, makes things happen, becomes the decisive force catalysing an event" (Bennett 9).

The contextual setting as the ocean is also of utmost significance in *Matter Fisher*. The everyday objects appearing in the midst are employed both figuratively and warningly. In the figurative sense, the ocean, or the sea as the earth's waters, becomes the text on which humankind writes its own history. Highlighting the textuality of matter and the materiality of the text, the film dissolves concerns over the "representations of the material world as the realm of the extra-textual" (Oppermann, "Ecocriticism's Theoretical" 155), and as such, Prosser's approach to the ocean both as matter and as text concurs with Oppermann's perspective. Thus, the director implies that the material world does not reside as an outer reality that surrounds our social implications, nor are our cultural boundaries unyielding to material inscription. Along similar lines, in a warning fashion, it is also possible to read the enmeshment of the "things" and the ocean as a very slight reference to pollution caused by human activity. In this regard, human history can never be disentangled from natural history as they are always already intermingled. The human figure "as a material being," as Stacy Alaimo would contend, plays a key role as "a pivotal node in the networks of consumption, waste, and pollution that destroy ocean ecologies" ("Oceanic Origins" 187), which perhaps explains the title of the film in a more ecologically oriented manner.

Figure 3.6: The cabin in the wind

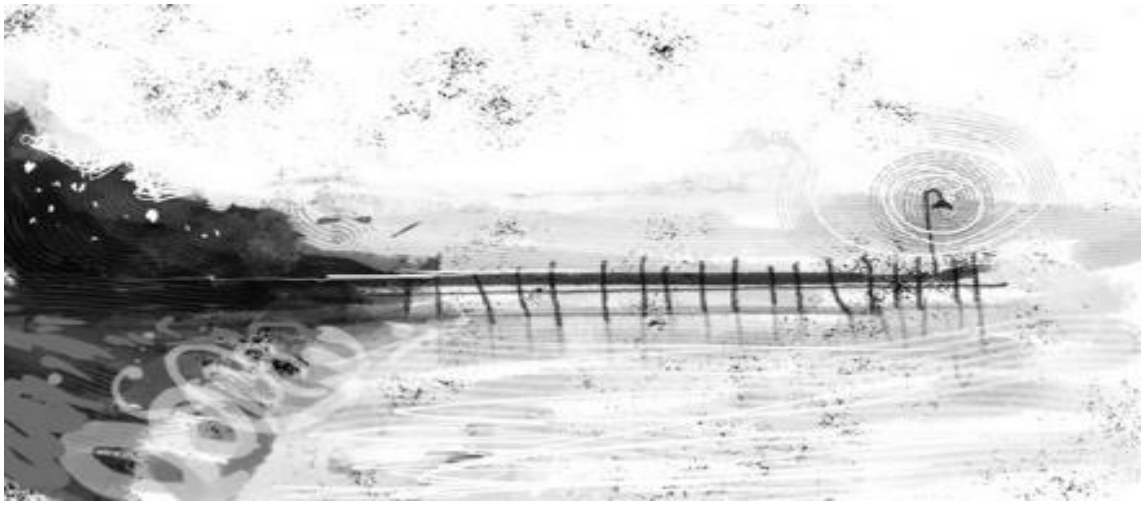

Figure 3.7: The lamp and the port, in an entangled network of matter

As the human figure is a fisher, which means that he is a "killer," it is extremely symbolic in the sense that this figure might have been intended to indicate how human activity has a harmful impact on marine environments. This indicates how "plastic" and other forms of waste act as "man's surrogate" in the world's waters, where there is massive human invasion:

> Plastics could even be considered, in a sense, 'predators,' given the deadly nature of 'ghost fishing' and entanglements of marine turtles, mammals, pinnipeds, and cetaceans. Though plastic is not a living organism, it acts like one and has the impact of one and should be taken into account in characterizations of the ocean biome. What is most shameful in this more realistic modern scenario is that plastic, in a sense, is man's surrogate, swimming with the fishes and doing harm. (Moore 253)

Figure 3.8: Matter, intra-acting with the rest of the world

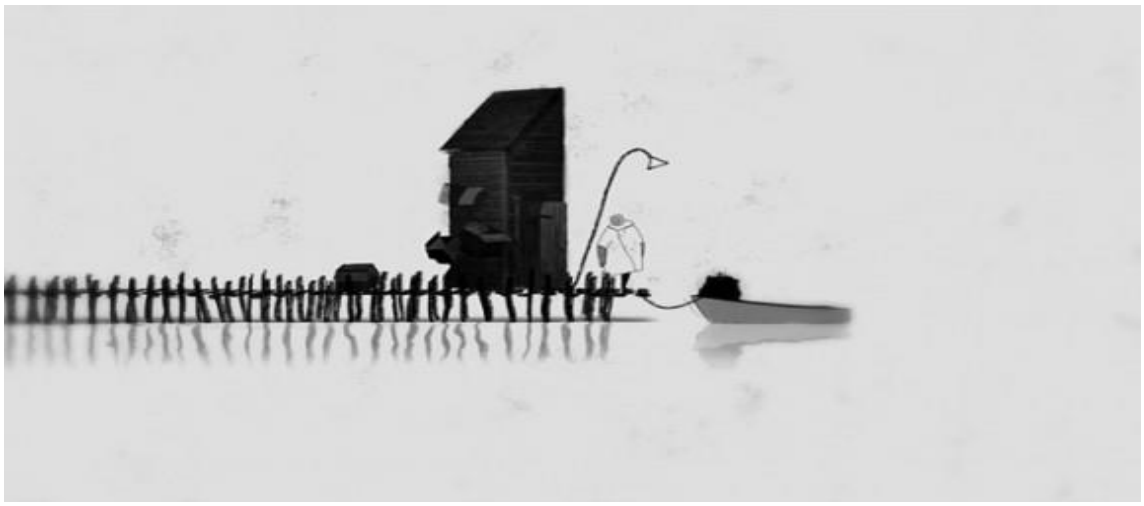

Figure 3.9: The fisher, returning home with “matter”

