Hacettepe University Graduate School Of Social Sciences

Department of English Language and Literature

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A POSTHUMAN ECONARRATOLOGICAL READING OF JULIAN BARNES'S *A HISTORY OF THE WORLD IN 10 ½ CHAPTERS*, PETER ACKROYD'S *THE CASEBOOK OF VICTOR FRANKENSTEIN*, ALAN MOORE'S *THE SAGA OF THE SWAMP THING*

Sevda AYVA

Ph.D. Dissertation

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KABUL VE ONAY

Sevda AYVA tarafından hazırlanan "A Posthuman Econarratological Reading of Julian Barnes's *A History of the World in 10 ½ Chapters*, Peter Ackroyd's *The Casebook of Victor Frankenstein*, Alan Moore's *The Saga of the Swamp Thing*" başlıklı bu çalışma, 08.11.2022 tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak jürimiz tarafından Doktora Tezi olarak olarak kabul edilmiştir.

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08/12/2022

Sevda Ayva

i

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ETİK BEYAN

Bu çalışmadaki bütün bilgi ve belgeleri akademik kurallar çerçevesinde elde ettiğimi, görsel, işitsel ve yazılı tüm bilgi ve sonuçları bilimsel ahlak kurallarına uygun olarak sunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, yararlandığım kaynaklara bilimsel normlara uygun olarak atıfta bulunduğumu, tezimin kaynak gösterilen durumlar dışında özgün olduğunu, **Prof. Dr. Aytül Özüm** danışmanlığında tarafımdan üretildiğini ve Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Yazım Yönergesine göre yazıldığını beyan ederim.

Sevda Ayva

Eşim ve Kızım için…

ABSTRACT

AYVA, Sevda. A Posthuman Econarratological Reading of Julian Barnes's *A History of the World in 10 1/2 Chapters*, Peter Ackroyd's *The Casebook of Victor Frankenstein*, and Alan Moore's *The Saga of the Swamp Thing,* Ph.D. Thesis, Ankara, 2022.

Co-opting posthumanism and the 4EA cognition theory, this study is concerned with the endeavor in econarratology to employ new understandings of existence and the borders of the mind in approaches to narratives. For this purpose, in Julian Barnes's *A History of the World in 10 1/2 Chapters* (1989), Peter Ackroyd's *The Casebook of Victor Frankenstein* (2008), and Alan Moore's *The Saga of the Swamp Thing Volume 1* (1984), this dissertation argues that the writers' and readers' minds, other-than-mind forces such as the body, environment (the physical features and artifacts, spatiotemporal dynamics) and their affective states are at work during cognition. It propounds that the readers' affective states which emerge a result of their interaction with the actual and imaginary worlds participate in cognition and that the narratives become their extended imagination. Barnes offers a formula for how catastrophe is transformed into art and it corresponds to the idea of the extended imagination stated in this study. According to this formula, the environment surrounding the artist becomes his "cognitive niche" functioning as an active part of the reimagining process. In *The Casebook*, London turns into a nonbiological prop aiding the writer's cognitive activities. Therefore, thanks to the agency of the city and the author's affective states concerning London, Frankenstein's creature is reimagined as a trilateral entity that embodies the Monster's disabled body, the scientist's disturbed mind, and London's monstrous body. In *The Swamp Thing*, Moore's concern about the environmental crisis and his interest in the scientific experiments causes a shift in Wein and Wrightson's swamp monster's genesis. Swamp Thing becomes a posthuman entity in which Alec Holland's human memory, the bio-restorative formula, the inhabitants of the swamp co-exist. Drawing on plant neurobiology and critical plant studies, the definitions of cognition and the brain are reworked from the point of plantae. Consequently, in the process of reimagination, other-than-mind forces or the nonhuman agency generate different meanings in narratives which differ from what the author originally intends to write.

Keywords: Econarratology, posthumanism, Julian Barnes, Peter Ackroyd, Alan Moore, the 4EA cognition (embodied, embedded, enactive, extended ve affective).

ÖZET

AYVA, Sevda. Julian Barnes'ın *10 ½ Bölümde Dünya Tarihi*, Peter Ackroyd'un *Victor Frankenstein'ın Vaka Defteri* ve Alan Moore'un *Swamp Thing*'inin Posthüman Ekonaratolojik Okuması, Doktora Tezi, Ankara, 2022.

Bu çalışma, ekonaratolojinin posthümanism ve bilişsel nörobilim alanında 4EA bilişsel kuramını benimseyerek varoluş ve zihnin sınırları hakkındaki yenilikleri anlatılara olan yaklaşımlara aktarma çabasını konu edinir. Bu maksatla, bu tez Julian Barnes'ın *10 ½ Bölümde Dünya Tarihi*, Peter Ackroyd'un *Victor Frankenstein'ın Vaka Defteri* ve Alan Moore'un *Swamp Thing Efsanesi*'nde yazarların ve okuyucuların bilişsel süreçlerinde zihinleri, bedenleri, çevreleri (fiziksel çevredeki insandışı etmenler, salgın ve çevresel yıkım gibi uzam-zamansal dinamikler) ve duygulanım halleri gibi insandışı ve zihinden öte güçlerin de etkili olduğunu savunmaktadır. Okuyucuların gerçek ve hayali dünyalarla etkileşimi sonucu ortaya çıkan duygulanım durumlarının bilişsel süreçlerinde yer aldığını ve anlatıların okuyucuların genişletilmiş yaratıcı imgelemi haline geldiğini iddia etmektedir. Barnes sanatçının felaketi nasıl sanata dönüştürdüğünü formüle etmiştir ve bu formülün tezde öne sürülen genişletilmiş yaratıcı imgelem kavramına karşılık geldiği iddia edilmiştir. Sanatçının zihinsel süreçleri çevresine kadar uzanmış, çevresini "bilişsel nişe" dönüştürerek yeniden yaratım sürecinin etkin bir parçası olmuştur. *Vaka Defteri*'nde, Londra yazarın bilişsel süreçlerinde zihni ile birlikte aktif rol oynayan harici bir kaynak görevi görür. Şehrin failliği ve yazarın şehre olan duygularının etkileşimi ile Frankenstein'ın yaratığı artık çok boyutlu bir hal alarak canavarın bedensel anormalliği, Frankenstein'ın normatif olmayan zihnini ve Londra'nın canavar bedenini temsil etmektedir. *Swamp Thing Efsanesi*'nde Moore'un o dönemdeki çevresel felaketlere olan tepkisi ve bilimsel deneylere olan ilgisi Wein ve Wrightson'ın bataklık canavarının özünü ve varoluşunu değiştirmiştir. Swamp Thing, Alec Holland'ın hafızası, kimyasal formül, bataklık sakinlerinin hepsini birlikte bedeninde barındırdığı posthüman bir varlığa dönüşmüştür. Bitki nörobiyolojisi ve eleştirel bitki çalışmalarının savlarından yola çıkarak idrak ve beyin terimlerinin bitkilerin dünyasından bakılarak yeni tanımları yapılmıştır. Sonuç olarak, yeniden yaratım sürecinde zihin harici güçlerin ya da insandışı öğelerin failliği ve uzam-zamansal etmenler sayesinde anlatılar yazarların aslında yazma maksatlarından farklı anlamlar kazanmaktadır.

Anahtar Sözcükler: Ekonaratoloji, posthümanism, Julian Barnes, Peter Ackroyd, Alan Moore, 4EA biliş kuramı (Bedenlenmiş, İç İçe, Etkileşimci, Genişletilmiş ve Duyuşsal).

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INTRODUCTION

The emergent circumstances of the century such as the environmental crisis, the outbreak of the Covid-19 pandemic, and new insights from neuroscience into cognition give rise to the blurring of the borders between the internal and external, the mind and body, the present and absent within and across the human, and the influences of these changes extend to the approaches to narratives. As Erin James and Eric Morel put it, "understandings of narrative change as the environment changes" (James and Morel 1). A new understanding of narratives that responds to these realities of the changing world lays stress on the need for a reconfiguration of the existent narrative structures and devices as well. At this point, posthumanism offers the theoretical basis for this revision in narrative theory which was initiated by Erin James with the emergence of econarratology in *The Storyworld Accord: Econarratology and Postcolonial Narratives* (2015). The addition of the posthumanist dimension to econarratology, as Iovino puts forward, presents "wider views of the [actual and imaginary] universe, however, not simply by finding refuge in a wilderness 'out there', but by exploring the recesses of the 'in-house' wilderness within and across the human" ("Posthumanism in Literature and Ecocriticism" 13).

This study, therefore, offers a posthuman mode of thinking to econarratology by presenting a reconsideration of the narratological device, storyworld, which by definition does not underline the other-than-human agencies both in and outside the human mind and body. To draw attention to the myriads of forces in the construction of storyworlds, this study introduces the term, posthuman multi(story)verse (PHMSV). It is the idea that a narrative splits and branches into different alternative storyworlds whenever a new cue is introduced and detected by readers/recipients. These parallel storyworlds, however, are not far away and decohered from one another. They are intra-actively linked to each other. In this knotted narrative universe, the human is no longer at the origin or center that the storyworld revolves around. Rather, PHMSV is formed as a result of the entanglement of the supposedly separate agentic capacities.

Econarratology within the posthuman paradigm calls attention not only to the narrative techniques in exploring the bond between literature and the physical environment, but also to writers' and readers/recipients' cognitive processes in (re)imagining storyworlds. The fact that the new research in the field of cognitive neuroscience revolutionizes the mechanics of cognition and changes the borders of the mind paves the way for a change in the understanding of the ways storyworlds are constructed as well. Therefore, this study co-opts the 4EA cognition (embodied, embedded, enactive, extended, and affective), which embraces the notion that the mind is not disembodied and self-sufficient, but acts equally in tandem with the body, environment and affect during cognition. This study, in this regard, underscores the co-shaping agency of the other-than-mind forces such as the body, environment - encompassing the physical features and artifacts, spatiotemporal dynamics such as natural devastations and pandemics as well - authors' and readers/recipients' affective states (moods, feelings and attitudes) during the construction of PHMSV.

The embodied mind theory, as the first E in the 4EA cognition, contends that the agency of the body is not peripheral to the mind in cognitive activities since cognition is itself embodied (Wilson and Foglia para. 1). To put it differently, cognitive activities are dependent upon the characteristics of the body too. Through the idea of the embodied simulation, the theory asserts that the perceivers do not need to perform the actions and emotions of the targets because by means of "mirror neurons," the same cortical regions in their brains that would become active if they were executing the same actions with the target are triggered. These tiny neurons are also at work during reading a book and watching a play, and the theory calls this act liberated simulation (Iacoboni 4-6). The liberated simulation throws light on the ways that readers/recipients understand the actions and feelings of the storyworld inhabitants and empathize with them.

The embedded cognition and enactivism put emphasis on the body's dynamic interaction with its surrounding environment (Dawson 61) and the way an agent makes use of the features of the environment and the artifacts in it (Thompson xxv). The two theories enable this study to pay attention to the ways authors utilize the spatiotemporal characteristics of their actual environments in their cognitive activities, and how the readers/recipients exploit the features of the fictional environments to aid cognizing the

unexplored minds and bodies. As for the last E in the 4EA cognition, the extended mind avers that the mind extends into the world, and that the internal and external resources integrally take active part in cognition (Clark and Chalmers 7). Similar to these non-biological resources, narratives for readers/recipients function as external components in discovering unknown fictitious worlds.

As for the final phase in the 4EA cognition, affect in neuroscience refers to the affective states and their part in the cognitive processes (Immordino-Yang and Damasio 5). The affective states of authors are integrated into their creative actions, and of the readers/recipients that emerge in consequence of their embodied, embedded and affective interaction with storyworlds facilitate or impede their cognitive/imaginative processes. As an inextricable part of the embodied simulation and affectivity, narrative empathy is also incorporated in the exploration of storyworlds since it unfolds the affective reciprocity between readers/recipients and narratives. A neuroscientific approach to readers/recipients' empathy particularly with the more-than-human in narratives is adopted, and the narrative strategies that boost and hinder their empathic response will be studied. To argue that engaging with narratives predisposes readers/recipients to empathize with the nonhuman others would require a research on the readers/recipients' responses to the narratives under question. Furthermore, empathy discussions deal with the question of to what extent empathy experienced while reading leads to a sense of care for the non/human others in the real world. However, a comprehensive analysis about the reception of the narratives under consideration and the possible cultivation of readers' morals in the real world remain outside the scope of this study because econarratology by definition investigates the relationship between literature and the physical environment with an emphasis on narrative devices. Therefore, this study restricts its locus of attention to the narrative techniques which have capacity to generate empathic response in readers/recipients.

Accordingly, the present study draws upon the philosophical, neuroscientific and cognitive approaches in theorizing how the inside and outside elements that might have an influence on the writers' cognitive processes, and the narrative techniques that stimulate readers/recipients to extend their imagination into narratives during immersion. However, the claim is not that every reader/recipient reacts or demonstrates

the similar responses to the narratives under question, especially when considering the spatio-temporal dynamics that influence their cognitive/imaginative capacity to a great extent. Hence, by concentrating on the narrative devices, it discusses how narratives become the extended imagination of the authors and readers/recipients thanks to the incorporation of the other-than-mind forces, and illustrates this process in Julian Barnes's *A History of the World in 10 1/2 Chapters* (1989), Peter Ackroyd's *The Casebook of Victor Frankenstein* (2008), and Alan Moore's graphic narrative *The Saga of the Swamp Thing Volume 1* (1984).

To put it briefly, by embracing the (posthuman) multiverse and the 4EA cognition, the study will bring a posthuman mode of analysis to econarratology. Econarratology, as the kernel of this study, emerges as a consequence of the "cross-pollination" (Lehtimäki 138) of ecocriticism and narratology. Erin James expounds the theory in *The Storyworld Accord: Econarratology and Postcolonial Narratives* (2015) that it "maintains an interest in studying the relationship between literature and the physical environment, but does so with sensitivity to the literary structures and devices that we use to communicate representations of the physical environment to each other via narratives" (23). Econarratology, in this regard, combines ecocriticism's "earth-centered approach" (Glotfelty xviii) to literary criticism with narratology's systematic outlook to the role of narrative techniques in exploring how the human and nonhuman co-exist in the environment and in literature. Thus, instead of privileging the content of narratives over their form within ecocritical analysis, an increasing number of theorists turn their attention to the very structures and devices by which narratives construct environments for their readers. As to the joining of the posthumanist facet, it enables econarratology to trace the ways that humans relate to the other-than-human not only in the external world but also to seek that entanglement within and across the human.

Also, the elucidation of econarratology as "the potential that narratives stand to make to readers' understandings of what it is like for people in different spaces and times to live in their ecological homes" (James, *The Storyworld Accord* 23) refers to the term storyworld, which means "mentally and emotionally projected environments" (Herman, "Storyworld" 570). Its definition denotes that it is a cognitive and imaginative construct, which allows this study to make an inquiry about the ways readers/recipients transport

themselves into the unexplored (story)worlds, and the elements that form their cognitive/imaginative process. Also, the posthumanist dimension added to the theory expands the borders of these imagined environments to the non/dishuman bodies and minds, digging up the reciprocal interplay between the human and other-than-human.

Within this theoretical framework, in the first chapter, the linking of ecocriticism and narratology is discussed in order to demonstrate the reasons for their convergence and at what point posthumanism contributes to this confluence. It is then demonstrated that posthumanism enables econarratology to seek entangled agencies not just in the physical environment but within the human and hybrid bodies/minds. This part further presents a detailed theoretical discussion of the (posthuman) multiverse and the 4EA cognition so as to reconceptualize the term storyworld, and rework the ways storyworlds are built in order to underline the other-than-mind forces during their construction.

The following chapter sheds light on Barnes's composition process by drawing on his archives and the interviews with him. It is argued that the writer's prescription for the writing process corresponds to how the authors' minds extend into narratives. Also, this section examines how the allegedly disparate and disconnected stories are linked to each other through the recurring motifs and narrative artifacts through which PHMSV is constructed. The last section of this chapter displays how the animal narration, non-anthropocentric focalizing characters, the purposeful interlacement of fact with fiction, the familiar with the unfamiliar predispose the readers to empathize with the nonhuman, and to trespass the barriers of imaginative resistance and empathy inhibition.

In the third chapter, it is suggested that Ackroyd, in reimagining of Mary Shelley's *Frankenstein, The Modern Prometheus* (1818), utilizes the characteristics of London as a monstrous body, and his affective interaction with the city extends into *The Casebook*. It is demonstrated that the author draws a threefold parallel among his act of rewriting, Victor Frankenstein's reanimation of Mary Shelley's monster in his laboratory, and the depiction of London as an anomalous body. This part showcases how the monstrous body turns out to be the "doppelganger" of Victor Frankenstein, a surrogate for London - the anthropogenic city as a result of human intervention and exploitation, and the Monster's body as an embodiment of PHMSV. By focusing on the non-normative and

mechanized body of the Monster, Frankenstein's disturbed mind, and the deformed body of London, this part discusses disability in relation to posthumanism.

The final chapter concentrates on the graphic agency of *The Saga of the Swamp Thing Volume 1* in depicting and empathizing with the plant bodies and minds. It argues that Moore's concern for the environmental crisis and his interest in the scientific knowledge of his time extend into the new origin of the swamp thing, and turns the creature into a plant monster. This part draws on plant neurobiology and critical plant studies, which challenges the traditional understanding of the plants as non-sentient, passive and incapable of cognitive abilities, and illustrates how the human body and mind are vegetalized through the transformation of the scientist Alec Holland into the swamp monster.

CHAPTER I

ECONARRATOLOGY AND POSTHUMANISM

This chapter aims to show that the addition of the posthumanist dimension helps econarratology destroy the dualistic assumptions in the conceptualization of storyworld by unveiling the nonhuman agency in its basis and the other-than-mind sources in its construction, and expand its borders to encompass the hybrid, techno bodies and minds. Firstly, a brief survey of the mingling of ecocriticism and narrative theory that discloses the gaps in their scopes will be provided. Secondly, this part offers a detailed description of the structure of PHMSV by introducing the theory of the multiverse and its posthuman interpretation so as to emphasize the non-hierarchical aspects in the skeleton of PHMSV. Lastly, this chapter presents an in-depth discussion of the 4EA cognition, and maintains that the process of construction of storyworlds as a cognitive/imaginative act involves the interaction between the mind, body, environment, and affective states.

1. 1. The Overlapping Areas of Ecocriticism, Narrative Theory, and Posthumanism

The linking of ecocriticism and narratology is an attempt at broadening the scope of ecocriticism from the content-based to a more structure-based spectrum and perspective, and of narrative theory in terms of the present-day theoretical discussions and debates about contemporary issues. As to the joining of posthumanist visions to econarratology, as the subject of this study, is a continuum of this venture initiated by narrative theorists and ecocritics. The goal is not only to widen their purviews through exchanging ideas but also to encompass the realities of the changing world and to re-form their theories according to these changes in the understanding of existence. A reassessment of narrative theory, thus, requires building connections with new theoretical paradigms in other fields and making use of them in rethinking the present approaches to narratives. This reassessment

> takes stock of how stories and traditions for analyzing them relate to the norms, institutions, and practices that structure academic and other engagements with today's most pressing concerns, geopolitical, jurisprudential, environmental, health-related, and other. (Herman, *Narratology Beyond the Human* 2)

The desire in narrative theory to renew itself is consistent with the inclusiveness of ecocriticism because ecocritics define the present condition of ecocriticism as a "process of heterogenesis," which indicates "a becoming that is always in the process of adapting, transforming and modifying itself in relation to its environment" (Guattari, *The Three Ecologies* 34, 95). As for posthumanism, it functions as "a perturbed middle space where many crisscrossing discourses mingle" (Oppermann, "From Material to Posthuman Ecocriticism" 274). These characteristics of ecocriticism and posthumanism, the motivation of narrative theory to encompass and overlap other theoretical paradigms dispose all three parties to merge with each other at a common point.

Over the past few years, scholars, though not specifying a name, have explored the potential junction of ecocriticism and narrative theory. Ursula Heise, one of the critics who makes the first attempts to build the bridge between the two different critical studies, invites ecocritics to reconsider "the question of the aesthetic" ("Afterword" 258). She remarks that ecocritical thinking, particularly the first and second wave ecocriticism, mostly tends to evaluate narratives in terms of whether they depict social oppression and environmental devastation in a realistic way and the implicit ideological views in them. In her critique of ecocriticism's emphasis on realism, she draws attention to the need for "the aesthetic transformation of the real," which "has a particular potential for reshaping the individual and collective ecosocial imaginary" ("Afterword" 258). She highlights the capacity of narratives to trigger readers/recipients' imagination in conveying social and environmental injustice.

Likewise, Lehtimäki, in "Natural Environments in Narrative Context: Cross-Pollinating Ecocriticism and Narrative Theory," argues that ecocritics do not engage in the formal aspects of narratives. For that reason, he suggests that narrative theorists can extend the scope of ecocriticism by offering new devices for the analysis of narrative forms that highlight the interrelation between narrative structures and natural environments. In this way, ecocritics can focus not only on the mimetic and thematic facets of narratives but also on their "synthetic" dimension that corresponds to the design of narratives. On the

other hand, ecocritics can motivate narrative theorists to concentrate on the natural world along with the structural design in narratives (Lehtimäki 119, 137). The interchange, therefore, might fill the void in their outlook. As to the contribution of the posthumanist dimension, it offers wider perspectives of existence, diverting their focus of attention from just the representation of the natural world in literature to cover the nonhuman agencies within and across the human bodies and minds. Posthumanism, as Hayles maintains, emphasizes the need for

> a thorough reconceptualization of the concepts and vocabularies with which to describe and analyze these complex interdependencies, as well as the ways in which humans, as a species, are interdependent with one another as well… although humans are dominant *within our ecological niche*, many other niches exist that may overlap with ours and that operate by entirely different rules. ("Novel Corona: Posthuman Virus" 70-71)

Posthumanism, in this respect, gives narrative theory an opportunity and the needed theoretical ground to reconfigure narrative strategies by considering the co-presence of various life forms.

In fact, narrative theory has been aware of its restraints and has already taken several attempts to overcome them. However, it still has, as Lehtimäki puts it, the tendency to foreground imaginary worlds and fictional minds even though it gradually develops into a dynamic mode of inquiry into narratives as a part of human life, and shifts its focus from canonical literary works to the modes of storytelling across media and genres (119). Therefore, with such a limited and narrow point of interest, narrative theory fails to cover recent theoretical and scientific developments, the changing perspectives as a result of technological advancements, and urgent issues such as environmental devastation and pandemics. Nonetheless, in its attempts to respond to the changes in the understanding of the universe, to incorporate recent paradigms other than itself so as to reflect the changing realities in the world is not a sufficient step because to achieve this leap to revitalize its purview, it is a necessary step for narrative theory to rethink the narrative devices within its own structure. To this end, it is inevitable to go beyond its own limits, stepping into other domains and embracing the recent paradigm shifts.

Although they inhabit opposing poles, the acknowledgement of the enmeshment of all life forms, and the potential of narratives to convey that fact become the meeting point

that conjoins ecocriticism and narratology emerging as an interdisciplinary study. Ecocriticism emerges as "a reaction against the dominance of discursivity emerging from structuralism, while [...] narratology helped to secure that dominance in the first place" (James, *The Storyworld Accord* 4). Neither ecocriticism's reaction against the linguistic turn nor conversely narratology's investment in this turn hinders the reciprocal communication between the two domains. Narrative theory is inclined to concentrate on the fictional minds and storyworlds rather than the actual, whereas the ecocritical approach "is too often preoccupied with the domain of nature to linger on the specific affordances that fictional narratives provide when it comes to imagining and situating oneself within suprahuman ecologies" (Lehtimäki 119-20). Despite their joint claim concerning the cacophony of the two domains, both Lehtimäki and James come to terms with the idea that the intersection of the seemingly distinct fields can broaden their scopes. Undoubtedly, the attempt to graft the two different critical orientations onto one another is partly prompted by "the turn towards narrative" in the field of ecocriticism, which is portrayed with the metaphor of a new branch of ecocriticism as the "banyan tree." In this metaphor, econarratology, rather than a wave, emerges as a new branch that "extend[s] to form alternative yet interconnected trunks" (James and Morel 355-57). In other words, it develops within the ecological criticism itself, rather than as an outsider.

Though ecocriticism emerges as a reaction against the basis on which narrative theory is grounded, and their premises do not overlap, both disciplines take advantage of this meeting. Ecocritics' exclusive focus on the theme and content of literary texts reduces ecocritical research to "the level of content invocations." Hence, ecocriticism "must broaden its aims to formulate a set of new theoretical principles to address the heterogeneous nature of its praxis" (Oppermann, "Ecocriticism's Theoretical Discontents" 94, 154). At this point, narrative theory serves to the end of ecocriticism and contributes to its heterogeneity by freeing its scope from content-based focus. On the other hand, narrative theory still lacks the necessary and ample commitment to the exploration of nonhuman worlds. Narrative theorists, thus, investigate pathways leading to a recontextualization of classical narrative theory, and to the inquiry over anthropocentric and biocentric storytelling practices (Herman, *Narratology Beyond the Human* 2).