As such, *Matter Fisher* subtly highlights the malign impact of the human cultural practices in the marine world. After all, when matter is carried by the fisherman to his home, it begins to spread its destructive effect on the rest of the environment. This might indicate a criticism of human hubris and their interference into the natural habitats of other species, which often leads to fatal consequences. Still, a more valid reading would be how the agency of inanimate matter, out of human control, can play both positive and negative roles in the making of the world. Inspired by the very same notion of agentic matter, and its affirmative and derogatory roles, Alaimo writes about the infamously comic short film, *The Ballad of the Plastic Bag* (2012), narrated by Jeremy Irons. Except for the caption in the final scene, which reads, “plastic is not

biodegradable. Its particles enter the food chain intoxicating all organisms," the film has an ironically romantic tone, but still, it is heavily critical of human disposal of plastic waste on land and in marine environments. As Alaimo maintains,

> [a]lthough [*The Ballad of the Plastic Bag*] doesn't portray the agencies of the bag as it releases toxins or clogs an animal's digestive track, the clever conceit of the plastic bag as a ramblin' man dramatizes the agency and 'freedom' of this supposedly inanimate object, stressing that these flimsy things have gotten away from us – escaping human control. ("Oceanic Origins" 196)

Figure 3.10: Objects floating and being dragged by "matter"

Like Alaimo's observations on *The Ballad of the Plastic Bag*, *Matter Fisher* also specifies a similar path, at least to some extent, to criticise our plain assumptions concerning the possibility of human domination over the world. Plastic, as Alaimo contends, "manages to escape, mocking both human mastery of the material world and the green ideal of wildness, as it multiplies and roams, garish and ghastly" ("Oceanic Origins" 199). In *Matter Fisher,* too, it is possible to observe that what we think to be "inanimate" objects are able to escape human control, and that they can appear where they should not be. In this sense, plastic, as one of the many components of non-biodegradable everyday objects of the human world, is uncontrollable: "It travels without passport, crosses borders, and goes where it is, literally, an illegal alien" (Moore 66).

As Alaimo would approve, *Matter Fisher* is a posthumanist artwork, which signposts "the human as perpetually interconnected with the flows of substances and the agencies of environments" ("Oceanic Origins" 187). The fisher figure, seemingly playing a fundamental part in the storyline, becomes only one of the many elements that contribute to the make-up of the world and its storied experience as it is. The film, thus, shifts from a central locus attributed to the human in the title to a more horizontal and distributive sense of agency, displaying "the curious ability of inanimate things to animate, to act, to produce effects dramatic and strange" (Bennett 6). If the film is inspired by the nonhuman capability to change the course of events, then it is clear that the film itself is storied matter. Also, taking the ocean-human relationship as its starting point, the film finely undergirds the idea that "our origins are" in the ocean, "reflected in the briny solution coursing through our veins and in the underlying chemistry that links us to all other life" (Earle 15). Considering the new materialist repercussions of taking human body itself as a sea of chemicals and organic matter, the metaphor of the ocean, which lies at the core of the film, is crucial to a posthuman ecological interpretation. From the human to the rest of the world, the film swings from the microcosmic level to a macrocosmic one that encompasses the entire set of biotic beings and inanimate things. As such, the film allegorically employs the concept of "the hypersea," which is constituted of "*plants, animals, protoctistan, and fungal life on land*" as well as "*viral or bacterial symbionts or parasites*" (McMenamin and McMenamin 3; emphasis in the original). Indeed, "living fluids [. . .] are actually a new type of sea or marine environment" (McMenamin and McMenamin 25), which formulate the basis for what Alaimo calls "the oceanic origins" of the human. Thus, *Matter Fisher* engages itself with an allegory of the sea, not only as the human body, but also as the entire universe. This sea of fluids, of organic and inorganic matter, and of their lively ontologies, "seems to be everywhere, within us, around us, regardless of how arid our terrestrial habitat may be" (Alaimo, "Oceanic Origins" 189).