Such a collapsing of boundaries and trafficking of ideas among disciplines, particularly between ecocriticism, narrative theory, and posthumanism, entails a closer outlook on the role of narratives and elements of storytelling practices in terms of recognizing the realities of the new world. In line with this, the present study argues that the methods in narrative theory fail to adopt recent approaches to the construction of familiar or unfamiliar imaginary worlds and minds, and to deal with the ways readers/recipients get access to these storyworlds. This study, thus, attempts to present a non-dualistic and disanthropocentric perspective on the ways of building and cognizing storyworlds. Shifting the focus from just content or storytelling practices to reformulating narrative techniques within the context of the urgent concerns in today's world and with the help of new theories on existence should call attention to the question of "how and why we construct the world the way we do" (Easterlin, *A Biocultural Approach* 99) by emphasizing the role and mechanism of the perceiving mind. Such a tendency on the mind requires an investigation into the cognitive activities of authors during writing and of readers/recipients during the reception of narratives, and to seek help in cognitive neuroscience in order to achieve this goal.

On the other hand, ecocritics can be averse to paying particular attention to the human mind because such an orientation is part of a "pernicious anthropocentrism" (Easterlin, *A Biocultural Approach* 93). Instead of considering that to focus on the cognitive processes as anthropocentric, this study embraces the theory of the disembodied mind which puts forward that cognition is not predicated upon the mind alone, rather the body, environment, and affective states are also at work. By doing so, it attempts to move beyond dualisms pertaining to cognitive processes, and underscores the underlying other-than-mind agencies in the (re)imagining of storyworlds. Since the aim of plunging deep into the human mind, as Easterlin puts it, is to put emphasis on the value of the more-than-human world and to raise awareness of the ill-treatment of it by humans, narratives that deal with the mind's positive or disturbed relationship with the nonhuman nature notably illustrate the conditions that prepare and shape human behavior, whether protective or troubled, towards the environment ("Cognitive Ecocriticism" 96). The current trends in narrative theory have been, therefore, directed to explore how environmental narratives generate emotional responses in readers and viewers, and also how readers/recipients use their bodies to understand not just narrative

characters but also the environments surrounding them. While focusing on readers/recipients' mentally and bodily activities, narrative theory explores:

> How do we experience the characters, events and environments we encounter in literature and film on the sensory and emotional level? How do environmental narratives invite us to care for human and nonhuman others who are put at risk? And how do we relate to the speculative futures presented to us in ecotopian and ecodystopian texts and films? (Mossner 4).

The goal of this inquiry is, in this regard, to study narrative devices that motivate readers/recipients to simulate the feelings of the nonhuman others and empathize with them.

A shift in emphasis from content to form which entails concentrating on the narrative practices is needed especially when dealing with narratives that are also considered to possess no overt environmental themes and subject matter. The attention to narrative devices and structure, thereby, renders an array of narratives that are previously deemed to be illegible to ecocritics (James, *The Storyworld Accord* xiv). In line with this, this study attempts to show that the question of "how," rather than solely "what," entails digging up for the other-than-human agencies which is sometimes not intentionally included by authors. To gravitate towards the inquiry into "how" requires a closer investigation into the process of (re)building storyworlds, how readers/recipients get access to the nonhuman minds and bodies that they are outlanders.

In its attempt not to encumber narratives with "the restrictive anthropocentric bias" (Sternberg 646) prevalent in its methods, narrative theory revisits and refashions the traditional and predominant narrative theories which hinder the scope of narrative theory from merging with current theories in other fields. Nevertheless, to reformulate the existent narrative devices and approaches to narratives will not be enough to overcome that bias within itself, and to follow the paradigm shift in relation to the environmental crisis, the notion of co-emergence, and the outlook on the nature of cognition and the brain. In this sense, narrative theory should continue its self-renewal project which starts by embracing ecocritical thinking, adding recent theories and new trends in different areas, and turns this venture into an ongoing process of transformation. Hence, as a part of this endeavor, this study proposes a reconfiguration

of the concept of storyworld, and reworks how storyworlds are (re)imagined drawing from the posthuman multiverse and the theory of the 4EA cognition.

1. 2. The Posthuman Multi(story)verse: Transgressing The Borders of The "Imagined Totality"

> "You ... travel to other worlds?"
>
> "Yes, I travel to other worlds."
>
> [...] "In the flesh?"
>
> "If you can tell me where the flesh ends and the mind begins, I will answer that." (Fowles, *The Magus* 277)

In its broadest definition, the term storyworld denotes "not just the spatial setting where a story takes place ... but an imagined totality that evolves according to the events in the story" (Ryan, "Texts, Worlds, Stories" 11-13). This study strongly upholds Marie-Laure Ryan's definition of the concept as more than a spatial setting in a narrative and that indicates an imaginative process. However, this study suggests that the term is necessarily in need of reconsideration because it limits the depth of storyworlds to the events within their borders by disregarding the nonhuman agency, and fails to respond to the changes in the understanding of the human, the mind and cognition in constructing these imaginary environments. This section, thus, investigates whether that "imagined totality" incorporates more-than-human agencies in its structure, and whether the other-than-mind forces are jointly at work in the (re)creation of storyworlds. Before proposing PHSMV as an alternative to storyworld and elaborating on its features, this part provides a brief discussion about the posthuman multiverse, which constitutes the backbone of the new definition of the term.

The posthuman understanding of the multiverse is based upon Hugh Everett's level three of the multiverse[1], and represents materially and metaphorically "the ultimate

[1]The multiverse theory, also known as omniverse and metaverse, is a hypothesis posed by the cosmologists and physicians in the last decades. The theory suggests that the world that harbors many living and non-living forms is not one but among the many. Michio Kaku succinctly describes the multiverse through the Shakespearean image of the world as stage:

decentralization of the human," and the deconstruction of any onto-epistemological center allowing no space for any centrism (Ferrando, "Multiverse" 266). At the core of Everett's many-worlds interpretation lies an anthropocentric desire for alternative worlds with one's doppelgängers. Consequently, the four-level hierarchy of the multiverse is characterized by the binary oppositions of the self/other, and here/there. Nevertheless, the posthuman interpretation of the multiverse is, as Ferrando states, inherently posthuman (*Philosophical Posthumanism* 173) because it is reinterpreted through Deleuze and Guattari's notion of the rhizome, which is an "acentered, nonhierarchical, nonsignifying system without a General and without an organizing memory or central automaton, defined solely by a circulation of states" (Deleuze and Guattari 21).

The nonhierarchical characteristics of the rhizome[2] serve to eradicate the dualistic nature in the theory. The posthuman multiverse, therefore, suggests that

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> If we recall the metaphor introduced by Shakespeare that all the world is a stage, then general relativity admits the possibility of trapdoors. But instead of leading to the basement, we find that the trapdoors lead to parallel stages like the original. Imagine the stage of life consisting of multistory stages, one on top of the next. On each stage, the actors read their lines and wander around the set, thinking that their stage is the only one, oblivious of the possibilities of alternate realities. However, if one day they accidentally fall into a trapdoor, they find themselves thrust into an entirely new stage, with new laws, new rules, and a new script. (*Parallel Universes* 112)

In this context, Kaku refers to a multiplicity or an infinite number of alternative universes that differ from the world that its inhabitants experience, and that each one carries its own characteristic laws, rules and reality. Max Tegmark develops a four-level taxonomy of multiverses summing up various views on the subject. The first level is called the "regions beyond our cosmic horizon" (5). Based on Edwin Hubble's discovery of the expansion of the universe, the universe, while infinitely expanding, forms duplicate of this world inhabited by people with the same appearance, names and memories. In the second level, Other Post-Inflation Bubbles, separate universes randomly come into existence in an infinite number of "bubble universes," (7) which are dominated by different laws of physics from the ones ruling our universe. The third level, known as "the many worlds of quantum physics" (10), is related to Hugh Everett's the many world interpretation (MWI), which he introduces in *Theory of the Universal Wave Function* (1956). Everett revisits Erwin Schrödinger's cat paradox and develops his theory drawing from it. The last level of the multiverse, "other mathematical structures," (2) includes all the conceivable, but not observable as physical realities, mathematical structures in our universe. The sets of physical laws prevailing in these types of multiverses differ from the ones sustaining our universe.

[2] Ferrando's utilization of the rhizome as a sieve in her reinterpretation of the multiverse is in agreement with Deleuze and Guattari's characterization of the concept in that in contrast to trees and their roots, "the rhizome connects any point to any other point, and its traits are not necessarily linked to traits of the same nature; it brings into play very different regimes of signs, and even nonsign states" (Deleuze and Guattari 21).

> the hypothesis of a multiverse in which the same energy/matter constituting our dimension would be also constituting other dimensions. A specific vibrational domain would be keeping each dimension intact. For instance, a radio can simultaneously tune to many different channels, because each cable is transmitting at a different frequency; similarly, our dimension would be materializing at a specific range of vibrations, in the larger frame of the multiverse, where, speculatively, different vibrations of matter could give rise to an indefinite number of material dimensions. (Ferrando, *Philosophical Posthumanism* 177)

The rhizomatic dimension helps the posthuman multiverse constitute dimensions that are not decohered from each other. Rather, they are interdependent with each other. In other words, the posthuman multiverse upholds the idea that the alternate universes do not exist individually; in contrast, they coexist together emerging through and recognizing the agencies of one another. On the other hand, the integration of the rhizome into the posthuman multiverse generates a paradox in that the rhizome is not amenable to any structure. The posthuman multiverse, however, does not deny the presence of a structure[3], which hinders the decoherence of parallel universes through vibrations; however, embraces it in a nonhierarchical way (Ferrando, *Philosophical Posthumanism* 180). In this regard, the presence of a structural design in the posthuman multiverse does not mean that it is not characterized by rhizomatic assemblages because it establishes a nonhierarchical structure.

The rhizomatic roots of these parallel worlds are manifest in the bodies too because of the fact that human genomes, occupying only ten percent of the human body, are outnumbered by the other-than-human genomes such as of fungi and bacteria (Haraway 3). It is impossible to decohere these bodies since the human body is a universe within a multiverse that is governed and maintained by various agentic forces. Ferrando explains the embodiment of the posthuman multiverse in the human body as follows,

[3] The structure, Ferrando refers to, is related to the String Theory or M-theory as its latest version, which asserts the hypothesis of the multiverse. According to the String Theory, matter, at a subatomic level, is formed by tiny vibrating loops of energy which are called strings. These strings like the strings in a musical instrument depending on the difference in their resonances and frequencies vibrate producing different sounds. Since these strings are able to vibrate in many ways, a single string can generate many types of particles (Kaku 17-18). According to Ferrando, in the process of the material possibility of interpermeating dimensions (Ferrando notes that she, instead of parallel universes, uses dimensions since they may not be neither parallel nor universes) composed by quantum strings, the particular vibrational range which constructs the coherence of each dimension is a kind of vibrational structure (Ferrando 180)

> we can think of the multiverse as happening right now, here, through our own bodies, through the same matter which is composing this universe. More than parallel dimensions, ontically separated from each other, the posthuman understanding of the multiverse would be envisioned as generative nets of material possibilities simultaneously happening and coexisting, corresponding to specific vibrations of the strings, in a material understanding of the dissolution of the strict dualism one/many. (*Philosophical Posthumanism* 178)

In this context, the human body is made up of a multiplicity of agencies that co-exist rather than predominated by the human genomes. The bodies as manifestations of the posthuman multiverse are not predicated upon the humanistic binaries of the human/nonhuman, the present/absent.

The multiplicious and rhizomatic nature of the posthuman multiverse forms the basis of PHMSV. The underpinning of PHMSV is the notion that narratives are constituted by the myriads of coherent and entangled storyworlds, and in this multiverse everything is connected, even the parts that are deemed to be disconnected. It is predicated upon the idea of the co-existence of, and "intra-activity" (Barad 220) among various entities as a challenge to the anthropocentric assumption of the human as autonomous and disembodied subject. It attests to the idea that "the world is a knot in motion" and "becoming is always becoming *with*" (Haraway 6, 244). The alternate storyworlds coexist together emerging through and recognizing the agencies of one another. It, therefore, challenges the erroneous belief of separate bodies, minds and (story)worlds. As in the case of Everett's reinterpretation of Schrödinger's cat experiment and quantum entanglement[4], these posthuman multi(story)worlds could be projected in an antithetical and divergent way to each other. However, they are not decohered from each other; on the contrary, all are in contact. They are nonhierarchically linked to each

[4] Level three, known as "the many worlds of quantum physics" (10), is related to Hugh Everett's the many world interpretation (MWI), which he introduced in *Theory of the Universal Wave Function* (1956). Everett revisits Erwin Schrödinger's cat paradox. In this experiment, a cat is put into a sealed box with a bottle of poison gas connected to a hammer which is in turn connected to a Geiger counter placed near a piece of uranium. If a uranium atom decays, it mobilizes the Geiger counter, which in turn mobilizes the hammer that breaks the glass, resulting in the death of the cat. According to Schrödinger, it is a paradox that a cat could not be both alive and dead until an observation is realized. Everett, however, claims that a cat could be alive in one world and dead in another parallel world according to his many worlds interpretation. Accordingly, in this level, whenever a quantum event appears culminating in a random outcome, all outcomes happen in each parallel world. Therefore, the difference between the level one and three arises from "where your doppelgänger resides" (Rubenstein 453). In the former, parallel dimensions are far away in space to reach, whereas those of the latter are right here as a result of quantum events culminating in the splitting of reality and diverge into parallel storylines.

other through the nonhuman agentic capacities. In this sense, that "imagined totality" does not revolve around the human alone since it is constructed by both the human and more than human in an acentered way. The construction of storyworlds is not restricted to the one dimensional and humdrum imagining of the sequence of events that readers/recipients should follow. According to Herman, readers

> reconstruct not just what happened but also the surrounding context or environment embedding storyworld existents, their attributes, and the actions and events in which they are involved ... Interpreters do not merely reconstruct a sequence of events and a set of existents, but imaginatively (emotionally, viscerally) inhabit a world in which things matter, agitate, exalt, repulse, provide grounds for laughter and grief, … storyworlds are mentally and emotionally projected environments in which interpreters are called upon to live out complex blends of cognitive and imaginative response. ("Storyworld" 570)

The journey into imaginary worlds encompasses the viscerally though imaginatively experiencing of the attitudes and actions of the storyworld inhabitants and their spatio-temporal storyworld. Like Ryan, Herman also defines the reading experience as a cognitive and imaginative act. However, he calls attention to another characteristic of the reconstruction process, underscoring its emotional and visceral dimension.

Furthermore, Richard Gerrig likens the building of storyworlds to a means of transportation through which reader's mind travels to "some distance from his or her world of origin" (11-13) drawing from the image in Emily Dickinson's poem "There is no Frigate like a Book." Readers/recipients crossing the borders of their bodies, minds and environments journey into the imaginary worlds of narratives. On the other hand, Marco Caracciolo, negating Gerrig's idea of "being transported" ("The Reader's Virtual Body" 2-17), or "fictional recentering" by Ryan (*Narrative as Virtual Reality* 103-5), or Herman's "deictic shift" (*Story Logic* 271-74), argues that it is not just the consciousness or mind that relocates itself. Rather, narrative texts call upon reader's "virtual body to enter fictional worlds, as part of the process of co-constructing those worlds… [The virtual body is] the counterpart of the real body the reader sends into fictional worlds in order to reconstruct fictional space" (117-18). Nevertheless, the present study argues that in the construction of the "imagined totality," the spatiotemporal characteristics of writers' and readers/recipients' environment, the affective reciprocity between writers and narratives, and readers/recipients' affective

states evoked as a result of their empathic engagement with the non/human others accompany their mind and body in the route to the storyworlds.

1. 3. The 4EA of Cognizing Storyworlds

This section presents a cognitive and neuroscientific approach to the ways storyworlds are built. It provides a detailed explanation of the 4EA cognition theory and discusses how such an externalist perspective of cognition throws light on writers' and readers/recipients' cognitive processes during the construction of storyworlds. Readers, in constructing fictional worlds, fill in the gaps in narratives firstly depending on their own experience of the actual world realities, and then bringing their imagination into play. This study combines two approaches to imaginary worlds, that is possible worlds theory and cognitive science. According to the former, reality is a universe made up of a plurality of distinct worlds. Similar to the structure of the solar systems, the actual world stands at the center and is surrounded by possible worlds. Readers reach these possible worlds by drawing upon the similarities between the actual and textual world (Ryan, "From Parallel Universes" 644). In other words, reality functions as a bridge connecting the actual world at the center - where the reader is located - to the periphery, that is to say, the alternative possible worlds. The latter is cognitive science, which studies how "various cognitive frames and scripts which are made up of real-world, stereotypical knowledge are applied to the reading process" (Palmer 606). The neurological processes of authors and readers/recipients are the areas of interest for them. Both approaches negate classical narratology's approach to narrative as a representation of a succession of real or fictive events. They delve into the ways that play a role in the reconstruction of actual worlds and storyworlds in reader/recipients' minds. In this regard, narratives are not a one-way road to storyworlds; rather, they are doubly constructed by authors and reconstructed by readers (Herman, "Scripts" 1048). Also, writers or readers (re)construct storyworlds along with the actual world in that readers/recipients adapt storyworld knowledge into their actual world. This study, in this regard, pays attention to the interchange between the real and fictional worlds, and how readers/recipients make use of these imaginary world experiences in understanding unfamiliar minds and bodies by unfolding the other-than-mind forces in cognition.

Antonio Damasio, in *Descartes' Error,* posits that the organism interacts with the environment and the interaction is neither of the body alone nor the brain alone, that is why cognitive processes can be fully grasped only in the context of an organism's interaction in an environment (xxvii). In this regard, as a critique of the Cartesian mind-body dualism, Damasio posits that mental activity requires the joint and mutual presence of the mind, body and the environment since "[t]he mind is embodied, in the full sense of the term, not just embrained." (*Descartes' Error* 118) The breaking up of the duality among the mind, body and environment in the cognitive processes culminates in the 4EA. Opposed to the computationalist approach, cognitive science today asserts that the mind generates information in collaboration with the body and environment (Thompson xxvi). At this point, the theory of the cognitive phenomena is predicated upon the complex tripartite correlation among the mind, body, and environment. Based upon the findings of the neuroscientists namely Damasio, Joseph LeDoux, Marco Iacoboni, Vilayanur Ramachandran, Vittorio Gallese, and Giacomo Rizzolatti, cognition is not regarded as a process occurring just in the head, instead involves the body, the environment and affective states as well. At this point, neuroscientists propose the 4EA cognition, which is composed of embodied, embedded, enactive, extended, and affect.

1.3.1. The Embodied Mind: The Embodied Simulation of Readers/recipients

The embodied mind, against the Cartesian mind-body split, postulates that the body is not peripheral to the mind and performs a constitutive role in cognitive processing. Cognition is embodied as it depends on the features of the body; in other words, the aspects of the agent's body beyond the brain play a significant causal or physically constitutive role in cognition (Wilson and Foglia para. 1). As a result of the findings of the experiments by neuroscientists Rizzolatti and Gallese, observing the brain of macaque monkeys and later human, a group of neurons that are called mirror neurons takes action not only when the subjects execute a motor act, but also when observing other subjects doing the similar acts. Mirror neurons are tiny neurons in our brain that become active both when we perform an action and when we watch another person performing the same action, enabling us to understand the other person's action on a visceral level (Iacoboni 4). In other words, one does not need to perform the same

action with the others to understand their actions on a visceral level because the same cortical regions that are normally active when (s)he performs an action are also activated when (s)he observes the same motor acts executed by others (Wojciehowski and Gallese). For example, observing people grasping a cup of coffee, biting a cake, or kicking a football is enough to activate the same cortical regions of their brains that would be triggered if they were executing the same actions. Wojciehowski and Gallese draw a parallel between the embodied simulation and Antonio Damasio's "as-if body loop," which enables someone to feel an emotional state "as if the body were being activated and modified," (*Descartes' Error* 155-56) rather than solely from actual states.

Moreover, the same neurons are also activated when people watch an actor performing the action in a movie or when they read in a novel about a character engaged in that action (Iacoboni 5-6). To put it differently, Gallese puts forward that when people read or listen to narratives, they "literally embody" them by activating a considerable part of their sensorimotor systems ("Embodied Simulation Theory" 198). Wojciehowski and Gallese further add that in the act of reading a novel or looking at a visual work of art, a theatrical performance or a movie, the embodied simulation becomes "liberated simulation," which enables people to be "freed from the burden of modelling [their] actual presence in daily life" ("How Stories Make us Feel"). In this respect, the liberated simulation enriches the immersive capacity of narratives by enabling the readers/recipients to transport themselves into storyworlds, and to understand the actions, feelings, emotions of the storyworld inhabitants on a visceral level. Reading and watching, Mossner argues, are immensely embodied activities not only because the body acts as "sounding boards" (*Affective Ecologies* 4) in simulating the actions, emotions, and perceptions of storyworlds inhabitants.

With the help of the embodied simulation, readers/recipients mirror and viscerally understand the attitudes, experiences and affective states of storyworlds inhabitants. Narratives easily engulf readers/recipients since their empathic response catalyzes their entrance into the unfamiliar minds, bodies and worlds. Narratives with empathic load, hence, hook readers/recipients and guide them into PHMSV. Readers/recipients' transportation into these storyworlds creates a trapdoor between the real and imaginary

worlds through which they interchange the experiences and facts of the actual and fictional worlds. Neither the real world they dwell upon nor the imaginary world they travel to is the same after their journey as they both are reconstructed. With the help of the embodied simulation, this study focuses on how the embodied simulation frees the readers/recipients from the boundaries of the actual world, and predisposes them to mirror and understand the unknown other-than-human bodies and minds.

1.3.2. The Embedded Mind: The Embedded Artifacts in Actual and Imaginary Worlds

According to the embedded mind, the environment is "more than just a source of inputs" as the agent's experience of the world is predicated "not only upon its sensory mechanisms, but also upon the nature of its body and the potential of its body to affect the world" (Dawson 61). In this regard, the theory rejects the idea of the environment as the passive force in cognition. Mental processes involve the active participation of not merely the mind and body but also the environment since "the words *animal* and *environment* make an inseparable pair" (Gibson 8). To put it briefly, cognition crosses the border of the mind and body, extending into the environment. The embedded cognitive theory, thus, unfolds the inseparableness of the mind, body, and environment as they all mutually cooperate in the cognitive processes.

This study, in studying the agency of the environment, defines it as the physical characteristic and artifacts in writers' actual environment, and narrative artifacts in storyworlds, the spatiotemporal dynamics such as political chaos, natural devastations and pandemics that influence and aid authors' and readers/recipients' cognition. It probes the agency of these forces in the (re)construction of storyworlds, and scrutinizes how these embedded narrative artifacts navigate readers/recipients' experiences on their way to the posthuman multi(story)worlds. Within the frame of the embedded cognition, the physical and spatiotemporal features as cognitive-imaginative aiding tools act upon authors' creative capacity. Writers imagine storyworlds "seeing with" and "seeing through" (Malinin 9) them. Readers/recipients, tracing narrative artifacts in the path to PHMSV, try to cognize and empathize with the more-than-human by reimagining with and through them. They as active agents examine narrative environments searching for cues to make sense of the world surrounding them - as they do in the actual world - to

the extent that narratives allow them. However, when narratives face them with the unknown worlds, they have recourse to their imagination, and mingle what the narrative environments offer them with what their imagination presents.

1.3.3. Enactivism: The Construction of Imaginary Niches

Similar to embodied and embedded cognition, enactivism too embraces the notion of the embodiment that rejects the dualistic understanding of the mind, body and environment in cognition. The body within the purview of enactivism, hence, plays an irreducible part in the cognitive processes. Unlike the embodied or embedded mind, the core idea behind the enactivist paradigm is that "the living body is a *self-producing and self-maintaining system* that enacts or brings forth relevance, and that cognitive processes belong to the relational domain of the living body coupled to its own environment" (Thompson xxv; *emphasis added*). To put it another way, the enactivists espouse the agency of the body in cognition by embracing the coupling of the body and environment in the cognitive processes. In line with this, Thompson avers that

> [l]iving beings are autonomous agents that actively generate and maintain themselves, and thereby also enact or bring forth their own cognitive domains ... The nervous system does not process information in the computationalist sense, but creates meaning … A cognitive being's world is not a pre-specified, external realm, represented internally by its brain, but a relational domain enacted or brought forth by that being's autonomous agency and mode of coupling with the environment. (xxvii)

To put it differently, those who are on the side of the enactivist approach elucidate the "autonomous agency" of small organisms without a cognitive system very much like of the human, and their "coupling" with the environment. The enactivist idea carries posthuman implications in the sense that it does not eschew the agentic capacity of all livings. It negates the Cartesian dualism between the mind and body that validates and endorses the human as supreme by attributing reasoning merely to the human.