By way of seeing matter and text as encoded into one another, or engraved into the body of each other, the film helps imagine the theorising of matter and discourse as one, rather than putting "matter and meaning into separate categories" (Barad, *Meeting the Universe* 25). If material ecocriticism "is the study of the expressive dynamics of

nature's constituents, or *narrative agencies* of *storied matter* at every scale of being in their mutual entanglements" (Oppermann, "Material Ecocriticism" 57; emphasis in the original), then Prosser's *Matter Fisher* is the animated epitome of this new perspective in posthumanist discussions. Taking matter as "a corporeal palimpsest in which stories are inscribed" (Iovino, "Stories from the Thick" 451), Prosser's film brings us to a recognition that would guide us through our strategies to grasp what it means to exist in a posthuman ecology. It not only inscribes the story within the body of an animated film, but also to the portrayals of all forms of matter as agentic and story-telling within this animated film. After all, the film cleverly envisages the idea that "grappling with what it means to understand human corporeality and the material world as agential, rather than passive, inert, and malleable is at the heart of new materialist theory" (Alaimo, "Oceanic Origins" 193). By attributing "sparkling" features to the matter, the film shows the material as "alive" and by telling the story through the material, it shows that it is also "eloquent." In this respect, by integrating materiality and discursivity, Prosser's animation leads us towards an approach that requires "a correct identification of the ethical, epistemological, and ontological concerns of ecocriticism's wider interest in human and nonhuman systems" (Oppermann, "Ecocriticism's Theoretical" 155). In such an understanding, ethics, as already discussed, is "not about right response to a radically exterior/ized other, but about responsibility and accountability for the lively relationalities of becoming of which we are a part" (Barad, *Meeting the Universe* 393).

What could be concluded from both films is, despite posthumanism's vast veins that reach out to a diverse multiplicity of fields, that the new materialist and the material-ecocritical approaches to matter and textuality, and more importantly to creativity, have proven to be the most fruitful of all the perspectives within the posthumanities. Focusing on "intra-active systems and entanglements rather than the contemplations of isolated objects" (Alaimo, "Oceanic Origins" 193), by making these networked systems our central interpretive point, seems to be the most self-explanatory way of looking at a distributive sense of knowing, being, and valuing. As such, this approach, also undertaken by Boyden and Prosser in their animations, is quite promising and affirmative because it neither isolates, prioritises, nor downplays a single side of the human-nonhuman equation, nor does it exclude the human factor from it. Perhaps it is

true that such “a newfound attentiveness to matter and its powers will not solve the problem of human exploitation or oppression,” as Bennett writes, but it will surely hold the possibility of “inspir[ing] a greater sense of the extent to which all bodies are kin in the sense of [being] inextricably enmeshed in a dense network of relationships” (13).

CONCLUSION

> Strong texts work along the borders of our minds and alter what already exists. They could not do this if they merely reflected what already exists.
>
> —Jeanette Winterson, *Art Objects: Essays on Ecstasy and Effrontery*

> What makes something alive is not what it is, but what it does.
>
> —Lawrence E. Hunter, *The Processes of Life*

While the current global environmental crisis is profoundly unrelenting, our present material and discursive practices seem to have proven contrapositive. It is clear that an urgent change in our mindsets and performances is vital. In this case, unsurprisingly, apart from what natural scientists and policymakers could offer as a solution, a primarily significant question to be raised in the posthumanities would be "what role art – which has always had a primary function in helping us both to focus and to integrate thoughts and feelings in relation to the most fundamental challenges of our existence – may play in shaping our awareness" (Whitley 2). Employing popular culture products like animations as artworks surely contributes to the bridging of the gap between the academic and the non-academic spheres, which, regardless of their ontological or epistemological stances, share the same environmental and existential concerns over planetary existence. Then, the answer to the question of whether it is possible for popular art forms to "have a role beyond the relatively straightforward transmission of social ideologies in affecting our consciousness" (Whitley 2) is definitely an affirmative one. As the quotations borrowed from David Whitley underline, animated films often tend to reduce ecological concerns to the human domain. They "simplify problematic issues and to rely on narrative patterns that focus interest on the personalities of the characters and the immediate impact of actions, rather than more reflective or complex

modes of response" (Whitley 2). However, aside from these overgeneralised forms of animated films, which are often thought to be directed at young audiences, it is promising to countenance the power of animated films as a possibility to further explore our emotions towards crucial environmental issues and act accordingly. Moreover, even in the case of those animated films targeted at children, animation as a genre can play an inspirational role, and it can help shape our material-discursive practices. As Whitley notes,

> the enhanced role of sentiment within dramatic narratives such as Disney animation could provide audiences – and especially young audiences – with a cultural arena within which heightened emotions and humour, rather than operating as a barrier to thought and critical engagement, might offer a relatively safe sphere within which crucial issues could be rehearsed and even – in light forms – explored. (2-3)

As for those animations that are studied in this dissertation, however, the case is slightly different. Moving beyond Disney clichés of triggering emotive responses from the audience, and instead of simply being representational tools for human problems in which the tenacious environmental and/or political issues concerning both the human and the nonhuman domains of our current era are dealt with in a light-hearted and reduced manner, the animated films analysed in this study function in two significant ways. First, they stand as major examples of cautionary tales, pressing for the need to overcome our hubris and rethink our relations with nature. Second, and in a more imperative fashion, they exemplify posthuman ecologies from the perspective of agentic, effect-producing, and generative bodies. These films are posthuman environments themselves, and serving as strong and capable tools of narrativity, they illustrate how matter itself is endowed with story-telling potentials.

As such, this dissertation involves many firsts. Despite the extensive list of works cited, no study before considered the animated film genre as a posthuman environment. Unprecedented as it is, this is an original attempt in the posthumanities to bring together the study of animations as posthumanist strategies and as ecologically oriented "heuristic" tools, to borrow Serpil Oppermann's apt expression. Bearing these two

significant orientations in mind, the study has aimed to overcome the difficulty of understanding nonhuman agency, which lies at the heart of understanding posthumanism. As the first epigraph to this final remark hints at, the power of narratives in altering a persistent discourse cannot be neglected. Visually attractive narratives, then, are even more powerful sources in aiding posthumanism to spread, and thus, to change our human-centred mindsets towards an ecologically oriented one. As bell hooks writes in the 1990s, in the age of blurred boundaries when no fixed identity is definable, crossing the borders is more likely through cinematic devices:

> As cultural critics proclaim this postmodern era the age of nomadism, the time when fixed identities and boundaries lose their meaning and everything is in flux, when border crossing is the order of the day, the real truth is that most people find it very difficult to journey away from familiar and fixed boundaries, particularly class locations. In this age of mixing and hybridity, popular culture, particularly the world of movies, constitutes a new frontier providing a sense of movement, or pulling away from the familiar and journeying into and beyond the world of the other. [. . .] Movies remain the perfect vehicle for the introduction of certain ritual rites of passage that come to stand for the quintessential experience of border crossing for everyone who wants to take a look at difference and the different without having to experientially engage 'the other.' (2)

Such border-crossing experience for us humans, then, comes from our virtual re-positioning of the self and the other. In other words, humans, by associating themselves with the nonhuman characters in animated films, may travel through the nonhuman realm, which is more active and dynamic than we often tend to think. It is also possible to move even further with the animatic devices than with their cinematic counterparts, because animated films also have the capacity to entirely alter what we humans take as the real-life scenarios. They suspend the reality principle, and while they do so, the audience often automatically accepts the virtuality they offer. In recognising the nonhuman effect and generativity, anthropomorphic depictions that the animated film genre heavily relies on play a crucial role, as they simplify, visually present, and to a certain extent, popularise what the posthumanities have theorised in the academic sense. However, a statement as such does not intend to suggest that animated films take us back to square one and they fall into the trap of a human-centred vision. Anthropomorphism, instead, when used as a supplementary tool to posthumanist theories, offers a way beyond anthropocentrism. That is why, to defy the association of

the anthropomorphic with the anthropocentric, this study has focused on the analysis and examination of six animations that were carefully selected through a posthumanist lens.

These animations have been chosen because not only do they, in a short time, strike the audience with their clever messages that deconstruct "Man" and *his* hubris, but they also do so in a pertinent manner. In fact, none of the animated films that fall into the scope of this dissertation resorts to simplistic fable methodologies to handle human-centred problems, or simply transfer human-world dilemmas into the animal sphere. Even when they *do* translate some humanly characteristics into animals, insects, or other nonhuman forms, they do so, not because they would like to follow the same path as the overloaded images of Hollywood fairy-tales, but because they would like to emphasise the role of the nonhuman living and nonliving bodies as agentic, creative, and endowed with narrative potentials. Instead of reiterating animated film clichés, therefore, these six films present different aspects of posthuman ecologies, which can mainly be categorised under three headings.

The first of these headings can be an overwhelming disanthropocentrism, which underlines the importance of understanding and embracing horizontally aligned agencies of the human and the nonhuman, rather than simply relying on a super-human hero to "save the planet." It is true that humans and their egocentric mindset have an important part in causing environmental degradation. More importantly, this egocentric mindset needs to be immediately replaced by a new, ecologically oriented one. In this regard, human understanding of nature, and in direct relation to this, policy-making strategies, economic means of production and consumption, and ways of life that pertain to human cultural practices altogether, such as transportation, housing, education, and nourishment need to be re-organised. In this, an underlying presumption may sound as if humans are the key factors to the prevention of ecological hazards and disasters. And it is true. However, in doing so, humans need to stop attributing a superior role to themselves, but instead, they must embrace a posthumanist ethics,

which takes into consideration the agencies and moral status of animals, plants, and technological bodies.

The second heading is implicated in the necessity of understanding the inseparability of nature from culture. Drawing his case from Bruno Latour, Levi R. Bryant notes in his blog that "everywhere we look, [. . .] we find *hybrids*, networks, relating these things together in one continuous fabric. [. . .] [B]eneath these two pure worlds of nature and culture, we instead have zigzagging and intersecting lines connecting all of these elements together" ("Latour: Hybrids" n.p.; emphasis in the original). Understanding the outcomes of this hybridity in line with the suggestions in the first heading above will surely make a difference in our relations with nature, and thus will shape not only our economic and political cultural practices in the more generic sense, but also our everyday experiences and daily habits of consumption on the individual level. In the opening paragraph of *We Have Never Been Modern*, Latour writes:

> On page four of my daily newspaper, I learn that the measurements taken above the Antarctic are not good this year: the hole in the ozone layer is growing ominously larger. Reading on, I turn from upper-atmosphere chemists to Chief Executive Officers of Atochem and Monsanto, companies that are modifying their assembly lines in order to replace the innocent chlorofluorocarbons, accused of crimes against the ecosphere. A few paragraphs later, I come across heads of state of major industrialized countries who are getting involved with chemistry, refrigerators, aerosols and inert gases. But at the end of the article, I discover that the meteorologists don't agree with the chemists; their talking about cyclical fluctuations unrelated to human activity. So now the industrialists don't know what to do. The heads of state are also holding back. Shouldn't we wait? Is it already too late? Towards the bottom of the page, Third World countries and ecologists add their grain of salt and talk about international treaties, moratoriums, the rights of future generations, and the right to development. (1)

As Latour's observations indicate, all of these elements, from "inert" gases to policymaking, from chlorofluorocarbons to international treaties, such as the Kyoto example, or Hurricane Katrina and other ecological issues are so intrinsically tied together in enmeshed networks that sometimes it is too difficult to differentiate between them. As such, as Bryant notes, "we cannot claim that there is one world of nature completely independent of politics and another world of culture where these questions

of the political and the social emerge" ("Latour: Hybrids" n.p.). This is not, however, to suggest that human culture has infiltrated into nature so as to co-opt it; culture does not absorb nature, nor is it the other way around. It is a blend of naturecultures, which are always already intertwined and interwoven.