A living organism, owing to its "sense-making" capacity, is not a passive receiver of the information from its own environment, which it then translates into internal representations. On the contrary, it takes an active role in the generation of meaning through its body and its interaction with the environment; in other words, they enact or bring forth a world (Di Paolo, Rohde, and De Jaegher 39). Hence, the environment is

never, for the living system, "a neutral world awaiting to be internally represented and evaluated in order to become meaningful." Rather, it is directly experienced as meaningful, and is always the living system's own "meaningful *Umwelt*[5]" (Colombetti, "Enaction, Sense-Making, and Emotion" 148), which is a kind of environment with particular importance for the living organism.

To uncover "narrative agency" (Oppermann, "Ecological Postmodernism" 28) of the other-than-human, enactivism's stress on the autonomous characteristic of all livings acts as a basis in this study. The living body as an autonomous system, according to the enactivist thinking, takes an active role in regulating the interaction with the environment in such a way that the conditions for its own existence are, thus maintained. The idea of autonomy is based on Varela and Maturana's theory of "autopoiesis," which designates the continual self-production in which a living organism "produces its own components, which in turn produce it, in an ongoing circular process," and the idea of autopoiesis also explains the processes of cognition (Thompson 128). The notion of autopoiesis, hence, is not a limited perspective as it includes the cognitive processes as well. For a living organism, Colombetti agrees, "to cognize is to produce and consume meaning in virtue of its mode of organization and coupling with the environment" (147). Along with its disanthropocentric and non-dualistic reverberations, the notion of "autopoiesis" also indicates the agency of the other-than-human in narratives, specifically in the construction of storyworlds. The autopoietic capacity of these narrative artifacts is embedded and, independent of the writers' intention and purpose, manifests itself in storyworlds during readers/recipients' immersion into these fictitious environments.

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[5] As an example, enactivists offer the sugar gradient and the bacterium. For a motile bacterium, the sugar gradient functions as an Umwelt rather than just a neutral physicochemical world. In the sense-making activity of the bacteria, more sugar is good, whereas less sugar is worse or some ingredients are toxic. The bacterium as an adaptive autonomous system has the capacity to detect and regulate itself with regard to its conditions of viability in its surrounding environment and improves its conditions when needed. In this context, the bacterium, as an act of self-maintenance, moves towards a higher concentration of sugar and away from toxic substances (Colombetti, "Enaction, Sense-Making, and Emotion" 149). The sense making is a result of the organism's adaptive and autonomous nature.

Furthermore, autonomous systems are "inherently purposeful," (Thompson, *Mind in Life* 146) in the sense that they generate ends and purposes within themselves, or each autonomous system is the cause and effect, or the means and ends of itself since the activity of each component influences the activity of all the others, in return is influenced by them. The causal interaction between systems functions as a part of the self-maintenance of the system and its purpose as well (Colombetti, *The Feeling Body* 16). Likewise, this study acknowledges and examines the agency of other-than-humans both in the real world and storyworlds. According to enactivism, this study argues that authors' actual environments are influential in their construction of storyworlds, and they organize them to assist and augment their cognitive capacities. In other words, they build their own "cognitive niche" (Clark, *Supersizing the Mind* 62, Malinin 8). Also, it puts forward that through their autopoietic capacity, readers/recipients (re)enact and "bring forth" storyworlds in consequence of their interaction with these worlds. Engaging with stories is enactive as it requires imaginatively "enacting" the non-actual incidents and situations (Caracciolo, "Narrative, Meaning, Interpretation" 10). Readers/recipients, by discerning the narrative artifacts, rebuild these imaginary worlds as their own Umwelten, in other words, imaginary niches. The imagination-boosting capacity of narrative artifacts in (re)building the foundation of storyworlds designates the non-dualistic characteristics of PHMSV since it foregrounds their autopoietic capacity.

1.3.4. The Extended Mind Theory: How the Minds/Narratives Extend into Narratives/Minds

As for the extended mind, the theory postulates that the mind goes beyond its boundaries and extends into the world. Andy Clark and David Chalmers in their article "The Extended Mind" (1998), raise queries about "the internalism" and "externalism" in the cognitive processes by asking: "Where does the mind stop and the rest of the world begin?" (7). Similarly, Polvinen poses the question concerning the dualistic apprehension of cognition: "[W]hy restrict cognition only to its neural 'backstage' in some inner 'theatre of the mind,' when effectively *all the world's a stage* for the embodied/embedded/extended processes of enaction in which it is performed?" (72). In this regard, the extended mind is a way of going beyond the boundaries of the mind,

expanding cognition into the external forces in the environment. Such a shift from the total focus on the mind forms the basis, for this study, to subvert the dualistic and anthropocentric understanding in narrative theory in relation to the agentic capacity of (in)organic matter. It opens up a change in analyzing the ways authors create storyworlds and readers/recipients cognize these worlds.

Moreover, drawing on the characteristics and principles of the extended mind, this study argues that narratives play an active role in cognizing the actual worlds. It maintains that narratives as imaginary environments, work like the external resources and take part in readers/recipients' understanding of the actual worlds, particularly the uncharted ones. Narratives participate in readers/recipients' cognitive processes in making sense of storyworlds, notably in the case of other-than-human worlds that readers/recipients are unacquainted with. They aid readers/recipients when their minds fail to imagine and understand these (story)worlds because the external component, as the extended mind theory maintains, takes a dynamic role in the cognitive process rather than just facilitating the process.

In explaining the relationship between the mind and environment[6], Clark and Chalmers propose "active externalism." It is the idea that

> the human organism is linked with an external entity in a two-way interaction, creating a coupled system that can be seen as a cognitive system in its own right. All the components in the system play an active causal role, and they jointly govern behaviour in the same sort of way that cognition usually does. If we remove the external component the system's behavioural competence will drop, just as it would if we removed part of its brain. ("The Extended Mind" 8)

"Active externalism" as the fundamental element of the extended mind theory puts emphasis on the agency of the environment in the cognitive processes in acting jointly

[6] In relation to the stress on the environment, Rowlands touches upon the disparity between the embedded and the extended mind underpinning the relations of dependence among the mind, body, and the environment in embedded cognition and composition or constitution of some mental processes in the extended mind theory. According to the former, Rowlands argues, in the cognitive processes the mind functions jointly with the environmental structures; hence in the absence of the environment, the mind is unable to do what it is supposed to do or function in the way it is supposed to. As a result, the relationship between the constituents is one of dependence. The extended mind, on the other hand, does not refer to a claim of dependence that mental states are relied on "a wider system of scaffolding," a system that facilitates the function of the mental processes. On the contrary, the extended mind approach states that "things we do to this wider system of scaffolding in part compose or constitute (some of) our mental processes" (Rowlands 60-61).

with the mind and body. To illustrate, Clark and Chalmers give the example of Inga, and Otto suffering from Alzheimer disease. Inga, upon hearing from a friend about the exhibition at the Museum of Modern Art, decides to see it. She recalls the address and visits the museum. Upon hearing about the exhibition at the museum, Otto, however, needs to check the address of the museum in his notebook. In this sense, Otto is dependent upon the noted information in his notebook. His notebook plays the role of the biological memory. Clark and Chalmers aver that the two cases are *entirely* analogous[7] in that the information in his notebook plays the same role with Inga's memory ("The Extended Mind" 12-13; *emphasis added*).

"Active externalism" puts emphasis on the role of artifacts and tools in the actual and imaginary environments. The physical features embedded in writers' environment play an active role in their cognitive processes. Narratives as non-biological resources take part in the cognition of the real world by jointly accompanying readers/recipients' cognitive act. The role of narratives, in this respect, is similar to Inga's memory and Inga's notebook or the information in the notebook thanks to the integration and complementarity of the inner and outer resources. They function like "the joint system Otto-plus-notebook," which is equal to Inga's internal memory system (Colombetti and

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[7] In their defense of the extended mind against the challenges, Clark and Chalmers touch upon "the parity principle," defining the term: ''If, as we confront some tasks, a part of the world functions as a process which, *were it done in the head*, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world is ... part of the cognitive process'' ("The Extended Mind" 8). Material resources that are outside of the body become a part of the cognitive processes because "nothing is sacred about the skin and skull" (The Extended Mind" 14). In the case of Otto, the notebook functions in the same way as Inga's memory.

Ken Aizawa makes a criticism of Clark and Chalmers' avowal that Inga and Otto are in all important and relevant respects the same, and suggests that the two theorists instead can propose that Inga and Otto are *in some important and relevant respects* the same (34). Adams and Aizawa name Clark and Chalmers' attempt as "coupling-constitution fallacy," which indicates the false claim that the external object or the process is part of the cognitive agent or part of the agent's cognitive processing, and "the mark of the cognitive," in other words, their failure to consider what makes something a cognitive agent (68). Clark's reply to these accusations is that

> [t]he appeal to coupling is not intended to make any external object "cognitive" (insofar as this notion is even intelligible). Rather, it is intended to make some object, which in and of itself is not usefully (perhaps not even intelligibly) thought of as *either cognitive or noncognitive*, into a *proper part of some cognitive system*, such as a human agent. It is intended, that is to say, to ensure that the putative part is poised to play the kind of role that *itself* ensures its status as part of the agent's cognitive routines. ("Coupling, Constitution, and the Cognitive Kind" 83)

Roberts 1250). Narratives, likewise, are integrated into readers/recipients' minds, and complement their cognitive activities. It is the manifestation of the incorporation of the authors-plus-narrative system, and the reader/recipient-plus-narrative system.

"The coupling," another criterion in the hypothesis of the extended mind, occurs when an object or mental process is coupled to the biological brain becoming a part of the cognitive agents or the cognitive process (Clark and Chalmers, "The Extended Mind" 11). The *coupling* of narratives to readers/recipients' brains occurs during the reimagining of nonhuman storyworlds because narratives as nonbiological external resources augment their comprehension and making sense of these unfamiliar storyworlds. These conditions that Clark presents are prerequisite for assessing to what extent an external resource is able to become a part of the cognitive process[8]. These principles also help this study establish a formula for the extended imagination. More precisely, they determine how narratives function as nonbiological resources that are "coupled" to authors' and readers/recipients' brains to aid their cognitive/imaginative activities. In order to argue that narratives function as extended imaginations, the next part deals with the affective cognition as the last phase in the 4EA cognition by delving into the theory amalgamated with the extended mind.

1.3.5. Extended Affectivity: Narratives as Extended Imagination

Affective cognition points out that the interface between the cognitive and emotional processes are intertwined (Immordino-Yang and Damasio 5). Therefore, cognition becomes more non-dualistic because cognitive capacities and processes transgress the borders of the mind by the joining of the body, environment and affective states to the mind. Affective cognition discloses the fact that "reason may not be as pure as most of us think … that emotions and feelings may not be intruders in the bastion of reason" (Damasio, *Descartes' Error* xii). It does not underrate the mind's role, rather it puts emphasis on the enmeshment of mind and affect[9] in cognitive states. Affective

[8] Otto's notebook meets the glue and trust criterion in the sense that it is available, easily accessible and trustworthy whenever Otto needs it as in the case of recalling the address of the museum.

[9] The definition of affect differs in affect theory and affective science. "Affect" in affective science refers to the mental states, which are categorized and called in different words by the affective scientists. For instance, Colombetti, in "Extending the Extended Mind: The Case for Extended Affectivity," enumerates affective states as emotions, moods, dispositional states, sentiments, and temperaments (1250-55). On the

cognition throws light on how writers' emotional processes merge with their cognitive processes in imagining PHMSV, and how affectivity extends into narratives. It also uncovers how readers/recipients' affective states that are generated by their encounter with storyworlds act together with their minds during reimagining these storyworlds.

In the foreword to *Supersizing the Mind* (2008), David Chalmers paves the way for the interaction between the theories of the extended mind and affect. His attempt works as a call for scholars to extend the scope of the extended mind theory into various areas of interest. This study, paying attention to his invitation, investigates the possible ways of making use of this interchange to discuss the notion of extended imagination. As Chalmers explains,

> [i]t is natural to ask whether the extended mind thesis might itself be extended. What about extended desires, extended reasoning, extended perception, extended imagination, and extended emotions? I think there is something to be said for each of these. Perhaps the camera on my iPhone can serve as an external perceptual mechanism. And perhaps one might have something akin to an extended mood, if not an extended emotion, when one's environment is always nudging one toward happiness or sadness (xiv)

Upon his query, the notion of "the extended affectivity[10]," (Colombetti and Roberts 1260) is put forward to designate the fact that affective states can extend beyond the borders of the body. On the other hand, it is stated that desires and emotions cannot be

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other hand, Frijda and Scherer use different names to define affect within the domain of affective science: emotions, feelings, moods, attitudes, interpersonal stances and affect dispositions ("Affect (Psychological Perspectives)" 25). However, this study, eschewing such differences in approach to the term, uses affective states in general in affective science, and focuses on the common characteristic in its definition; that is, "to be done something" or "to be struck or influenced" or "touched," denoting the interplay between the affecting and affected bodies.

[10] In their argument, Colombetti and Roberts note that their venture is not to offer a defense of the extended mind hypothesis against adverse judgements although they explicitly indicate their sympathetic approach to Clark and Chalmers' thesis. Colombetti and Roberts also cast doubt upon the fact that those who are critical of the extended mind likely view the hypothesis of extended affectivity controversial. Colombetti and Roberts maintain that Sterelny's refusal of the extending desires and emotions is predicated on the belief that as cognition is embodied, there can be no equivalence between the outer and inner processes (1249). On the other hand, Wilson and Clark note that the parity principle does not depend on the equivalence between the internal and external processes; instead, it requires the functional integration of internal processes and extended systems composed of internal-plus-external processes (65). To put it another way, cognitive processes are predicated not upon the predominance of and interchangeability between the internal or the external, but upon their consolidation.

extended in that the external resource such as a notebook might function as an "external belief store," but not an external store of preferences, hope, lusts, and longings (Sterelny 472). The reason behind the objection is that in virtue of their phenomenological and embodied characteristics, emotions cannot go beyond the boundaries of the body; thus, an external component cannot substitute for those internal states. However, in order to extend affective states,

> one need not find outer processes that have themselves an embodied or phenomenological character. Rather, it is enough to point to integrated extended systems whose states and processes play a role that we intuitively regard as distinctively affective." (Colombetti and Roberts 1249-50)

As a case study about how affectivity extends, the example of the affective relationship between a jazz saxophonist, who is mournful as a consequence of the loss of her best friend, and her instrument is provided, positing that there exists a mutual "coupled" relationship between the musician's emotional experience and the music she produces that "the rate, rhythm, tone, and volume of the music *affect, and are affected by* the ebb and flow of the saxophonist's feelings of sadness, their intensity, poignancy, and so forth" (Colombetti and Roberts 1259; *emphasis added*). The affective interaction between the musician and her instrument influences the creative process.

The scope of the extended affectivity can extend into the relationship between imagination and narratives too. Narratives become authors' extended imaginations during the process of creation, and readers/recipients' during their transportation into the storyworlds. There exist two dimensions in the extended imagination that are built upon the tripartite reciprocal relationship among the author-the narrative-the reader/recipient. In the first level, the affective experience that authors encounter - regardless of whether in real or imagined world- is conveyed in narratives as in the case of the relationship between the jazz saxophonist and the music she produces in Colombetti and Roberts' case study. The literary and stylistic characteristics and the content of the narrative *affect, and are affected by*, the extent of the affective relationship between authors and narratives, and the way writers exploit the artifacts in their physical environment and their features throughout the imagining process. In the next level, the immersive capacity of narratives characterized by storytelling practices *affects* the cognitive/imaginative experience of readers/recipients, and *is affected* by the

intensity of their affective states that emerge by means of embodied simulation and as a result of their empathic engagement with storyworld inhabitants. Narrative artifacts and characteristics of fictitious worlds accompany readers/recipients, and their autopoietic capacity assists them in cognizing storyworlds. Extended imagination, at this point, feeds on the narrative characteristics and elements through which the storyworlds are dwelled upon.

The parity principle as in the case of the extended mind is based on the supervenience rather than the equivalence in extended imagination. It entails the incorporation of the internal - that is the potential of readers/recipients' affective states that extend into the narrative in the reimagining process- and the external, in other words the narrative itself. The extended imagination, in this regard, does not disclaim the role of the extended resource, rather it endorses the fusion of both the outer and inner. Therefore, the criteria of "coupling" is realized among this tripartite relationship in that both authors' and reader/recipients' affective conditions are shaped by the aspects of narrative methods. The *coupled* relationship between reader/recipients and narrative is a two-way trafficking in the sense that narratives both affect readers/recipients' knowledge about the actual world and are affected by their affective states triggered by their engagement with storyworlds. As for the principle of "glue and trust[11]," narratives functioning as nonbiological resources and coupled to readers/recipients' minds meet it because they are "reliably available," "easily accessible," "deemed as trustworthy," and readers/recipients do not answer "don't know" (Clark, "Momento's Revenge" 46) until after they immerse into the storyworlds.

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[11] The principle of "glue and trust" (Clark, "Coupling" 83) defines the function of the nonbiological resource coupled to the mind, and its qualities are as follows:

> 1. That the resource be reliably available and typically invoked. (Otto always carries the notebook and won't answer that he "doesn't know" until after he has consulted it).
>
> 2. That any information thus retrieved be more or less automatically endorsed. It should not usually be subject to critical scrutiny (unlike the opinions of other people, for example). It should be deemed about as trustworthy as something retrieved clearly from biological memory.
>
> 3. That information contained in the resource should be easily accessible as and when required. ("Memento's Revenge" 46)

As the way an author imagines storyworlds as a result of the interaction among his/her mind, body, environment and affective states, readers/recipients reimagine these storyworlds through the interchange among these same forces that are peculiar to themselves. As stated before, this study characterizes writers' affective states as the ones which encompass and influence their creative processes, and readers/recipients' affective states are described as the extent of their affective engagement with storyworlds existents. Therefore, the next section offers a neuroscientific approach to empathy studies in narratives to disclose storytelling practices that influence readers/recipients' affective experience.

1.3.6. The Neuroscience of Readers/Recipients' Empathic Immersion into Storyworlds

As a part of the embodied simulation and affective cognition, this study explores the potential of narratives to promote the empathic and affective encounter between readers/recipients and the non/human. To this end, it studies the narrative strategies that facilitate and impede readers/recipients' empathic immersion. As it is indicated earlier, the scope of empathy studies will be restricted to the study of narrative strategies in narratives under consideration, which is in line with the aim of econarratology as the kernel of this study. Empathy is defined as "an affective response more appropriate to another's situation than one's own" (Hoffmann 4), or "an affective reaction that results from the apprehension or comprehension of another's emotional state or condition" (Eisenberg and Fabes 702). Affect and empathy define each other with regard to the affective interaction between the empathizer and the target. Empathy is categorized into two as cognitive empathy (mind reading/mentalizing or Theory of Mind (ToM), and affective empathy, in other words, what Wojciehowski and Gallese call, feeling of the body (FoB) as a result of emotional contagion or embodied simulation ("How Stories Makes Us Feel"). Whilst cognitive empathy allows one to make logical inferences and assumptions about the condition, thoughts and emotions of others in question, affective empathy enables one to understand others' feelings and the situations they are in on a more visceral and often subconscious level (Spaulding 13; Maibom 22).

Empathy, as Coplan defines it, is a "complex imaginative process in which an observer simulates another person's situated psychological states while maintaining clear self-

other differentiation" (5). The "complex" in the definition of empathy denotes that the process is simultaneously cognitive and affective; it is "imaginative" in the sense that it includes the active participation of the observer's perception rather than directly transmitted; and lastly, it is simulation because the observer "replicates" or "reconstructs" the experiences and emotions of the target (Coplan 5-6). In this sense, empathy is linked to the embodied simulation because the empathizer mirrors and understands the target as embodied simulation triggers the same parts of the brain as the target though the empathizer does not experience the same situation. It also suggests that empathy encompasses affectivity as an "intensity" that "pass[es] body to body" (Massumi xvi).

On the one hand, Coplan's approach to empathy, stresses the empathic capacity of narratives with an emphasis on the imaginative dimension of empathy. On the other hand, Coplan's insistence on the dualism or the distance between self and other maintained in the process of empathizing, and also her exclusion of nonhumans seems problematic in consequence of the dualism in the understanding of empathy. Lori Gruen, by referring to Barad's "intra-action," offers "entangled empathy," which is an experience encompassing the meld of emotion and cognition through which the empathizers acknowledge their interdependence with other organisms, and that their perceptions, attitudes and identities are constituted by and entangled with them. Nevertheless, Gruen alerts readers to the possibility of the failure of the empathic engagement with the non-sentient nature including ecosystems, rivers, glaciers, and mountains as these entities do not have thoughts and feelings ("Entangled Empathy"). Narratives, however, have the potential to underscore that enmeshment of the human and other-than-human either by eradicating anthropocentrism or by narrating the stories of the unvoiced and insentient.

Empathy enables the subject to make sense of the surrounding world through "coupling" because when the empathizers feel with the targets, they extend their mind in order to incorporate part of their minds; in this way, they utilize part of the surrounding environment, in this case, another human being. As a result, they learn about their environment. In this approach, empathy functions as "a mechanism of the coupling between the mind and that part of the world through which it extends itself" as

in the case of Otto and his notebook. In other words, it suggests that empathy, like memory within the scope of the extended mind, serves as a means as well as an end. Narratives such as public narration or the devices of film-making as "cognitive prostheses," like the telescope or microscope as perceptual prostheses, reinforce the inherent cognitive potential (Smith 108-09).

Nonetheless, the discussion about extending empathic concern is limited to the human eliminating more-than-humans in narratives. For instance, it does not deal with the question of how narratives enable readers/recipients to extend their minds into rivers, mountains and wetlands, and how this act of extending culminates in learning about and understanding them. In narratives, more-than-humans become "storied matter" thanks to their "narrative agency" (Oppermann, "Material Ecocriticism" 55) as they are replete with meaning and stories. Narratives uncover their agentic capacity by telling the stories of rivers, mountains, worms, coins and hackney coaches. Gruen underestimates the power of narratives stating that humans recount stories about the natural world calling narratives as human constructions that are unable to go beyond anthropocentrism ("Intentional Others?"). Nonetheless, it is avowedly a misjudgment because "knowledge of the mind is relevant to any literary account of the environment" though cognitive approaches to narratives "takes as its starting point human mental processes" (Easterlin 257). Rather than regarding narratives as the manifestations of anthropocentric thinking, paying attention to the narrative tools that lay bare the immanent co-emergence is more efficacious in disclosing the entanglement of various agentic capacities in bodies and minds.

Narratives augment readers/recipients' empathic engagement with the nonhuman. Because empathy does not require a close concrete contact between the empathizer and the target of empathy. Rather, empathy, as a "vicarious, spontaneous sharing of affect," can emerge by witnessing or hearing or even by reading about another's affective states, which is then named as "narrative empathy" (Keen xii, 4). The empathic characteristic of narratives enriches the immersive capacity of storyworlds because reading allows readers/recipients to change their "agency" and "centeredness" in terms of thought and feeling (John 313). The shift in agency and centeredness paves the way for empathizing with other-than-humans.

Readers/recipients simulate the experiences, the positive and negative feelings and emotions such as anger, pain, sorrow and happiness of the storyworlds existents because the same neural mechanism, which is activated when someone executes actions or experiences also becomes active upon witnessing someone else performing or experiencing the same actions. This psychological and imaginative act is a way of sharing similar actions, intentions, or affective states with the target. The liberated simulation is "a process enabling a more direct and less cognitively mediated access to the world of narrated others and mediating our capacity to share the meaning of their actions, basic motor intentions, feelings, and emotions" (Gallese, "How Stories Make us Feel"). In other words, the study of mirror neurons and the embodied simulation is a pathway leading to feeling with others. Empathy is, therefore, defined as a form of simulation within the neuroscientific paradigm. Imagining someone in an affective state energizes automatic representations of the same state in the empathizer as empathy processes "likely contain fast reflexive sub-cortical processes (directly from sensory cortices to thalamus to amygdala to response) and slower cortical processes (from thalamus to cortex to amygdala to response)" (Preston and Frans de Waal 12).

The neuroscientific approach to empathy as a part of simulative experience paves the way for the study of narrative strategies that unravel the potential of narratives to predispose readers/recipients to simulate and share the same emotional and cognitive states with the others. Character identification with a fictional character, whether it be with human or not, leads to empathy as

> [m]erely naming a character may set readers' empathy in motion; indeed, information leading to precise placement of a character in terms of species, race, age, gender, and other aspects of status often appears after an emotional hook has connected reader and character." (Keen, *Empathy and the Novel* 68-69)

In this sense, it is stated that empathic engagement through character identification entails only minimum elements of identity, situation, and feeling rather than a complex and realistic characterization because simple narrative cues, regardless of the discrepancies between reader and character, are able to trigger mirror neurons. To put it another way, readers/recipients, albeit rather different in character, situation, and feeling demonstrate empathic responses towards fictional characters, regardless of being a

human, or nonhuman. Thus, species difference, Keen underlines, does not function as a barrier in eliciting empathy ("Fast Tracks to Narrative Empathy" 137). Authors, thus, deploy nonhuman characters as narrators or focalizing characters so as to project their consciousness and affective states.