The third heading encompasses the cultural and literary studies, which can enact a new mode of understanding in line with the arguments in the first and the second headings. As students and scholars working in these fields, we must become aware of the implications of a posthumanist approach to the world, which is not only an endeavour to bring together the natural and the social sciences, but also an attempt to explicate our intimate relations with the planet, which would help guide us through the escalating environmental crisis. In the face of global threats such as climate change, loss of biodiversity, increased levels of toxicity in land, air, and marine environments, the alarming changes in the bodily natures of the human and diverse nonhuman species, posthumanism may provide a way of radically altering our assumptions that natural resources are at our service for the betterment of humankind. This wrong approach, which stems from our inability to see ourselves as always already enmeshed with and incorporated into the naturalcultural biosphere, should be rethought. Animations, as products of popular culture, may well serve as extraordinary mediatory apparatuses to bridge the socially constructed gap between us and the rest of the planet. As such, they may be of great help in overcoming the epistemological, ontological, and ethical divide between the human and nonhuman realms, while at the same time, promoting a greener and a more sustainable environmental culture. The animated film genre, thus, as an inherently posthumanist environment of flexibility and fluidity, can urge us to "rethink 'the human' in more than human terms" (Bird Rose, van Dooren, Chrulew, Cooke, Kearnes, and O'Gorman 3).

As all the animations that have been discussed and examined in this study illustrate, a reworking of the humanist discourses, a rethinking of our basic ways of living and acting, and a remodelling of our material-discursive practices lie at the heart of "saving the planet." As already showcased in the preceding chapters, especially through the new

materialist theories, the planet can no longer be thought of as simply a foreign[32] body in space, which can be saved by the combined efforts of natural scientists, such as atmospheric scientists, marine biologists, and environmental engineers alone. The social sciences and the humanities also have their impact on the ecological crisis and its solution. Therefore, posthuman ecologies that comprise the entire planet as a body, as an agent, and as an entire network of influential, effective, and active components need to be acknowledged as forces that reside within, surround, and "intra-act" with us. This is the reason why this dissertation has posited that the animated film genre serves as a viable tool to build bridges between these components, because especially when they situate their human and nonhuman characters in ecologically hazardous environments in their plots, and when they are produced bearing these strategies to subvert human exceptionalism and to nurture an environmentalist perspective, animations can install an empathetic understanding in humans, and they may both technically and thematically guide us in such a way so as to aid a repositioning of the human and the nonhuman. In this regard, as the second epigraph also implies, animated films can also become "alive" as posthuman agents through what they enact and open up new paths in posthuman ecologies.

NOTES

INTRODUCTION

[1] René Descartes's mind/body dualism, which privileges human rationality over bodily natures, has brought about a view that differentiates humans from nonhumans through their intellectual capabilities. Descartes regards animals as soulless beings that do not possess mental faculties, thereby centralising the human as a superior figure endowed with reason. It is through this separation that he has laid the foundations of an anthropocentric worldview. In other words, all human-centred practices and ways of thinking derive from Cartesian dualism.

[2] Since posthumanism has provided an alternative critique to humanism, and in relation to this, brought about a change in the definition of the human, the scope and aim of the humanities also require a shift towards a new direction, through a merger of the social sciences with life sciences, the necessity of which is strictly underlined by posthumanist scholars like Rosi Braidotti. As Braidotti writes,

> the Humanities in the posthuman era [. . .] should not stick to the Human – let alone "Man" – as its proper object of study. On the contrary, the field would benefit by being free from the empire of humanist Man, so as to be able to access in a post–anthropocentric manner issues of external and even planetary importance, such as scientific and technological advances, ecological and social sustainability and the multiple challenges of globalization. Such a change of focus requires assistance from other social and scientific actors as well. ("Working towards the Posthumanities" 170; capitalisations in the original)

Such insistence on the need for a radical change in the humanities aims to "provide a space for thinking further about the distributed, heterogeneous, humans, nonhumans, objects and non-anthropomorphic elements that are collectively involved in the creation, circulation and performance of 'humanities' research and scholarship" (Adema, "Radical Methodologies" n.p.). With this objective, there have emerged institutional ventures that seek to carry the humanities beyond its current scope and aim, and it is through these ventures that the transformation from the humanities to the

posthumanities has already begun to take place. The most significant of these has materialised as part of Linköping University, Sweden, with the title of The Posthumanities Hub, which is a collaborative assemblage of research teams and courses focusing on new materialisms, feminist techno-science studies, medical humanities, environmental humanities, trans-, queer or anti-imperialist theory-practices, human animal studies, cultural studies and new media. Anchored with MISTRA and Formas Research Programme in Environmental Humanities, which has now become a worldwide collaboratory of the environmental (post-)humanities in pursuit of "rethinking the place of humanity in the environment" ("The Seed Box" n.p.), the Posthumanities Hub continues to evolve with contributions of scholars from Uppsala University, University of Western Sidney (ICS), University of Texas at Arlington, Blekinge Institute of Technology (BTH), Queen's University, Stockholm University, University of Western Australia, Örebro University, University of Sydney, Royal Institute of Technology (KTH), Goldsmith's University, and Utrecht University. Apart from the ongoing research on a variety of subjects, ranging from the analysis of links between Alzheimer's disease and otherness to the study of the connections between prophylactic oophorectomy and women's selfhood, these centres are entitled to offer undergraduate degrees, master's and doctorate level courses, as well as hosting post-doctoral researchers in the posthumanities.

[3] In *A Thousand Plateaus: Capitalism and Schizophrenia* (1980), Gilles Deleuze and Félix Guattari employ the metaphor of rhizome to challenge the arborescent development of knowledge. They argue that knowledge does not accumulate hierarchically, but is obtained in a multi-directional system, claiming that it follows a nonlinear path in its evolution, as the plant of rhizome does. Borrowing this term in her article entitled "The Rhizomatic Trajectory of Ecocriticism" (2010), Serpil Oppermann writes about the various pathways that ecocriticism has taken up so far to encompass a wide range of scholarly fields. The author employs the "rhizome" metaphor to describe how ecocriticism evolved into a vast theoretical and practical conglomeration of literary and environmental studies. The same pattern of development also applies to posthumanism.

[4] This article was first published in October 1974 in *The Philosophical Review*, and later in the philosopher's own monograph, *Mortal Questions* (1979). Then, it reappeared in so many sources that it was acknowledged as "the most widely cited and influential thought experiment about consciousness" (Dennett 441).

[5] These terms are originally proposed by religion historian Mircea Eliade, by philosopher and historian Johan Huizinga, and by philosopher Henri Bergson and political scientist Hannah Arendt, respectively.

[6] The reference to posthumanism with an emphasis on the prefix *post-* denotes the end of humanist discourses that centralise and universalise the human, while the latter, *posthuman*-ism, signifies the emergence of a new category that blends the human with all nonhuman forms.

[7] The impact of the Macy Conferences on posthumanism is specifically important thanks to the work of Gregory Bateson, Julian H. Bigelow, Kurt Lewin, and Norbert Wiener, among many other scientists who produced revolutionary work. The contribution of these scholars to the merger of the natural and the social sciences during the conferences is considered a milestone in the advent of the posthumanities.

[8] Haraway's concern regarding the use of the term posthuman is related to the popular exhaustions of this term to denote an enhancement of human capabilities to create a super-human as in dystopian science-fiction modes of interpretation. "Disturbingly," as Stacy Alaimo writes, "the critical reception of the cyborg as technological but not biological insinuates a transcendent cyber-humanism that shakes off worldly entanglements" (*Bodily Natures* 7). By referring to Hans Moravec's naïve fantasies in *Mind Children: The Future of the Robot and Human Intelligence* (1988) as "techno-idio[tic]," Haraway states that this is "a kind of techno-masculinism of a self-caricaturing kind" ("Interview" 146).

[9] Haraway's cyborg first appeared in her "Cyborg Manifesto," which was published as "Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s" in

Socialist Review 80 (1985): 65-108. Later, this text was re-published in *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991). It also appeared as a complete book by Haraway herself. Then, it reappeared in many readers, including Neil Badmington's *Posthumanism* (2000). Haraway, however, is not the coiner of the term cyborg. It was popularised in a 1960 article titled "Cyborgs and Space" in Astronautics by Manfred E. Clynes and Nathan S. Kline, two NASA researchers, who referred to the cyborg as "self-regulating man-machine systems" (27). For Clynes and Kline, a cyborg is a human being who "deliberately incorporates exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments," and these components, according to Clynes and Kline, may involve "suitable biochemical, physiological, and electronic modifications" (29). Yet, the first use of the notion of "cybernation" and cybernetic organisms can be traced back to Norbert Wiener's *The Human Uses of Human Beings* (1948).

[10] Haraway's model of naturecultures, conceived in *The Companion Species Manifesto* (2003), and extended in *When Species Meet* (2008), redefines the beliefs in the separation of nature and culture, body and mind, and the material and the semiotic. Taking her core examples from dog-human relationships, an interaction which she centralises to her argument of companion species, Haraway emphasises that recounting the stories of dogs in the environments they are bred and brought up is of utmost significance to understand that biological studies are actually embedded in history, bringing together natural and social sciences, and hence, binding natures and cultures together. Before these concrete examples, Haraway's explication of the conceptualisation of naturecultures is actually built upon her argument of material-semiotic actors in *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991). In this book, Haraway notes, "bodies as objects of knowledge are material-semiotic generative nodes. Their boundaries materialize in social interaction. Boundaries are drawn by mapping practices; 'objects' do not pre-exist as such. Objects are boundary projects" (200-01).

[11] In the new materialist sense, the term body does not only encompass the physical bodies of biological beings, such as humans, animals, and plants, but all the material configurations and matter in its various forms are considered to be bodies.

[12] The experiment was first conducted by physicists Otto Stern and Walther Gerlach, in 1922.