Genette, in *Narrative Discourse*, asserts that "in fiction nothing prevents us from entrusting that role [of the narrative agent] to an animal" (244) offering an insider perspective on the nonhuman world. Nonhuman narration does not bring the readers/recipients' reimagining process to a halt, on the contrary, it endorses cross-species empathy or entangled empathy by offering a deeper insight into the unmapped storyworlds. It also allows them to change their perspective which is predicated upon the dualism of the human and nonhuman, by presenting the possibility of seeing more-than-human (story)worlds the other way around from their assuredly well-acquainted world. Depending on the "dialectic of defamiliarization and empathy," nonhuman narrators "spring from and require the conceptual integration of human and non-human traits" and "call upon our ability to attribute consciousness to non-human entities and even to empathize with them" (Bernearts et al., 71-72). In other words, nonhuman narration functions within the borders of distance and closeness, similarity and otherness predisposing readers/recipients to recognize nonhuman worlds and to make sense of their experiences. Anthropomorphism, therefore, has the potential of promoting empathic concern and a better understanding of the other-than-human world (Young et al. 235-37). It removes the barriers among the (story)worlds of the human and nonhuman, bodies and minds that are decohered from each other as a result of dualistic assumptions.

On the other hand, in an endeavor to project the feelings, desires, and experiences of the nonhuman, anthropomorphism runs the risk of "seeing their attitudes as mirroring our own, or at best, reading their interests, desires, and needs through our idiosyncratic human lens" (Gruen cp. 3). Hence, nonhuman narration carries the peril of culminating in the fallacy of understanding the target's affective states in the sense that readers/recipients enter into the consciousness and (story)world of nonhumans that are anthropomorphized. Keen defines that kind of failure as "false empathy" which underscores "the self-congratulatory delusions of those who incorrectly believe that they

have caught the feelings of suffering others from a different culture, gender, race, or class" (*Empathy and the Novel* 159). False empathy is a self-delusional empathic identification in that it engenders a transparent gap that cuts the affective flow between the human and the other-than-human. Readers/recipients take it for granted that they feel with the target. However, among the aspects of empathy, "affective matching" is the paramount quality. It requires the other-oriented perspective-taking, and occurs when the affective states of the empathizer and of the target are qualitatively similar (Coplan 6-7). Accordingly, in order to eliminate the gap between the human and nonhuman storyworlds, other-oriented perspective-taking is necessary since this immersive act also encompasses emotion-sharing. The failure of "affective sharing" culminates in false empathy hampering readers/recipients' transportation into PHMSV.

Apart from the risk of false empathy, in/out-group divisions concerning feeling with imaginary characters has the potential of imaginative resistance, possibly resulting in empathy inhibition, which is "the cognitive suppression of empathic distress for egoistical, economic, practical, ideological, or cultural reasons" (Hogan, *What Literature Teaches* 177). Imaginative resistance undesirably influences the empathic and immersive load of narratives. Gendler, borrowing from Hume, defines "imaginative resistance" as "the puzzle of explaining our comparative difficulty in imagining fictional worlds that we take to be morally deviant" (56). It designates the impediments that readers/recipients encounter in following the pathways to storyworlds, and obstructing the imaginative directions that narratives offer. The imaginative resistance emerges always and only from the cases of deviant morality rather than the link between imagination and possibility, and that the primary source of resistance is based upon not in readers/recipients' "inability" to imagine morally deviant situations, but their "unwillingness" ("The Puzzle" 56). Writers can employ storytelling practices that target reducing their reluctance to imagine, or they can utilize a different medium of narration such as graphic narratives particularly when they experience difficulty in visualizing the unfamiliar identities.

Additionally, the resistance sometimes results from "the authoritative breakdown," which is the failure of writer's authority in disposing readers/recipients to acknowledge the moral imagining that the narrative directs them. This breakdown might culminate in

the “pop-out” of the fictional world because readers/recipients think that the underlined moral imagining should be exported to the real world as well (Gendler, “Imaginative Resistance” 157-59). Readers/recipients might be unwilling to transport the imaginary moralities of the storyworlds to the actual world. At this point, “pop[ing]-out” corresponds to the destruction of the empathic linkage between the two worlds leading to PHMSV. Because narratives include ideas and beliefs that are contradictory to the readers/recipients’ current norms and presupposed values, they normally do not wish to transgress or overstep.

The “puzzle of imaginative blockage,” (Weinberg and Meskin 185) another name for imaginative resistance, depends on the relationship between “the belief-box,” which contains one’s current beliefs, and “the imagination-box,” which includes one’s current imaginings. The consistency between them is controlled by a mechanism called “the updater,” which updates one’s beliefs in the face of new information. Another mechanism, “the inputter” performs the task of adding any content to one’s imagination box upon one’s demand, and the domain-specific processes such as moral judgements that influence both the belief-box and the imagination-box. The imaginative resistance arises when a conflict between the inputter and “the moral judgment system” emerges (182-200). Readers/recipients’ transportation into PHMSV from the actual world activates the mechanism of the *inputter* by way of adding to the *imagination-box* upon their simulatory and empathic engagement with the other-than-human. With regard to transuniverse relations, readers/recipients, on their return to the actual world, transfer storyworld facts to the actual world by adding to the *belief-box*. By doing so, the affectivity between PHMSV and the actual world is preserved, which corresponds to the world-making power of narratives. Writers employ narrative techniques that maintain the balance between *the inputter* and *the moral judgment system* so as to avoid empathy inhibition, and false empathy.

In the case of across-species, in other words, trans-species empathy, nonhuman focalization can be used to achieve the authorial control in directing readers/recipients’ imagination and their empathic response. It prompts them to recognize the targets’ situation along with their thoughts and feelings specific to that situation. In this regard, it entails the Gadamerian “fusion of horizons” or “perspectival shift” (Hogan 18). This

fusion or shift of perspective erases the gap between the members of out-groups leading to feeling with the nonhuman. In order to fulfill "the fusion of horizons," writers focus on the question of through which strategies narratives canalize readers/recipients into the nonhuman minds and bodies.

However, focalization as a narrative strategy, which lacks the psychological facet-encompassing both cognition and emotion- and the ideological facet to the perceptual facet (Rimmon-Kenan 81-87), carries the possibility of the failure of readers/recipients' empathic response to the unknown storyworlds. Apperception, which designates "both the interpretive nature of perception and one's understanding something in 'frames' of previous experience," can be more operative in offering a space for readers/recipients to empathize with the other-than-human. Because it explains the reason behind the perception of identical things in different ways, in other words, "why somebody sees X as Y and another sees X as Z" (Jahn 101). In this sense, apperception underlines the divergences of perception or perspectives that create a gap between the characters and readers/recipients leading to imaginative resistance or false empathy.

However, based on the fact that cognitive processes encompass the mutual participation of the mind, body, environment and affective states, the definition of apperception can be more functional when it subsumes these forces too. With regard to the readers/recipients' apperception, particularly the spatiotemporal dynamics and their affective states might direct their empathic response. The allurement and capacity of narratives to activate readers/recipients' empathy change over time or because of their reference to particular historical, socio-cultural and economic circumstances "fortuitously anticipated or prophetically foreseen" by authors. Some narratives may invoke empathy of their immediate audience, whereas others must wait for a "chance relevance" in order to address later generations (Keen, *Empathy and the Novel* xii). The Covid-19 pandemic can be regarded as an example for the "chance relevance" as it reveals and re-energizes the empathic potential with respect to the intermeshment of the human and nonhuman since this complete mayhem in the world underscores the fact that the pandemic is

> a man-made disaster, caused by undue interference in the ecological balance and the lives of multiple species," and stresses "the agency of non-human forces and

> the overall importance of Gaia as a living, symbiotic planet. (Braidotti, "'We're in This Together")

Readers/recipients under the spell of the pandemic, which appears as a form of apperception and of spatio-temporal dynamics in the environment, may gravitate to some narratives about pandemics such as apocalyptic or post-apocalyptic narratives, or read narratives in the light of the ecocritical or posthuman concern. The "chance relevance," in this sense, functions as an unpredictable and non-authoritative variance that determines and influences the empathic charge or load of narratives.

CHAPTER II

BARNES'S FORMULA FOR THE EXTENDED MIND/IMAGINATION

> Life and reading are not separate activities. The distinction is false (as it is when Yeats imagines the writer's choice between 'perfection of the life, or of the work'). When you read a great book, you don't escape from life, you plunge deeper into it. There may be a superficial escape - into different countries, mores, speech patterns - but what you are essentially doing is furthering your understanding of life's subtleties, paradoxes, joys, pains and truths. Reading and life are not separate but symbiotic. (Barnes, "Through the Window")

Julian Barnes is the winner of the Man Booker Prize 2011 for *The Sense of an Ending* among his fifteen novels, two volumes of short stories, several collections of essays, and four detective novels published under the pseudonym of Dan Kavanagh. In the public talk after winning the prize, Barnes unravels the way he works upon the query of the planning and composition process of his narratives. He describes the structure of a novel resembling an "armadillo with head, body, tail … It has this exoskeleton which you decide ... Then there's ... the internal skeleton, except it's more like … the cartilage" (Lee para. 6). The exoskeleton, Barnes explicates, is the overall structure, and as for the internal skeleton, or what Barnes calls the cartilage, he states that "[i]n the course of writing, a different skeleton emerges" (Wood para. 3). The writer draws attention to the process, and forces that affect and sculpt the internal skeleton.

This chapter argues that Barnes's formula for the process of transforming catastrophe into art corresponds to the notion of the extended imagination. It showcases how the reciprocal interchange among the writers' mind, body, environment and affective states in the creative process extends into the structure and content of narratives, giving shape to the internal skeleton in narratives as indicated in Barnes's armadillo metaphor. Additionally, it inquiries into how the deliberately situated and recurrent narrative artifacts and the aspects of the narrative environments in the narrative predispose the readers to link the so-called separate storyworlds with each other, navigating the readers into the PHMSV of *A History*. The last section studies the neuroscience of readers'

empathic engagement with the other-than-humans in the narrative. For this purpose, it probes into the narrative strategies such as the anthropomorphic narration, focalizing characters, and the fusion of fact and fiction that resists the imaginative blockage in readers' empathic engagement, and the multiplicity of genres that has an impact on their empathic response.

2.1. "Your shipwreck is certainly no disaster": The Metamorphosis from Catastrophe to the Extended Imagination

Barnes formalizes his composition process, and lays bare his prescription for it in the interviews, his notes in the archives, and *A History*. Touching upon the process during which the cartilage emerges, he explicates the genesis of "Shipwreck" in *A History*:

> There is something so certain, so authoritative in a great painting (novel, piece of music …) that the work almost bullies us into believing that this, and only this, was what the artist initially planned. Even when advised that he or she started off in a completely opposite direction, we half don't believe the evidence: we persuade ourselves that surreptitiously, subconsciously, they always knew exactly what they were after. ("Short Story/Essay: 'Shipwreck'" 174)

Barnes, despite the initial construction of the carapace, draws attention to the in-the-making process which forms the internal skeleton. The initial and fundamental idea at the basis of his narratives corresponds to the exoskeleton part, and the details occupy the endoskeleton which gradually comes out, or follows completely a contradictory path from the starting point. The difference between what the writer or the artist originally and initially plans and the final version of the work results from the fact that the endoskeleton entails imagination. He points out the mutability, but equally creative characteristic of the procedure.

Guignery strongly corroborates the author's account by digging into the archives of the novelist at Harry Ransom Humanities Research Center at the University of Texas at Austin, which contain the planning sheets or notes concerning the main structure of the books, notably for *A History*, *Staring at the Sun* (1986)*, England, England* (1998)*, Arthur & George* (2005)*, The Sense of an Ending* (2011) (*From the Margins* 4). She maintains that "the writer sometimes knew exactly what he was after but more often struggles to decide on the suitable structure, the adequate narrative voice, the befitting plot developments or the appropriate style" (*From the Margins* 3). As the writer himself

explains in an interview, he starts forming the armadillo-like composition with "different possible tonalities" (Freeman and Barnes) and ends up with a different "final assemblage" (Guignery 2).