[13] Several of these publications are cited in this dissertation to explain material ecocritical approaches to matter, text, and human-nonhuman entanglements in literary and environmental contexts, and the examples from literary and cultural texts employed by Oppermann and Iovino in theorising material ecocriticism are further explored in Chapter III, which takes its cue from the new materialist and material ecocritical ventures in posthumanism.

[14] On October 28, 1892, Charles-Emilé Reynaud projected the first animation in public, *Pauvre Pierrot* [Poor Pete], at the Musée Grévin in Paris. The first photographed animated projection was *Humorous Phases of Funny Faces* (1906) by newspaper cartoonist J. Stuart Blackton. In the movie, a cartoonist's line drawings of two faces were "animated" on a blackboard. The two faces smiled and winked, and the cigar-smoking man blew smoke in the lady's face; also, a circus clown led a small dog to jump through a hoop. This film can be considered the earliest animation to involve a nonhuman animal, though not as the protagonist. The first animated projection on motion picture film was *Fantasmagorie* by the French director Émile Cohl in 1908. This was followed by two more films in the same year, *Le Cauchemar du fantoche* [The Puppet's Nightmare] and *Un Drame chez les fantoches* [A Puppet Drama]. These films also involve nonhuman figures.

[15] The term "The Anthropocene," coined by atmospheric chemist Paul J. Crutzen and biologist Eugene F. Stoermer indicates the increasing impact of human social and economic practices on the Earth's life support systems. Such an influence by human behaviour had never before reached a point as significant as to modify geological strata. In the earlier era, the Holocene, it was thought that "there is not much room for moving

to something novel in a discipline that usually counts in hundreds of thousands and millions of years" (Trischler 5-6). However, with an unexpectedly enormous change in the ecosystems, the Anthropocene succeeds the Holocene as a geologic chronological epoch. The International Commission on Stratigraphy is currently conducting extensive research to determine the exact advent of the Anthropocene, whereas both earth scientists and environmental humanities scholars have already produced massive work concerning the Anthropocene in the meanwhile.

CHAPTER I

[16] See Oppermann's chapter "From Material to Posthuman Ecocriticism: Hybridity, Stories, Natures" in Hubert Zapf's edited collection *Handbook of Ecocriticism and Cultural Ecology* (Berlin: De Gruyter, 2016. Forthcoming.).

[17] The word "marvels" is often used interchangeably with the word "monsters" in Paré's time, as explained by Georgia Brown in her chapter, "Defining Nature through Monstrosity in Othello and Macbeth," in *Early Modern Ecostudies from the Florentine Codex to Shakespeare*, edited by Thomas Hallock, Ivo Kamps, and Karen L. Raber. (New York: Palgrave Macmillan, 2008. 55-76.)

[18] Napier's apt description of the environmentalist function of the animated film is actually intended for Japanese animes, which often employ environmental degradation as their main themes. However, the same approach is appropriate for these British animations, too.

[19] These animations include several editions of *Snow White*, *Bambi*, and *The Little Mermaid*, along with *Beauty and the Beast* (1992), *Aladdin* (1992), and *Mulan* (1998), in which maltreatment of animals and the environment are criticised through power relations between human and nature. In these animations, nature always overcomes the enhanced capabilities of *Homo sapiens*, thereby teaching them a life lesson.

[20] See Introduction for further discussions of plasmaticness and its function in animated films.

[21] Critical animal studies is an essential field of study within the posthumanities, especially with contributions of animal rights defenders, activists, as well as theorists from a wide range of interdisciplinary fields, such as biology, zoology, philosophy, and ethics. Peter Singer's books such as *Animal Liberation* (1975), *In Defence of Animals* (1985), *Ethics into Action: Henry Spira and the Animal Rights Movement* (1998), Paola Cavalieri's *The Great Ape Project: Equality Beyond Humanity* (1994), which she co-edited with Peter Singer, and *La Questione Animale* [The Animal Question] (1999), along with Cary Wolfe's *Animal Rites: American Culture, the Discourse of Species, and the Posthumanist Theory* (2003), *Zoontologies: The Question of the Animal* (2003), and *Before the Law: Humans and Other Animals in a Biopolitical Frame* (2012) are significant works in this field, inquiring into such issues as humanhood, animality, personhood, sentience, biopolitics, and morality.

[22] On the use of anthropomorphism as a device to overcome human/nonhuman binary, see Introduction.

[23] Nature's and matter's ability to "speak" and "tell stories" is further developed through the theoretical body of work produced by Serenella Iovino and Serpil Oppermann, under the blanket term of material ecocriticism. This material aspect in material ecocritical ventures is more accentuated than the animistic approaches to nature. Although they also give place to non-Western cultural practices, Iovino and Oppermann take their primary cue from the new materialist and material feminist theories in configuring their concepts of "narrative agency of matter" and "storied matter." Deriving energy from these conceptualisations, Jeffrey J. Cohen's articles on stone as a speaking and narrative agent, and especially his book *Stone: An Ecology of the Inhuman* (2015), showcase how far-reaching outcomes these works led to in ecocritical studies and how they have helped the development of the posthumanities since Christopher Manes's 1996 chapter. The material aspect of posthuman ecologies, as foregrounded by Iovino, Oppermann, and Cohen's ideas, is further explained in Chapter III.

[24] The "soft" toy here is in the shape of a human being, intended to replace the notorious dinosaur toys, which came with the *Jurassic Park* toy series of Happy Meals offered in McDonald's restaurants worldwide in the 1990s. The film is often criticised for "promot[ing] blatant consumerism for children and adults" (Murray and Heumann 164). The same critique may apply to *End of an Era* in the sense that it condemns extreme consumerism of human culture.

CHAPTER II

[25] Haney II, in his *Cyberculture, Cyborgs and Science Fiction: Consciousness and the Posthuman* (2006), maintains that William Gibson's *Neuromancer* (1984) "takes a distinctly ambivalent attitude toward technology, even though its computers seem to rival human memory and other cognitive abilities" (92).

[26] Physicist Erwin Schrödinger devised this example in 1935 to illustrate the weird behaviour of quantum mechanics. The experiment is never meant to be applied in a real case, but its aim is rather to provoke new thoughts in understanding quantum physics.

[27] Simon C. Estok's term, ecophobia, denotes humans' irrational fear of nature and the natural, in a similar way to homophobia or xenophobia. In his manifesto to explain the term, Estok writes:

> Reading ecophobia means looking at the unacknowledged and often unwitting biases that appear as punctuated outcroppings in literary and other cultural products but that are, in fact, the bedrock on which is based so much of our thinking. Reading ecophobia means identifying the affective ethics a text produces, means having the willingness to listen to, to think about, and to see the values that are written into and that work through the representations of nature we imagine, theorize, and produce. ("Reading Ecophobia" 76)

Therefore, as can be understood from Estok's argument, which resonates with Cary Wolfe's analogy between speciesism, racism, and sexism, understanding ecophobia lies at the heart of overcoming all binary –isms that segregate the male/the female, the homosexual/the heterosexual, the white/the black, and the human/the nonhuman.

CHAPTER III

[28] See Introduction for further explanation on Karen Barad's concept of intra-action.

[29] In Iovino and Oppermann's edited collection *Material Ecocriticism* (2014), Serpil Oppermann focuses on "relational materiality" in her chapter entitled "From Ecological Postmodernism to Material Ecocriticism: Creative Materiality and Material Agency." She notes that "the sustained attention to interconnected processes that operate as composite agentic assemblies in networks is complemented by the keyword 'relation'," underlining that "the world's phenomena [is] in constant 'relation' with each other" (22). She further draws attention to "matter's 'expressive' dimension," noting that

> [b]eing perspicuously efficacious and morphogenetic, animate matter [. . .] exhibits a considerable degree of experience. Similarly, inanimate matter, though lacking morphogenetic quality, is performative and produces significant effects in social processes and induces changes in corporeal forms or, [. . .] trans-corporeal interchanges. This, in other words, is a 'reenchanted world' where every entity, living or nonliving, macro or micro, enacts causal structures [. . .] with emergent patterns of intelligibility. The only way to cultivate this new discernment [. . .] is [. . .] to bypass the hierarchy of subjects over objects. (25-26)

In this relational materiality, then, the blurred boundaries between subjects and objects lead to a new and horizontal alignment between the human and the nonhuman agentic and narrative forces. "Narrativity" and/or "creativity" are expanded into new meanings and interpretations, whereby the matter is formulated as always already storied.

[30] Barad's notion of agential cuts has been expanded and clarified in the Introduction.

[31] According to this first law of motion by Newton, which laid the foundation of classical mechanics in *Philosophiæ Naturalis Principia Mathematica* [Mathematical Principles of Natural Philosophy], first published in 1687, "an object at rest remains at rest," and "an object in motion does not change its velocity unless acted upon by an external force" (Browne 58).

CONCLUSION

[32] Here the word “foreign” is deliberately used to indicate the feeling that we humans experience when we look at the Earth’s photographs taken in space missions and assume that it is a totally different body than we inhabit and destroy.

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Figures

"Figure 1.1: On the way to the cinema." *End of an Era*. Author's Screenshot.

"Figure 1.2: Dr. Blatella – A stereotype of a human professor; *Cenozoic Park* begins." *End of an Era*. Author's Screenshot.

"Figure 1.3: A dialogue with the cashier." *End of an Era*. Author's Screenshot.

APPENDIX 1: ETHICS BOARD WAIVER FORM

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ETHICS BOARD WAIVER FORM FOR THESIS WORK

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ENGLISH LANGUAGE AND LITERATURE TO THE DEPARTMENT PRESIDENCY

Date: 31/12/2015

Thesis Title / Topic: POSTHUMAN ECOLOGIES IN TWENTY-FIRST CENTURY SHORT ANIMATIONS

My thesis work related to the title/topic above:

1. Does not perform experimentation on animals or people.
2. Does not necessitate the use of biological material (blood, urine, biological fluids and samples, etc.).
3. Does not involve any interference of the body's integrity.
4. Is not based on observational and descriptive research (survey, measures/scales, data scanning, system-model development).

I declare, I have carefully read Hacettepe University's Ethics Regulations and the Commission's Guidelines, and in order to proceed with my thesis according to these regulations I do not have to get permission from the Ethics Board for anything; in any infringement of the regulations I accept all legal responsibility and I declare that all the information I have provided is true.

I respectfully submit this for approval.

31.12.2015
BAĞAK

Name Surname:	Başak Ağın Dönmez
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APPENDIX 2: ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
THESIS/DISSERTATION ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
TO THE DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

Date: 31/12/2015

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ADVISOR APPROVAL

APPROVED.

Prof. Dr. Serpil Oppermann