Barnes's construction of the armadillo-like narrative structure is analogous to the way writers' minds extend into narratives. During the composition process. Their minds, coupled to their physical and socio-cultural environment, make use of the aspects of their immediate environment to improve their cognitive/imaginative abilities. The relationship between writers and narratives is similar to the jazz saxophonist and her instrument in Colombetti's case study in "Enactive Affectivity, Extended." As a consequence of the extended affective interplay between the writer and narrative, they are "coupled" because the rhythm, tone, structure, and the voice of the storyworld inhabitants "affect," and "are affected" by their interaction with their environments and the fluctuating density of the writers' affective states. In Barnes's formula, the bilateral affectivity between the writer and narratives showcases the formation of the endoskeleton. The affective states and imagination of the writer, transcending the boundaries of the mind and body, extend into the narratives, particularly into the internal skeleton. The interaction between authors and narratives illustrates notion of the "non-internal view of mind and affectivity," which puts forward that the mind and affectivity do not cease at the boundaries of the organism (Colombetti, "Enactive Affectivity, Extended") and externalist perspective of imagination, according to which the imagination of the writer pushes its limits and extends into narratives.

In *A History*, Barnes explicates the way artists' minds coupled to their environment, and how their cognitive and emotional processes are intertwined by concentrating on the question of "how catastrophe turns into art" (cp. 5). He contends that

> [n]owadays the process is automatic. A nuclear plant explodes? We'll have a play on the London stage within a year. A President is assassinated? You can have the book or the film or the filmed book or the booked film. War? Send in the novelists. A series of gruesome murders? Listen for the tramp of the poets. *We have to understand it, of course, this catastrophe; to understand it, we have to imagine it, so we need the imaginative arts*. But we also need to justify it and forgive it, this catastrophe, however minimally. Why did it happen, this mad act of Nature, this crazed human moment? Well, at least it produced art. Perhaps, in the end, that's what catastrophe is for. (cp. 5; *emphasis added*)

Barnes's remarks uncover how spatio-temporal dynamics become a part of their reimagination of catastrophes, enhancing their cognitive/imaginative capacities. The authors exploit the characteristics of their environment. Barnes storifies the processes of "understanding" and "imagining" catastrophe in the chapter entitled "Shipwreck." He storifies the process of transformation of catastrophe into art, which is to "reassert the living process - one involving intention, to be sure, but also doubt, chance, underconfidence, overconfidence, false starts, false middles, and so on" (Barnes, "Short Story/Essay" 174). For this purpose, the narrative presents the case study of Théodore Géricault and his painting of *The Raft of the Medusa*. In the first part of the chapter, the narrator narrates the real catastrophe, relying upon Savigny and Corréard's *Narrative of a Voyage to Senegal* (1818). The narrative draws a vivid picture of the delirium, mutiny, death, suicide, cannibalism and finally rescue after fifteen days on the raft. This section corresponds to the building of the exoskeleton which is the very beginning of "the living process." The second part of the chapter recounts a detailed description of his preparation and painting process of *The Raft of the Medusa* replete with "false starts, false middles."

In forming the exoskeleton part, Géricault gathers first-hand information about the catastrophe by interrogating the victims of the disaster, Savigny and Corréard, and reading their account of the disaster. He isolates himself in his studio and shaves his head to force himself to remain in his studio and to focus totally on his work. He tries to create the atmosphere of the catastrophe with the construction of a scale model of the raft built by the surviving carpenter of the Medusa and wax models of the survivors. He places the paintings of severed heads and dissected limbs made by himself, the portraits of Savigny and Corréard, and uses models such as the young Delacroix posing for one of the dead figures. It is the way through which the artist pictures the calamity in his mind to understand and imagine it, and forms the endoskeleton building upon it.

The total sum of what Géricault omits from and instead adds to the real disaster constitutes the endoskeleton. The narrator provides an eight-point list of what Géricault omits from the calamity, and accordingly maintains that the process "begins with truth to life" (5), however ends with *truth to ar*t illustrated with a detailed analysis of Géricault's painting which corresponds to the part of the *imagining* process. The final

version of the painting with omissions and additions to the actual disaster showcases how he imagines it. The artist's mental states are not restricted to his mind and the factual details of the real incident. The material artifacts related to the disaster are incorporated into his understanding of the havoc. The final version is shaped by his mind coupled to his body and environment, and his affective states concerning the catastrophe.

The painter eliminates the scenes of shipwreck, mutiny, cannibalism, murder, and the final rescue which are part of the exoskeleton because his major interest, as the narrator argues, is not to be shocking, disturbing, or sentimental. The mutiny scene with all violence, from drowning to combat, would resemble "saloon-bar fights in B-Westerns" (cp. 5). Instead, the painter is interested in *firing* recipients' imagination which produces different responses to the catastrophe. The narrator touches upon what "the ignorant eye" and "the informed eye" detect (cp. 5) in *The Raft of the Medusa*, calling attention to the fact that not only the artist but also the recipients re-envisions and reimagines the devastation. Without any knowledge about the tragic event, the narrator enumerates three initial and possible responses to the painting: the ship sailing with the sun on the horizon bringing hope and rescue, or the ship vanishing in the sunset suggesting hopelessness, or despite the sunrise, the rescuing vessel moving away from the shipwrecked. The informed eye, on the other hand, discerns that the hailing scene in the final rescue scene is painted differently from Savigny and Corréard's recount of the fifteen survivors. The painter changes the scene from one of the men up the mast waving handkerchiefs attached to the straightened-out barrel-hoops to a man at the top of a barrel waving a large piece of cloth. Instead of the real scene offering him "a monkey-up-a-stick image," he opts for art rendering "a solider focus and an extra vertical" (cp. 5). Moreover, "the informed eye" notices that Géricault depicts twenty figures on the raft "drag[ging] some of them back from the deep" (cp. 5) to cover up the omissions from the real scene. By doing so, Barnes claims that Géricault creates a balance in the structure - six in favor of hope, six against and eight in between - and a mood oscillating between hope and despair. The recipients together with those on the raft become lost at sea, in the ebb and flow of hope and despair as "[t]here is no formal response to the painting's main surge" (cp. 5).

The mourning figure produces a “counterbalance” (cp. 5) in the painting. He, with the dead young man on his lap, turns his back to the other figures on the raft, and looks toward the recipients with sorrow, despair and acceptance. He catches the attention of both the ignorant and the informed eye, and disposes them to think over the possible meaning of his pose: mourning for the dead man (his friend or son), or realizing the impossibility of their rescue, or the meaninglessness of their rescue due to the dead man in his arms. The informed eye, however, detects the hint of cannibalism in the scene from the artist’s only surviving sketch of cannibalism. The figures, as the narrator suggests, allude to Dante’s portrayal of Count Ugolino in his Pisan tower among his children whom he ate. The recipients, whether informed or not, are struck by the power of the thinking figure whose power is as strong as the hailing man. The narrator underlines that the scene delineates the exact moment of the first sight of the Argus, and this counterbalance suggests that some believe that the Argus is heading towards them, and others are uncertain that they will be saved. To put it simply, the figure of the old man is “an image of hope being mocked” (cp. 5). Both the ignorant and the informed, the recipients exploit the narrative artifacts in the imaginary environment to improve their mental states. The difference between their responses to the painting demonstrates how the informed recipients make use of the background knowledge in reimagining the catastrophe.

The narrator draws attention to another point that both “the ignorant” and “the informed eye” notice in the painting by questioning:

> why does everyone even the corpses look so muscled, so . . . healthy? Where are the wounds, the scars, the haggardness, the disease? These are men who have drunk their own urine, gnawed the leather from their hats, consumed their own comrades.... So why do they look as if they have just come from a body-building class? (cp. 5)

It does not mean that Géricault fails to visualize or imagine. But, it denotes the way the artist reimagines the scene because he is deemed to be the portrayer of severed heads and limbs, corpses, and madness. The narrator further shares an anecdote in which the painter, one day on the street, sees his friend with a yellow face due to jaundice, and thinks that he looks handsome. It is indicative of the painter’s extended imagination, in other words, its capacity to turn what is (deemed to be) ugly, or disturbing or cataclysmic into art as a result of the affective encounter between the painter and the

scenes. Furthermore, the narrating-I invites the readers to visualize a counter-scene with "[s]hrivelled flesh, suppurating wounds, Belsen cheeks," and avers that the painting "would be acting upon us too directly ... [it] would be lost in its own pity." On the other hand, the energy of the perfected bodies engulfs the recipients so deep that they engender "submarine emotions," and "shift [the recipients] through currents of hope and despair, elation, panic and resignation" (cp. 5).

Rather than a factual recount of the disaster, it is transformed into what the painter and recipients imagine. The narrator concludes that "[m]odern and ignorant, we *reimagine* the story … We *don't just imagine* the ferocious miseries on that fatal machine; *we don't just become the sufferers. They become us*" (cp. 5; *emphasis added*) pointing out the reimagining process of the catastrophe by the artist and the recipients as a consequence of the affective reciprocity between them. The narrator remarks that the painting outlasts its story, turning it into "form, color and emotion" (cp. 5), and the recipients, informed or uninformed, reimagine the real event vacillating between optimism and pessimism. The recipients start the reimagining process with "the final assemblages" leaving the "near-misses," and "the discarded ideas" behind. They do not see, for example, the two sketches which are closest to the final version. In these preparatory studies, the approaching ship is depicted much closer to the raft that its outline, sails and masts are distinguished suggesting that the hailing might end in their final rescue. The final version is less "active, kinetic" (cp. 5) in that the hailing seems more futile and their survival depends more on serendipity. The painter starts without a preconceived idea of the final form as the final version emerges through the artist's enactive and affective experience during the painting process. His creative process is adaptive, and the result of a reciprocal interchange between the creator and the creation. As Barnes puts it, writing is "not architecture: you don't make a plan and then build to it; sometimes you just build, and then the plan begins to suggest itself" ("The Case of Inspector Campbell" 292).

As opposed to the recipients, Géricault follows an opposite direction resembling the painter being "carried fluently downstream towards the sunlit pool of that finished image, but is trying to hold a course in an open sea of contrary tides" (cp. 5). The painter begins with building the external structure by obtaining information about the

actual event. Nevertheless, the catastrophe is never portrayed as it is in the actual. He reanimates some of the dead figures, cannibalism and violence are buried in a blurred reference, and some of the scenes are excluded. He depicts perfect bodies instead of the ravaged ones. To put it simply, the artist bypasses the factual in the painting. The painting escapes "history's anchor," (cp. 5) but is trapped in the net of the artist's imagination. The artistic, stylistic, and contextual characteristics of the painting are shaped by the interaction among the artist's mind, body, environment and the intensity of his affective states amalgamated with the anguish of the real havoc. The act of (re)imagining is "freeing, enlarging, explaining" rather than a "reducing" (cp. 5) one which results in the metamorphosis of catastrophe to art. It is "freeing" in the sense that it is not limited to the boundaries of the actual catastrophe; instead, it is "enlarging" since it is extended by the creativity of the artist. Also, it is not restricted to the author's mind since the catastrophe is reimagined by the recipients differently, some voting for "the optimistic yellowing sky, [others] for the grieving greybeard" (cp. 5).

Also, the narrating-I, after a rigorous analysis of *The Raft of the Medusa*, refers to the Flood in relation to the idea of transforming catastrophe into art. He refers to the popularity of the depiction of the ark on illuminated manuscripts, stained-glass windows, and cathedral sculpture without bypassing the rarity of its portrayal in paintings. The narrator remarks that "the waters are diverted by Michelangelo" because Michelangelo paints the agonized images of those unfortunate antediluvians, rather than the chosen Noah and his family, on the altar wall of the Sistine Chapel in the foreground. Michelangelo, Barnes argues, changes the center of the painting and the disaster to "the lost, the abandoned, the discarded sinners, God's detritus." (cp. 5) Michelangelo reimagines the incident, and his mind extends into the painting through his brush and strokes leaving the trace of his imagination on the painting, and shifts the focus on the other way around.

Rather than leaving a final remark about the "imagining" process, Barnes revisits Géricault's painting in another chapter, "The Mountain," in which Amanda Ferguson becomes excited upon the news of the exhibition of *The Raft of the Medusa* in the Rotunda in London. Nevertheless, her father Colonel Ferguson, instead takes his daughter to the Pavilion, where both attend a peristrephic panorama of the wreck of the

Medusa with colored lights and accompanied music aiding as tragic effect. Barnes presents a comparison of the two representations of the fatally tragic event:

> Whereas the Rotunda displayed a mere twenty-four feet by eighteen of stationary pigment, [in the Pavilion) they were offered some 10,000 square feet of mobile canvas. Before their eyes an immense picture, or series of pictures, gradually unwound: not just one scene, but the entire history of the shipwreck passed before them. ("The Mountain").

Colonel Ferguson, impressed by the magnificence of the panorama, vilifies the painting. As opposed to her father, Amanda admires the painting because it, though static, offers much motion, lighting and music than "the vulgar Panorama." (cp. 5) The contrasting responses of the father and the daughter refer to Barnes's dividing of "Shipwreck" into two parts, first of which narrates the actual disaster, and the latter recounts the process of the metamorphosis of catastrophe to art. The panorama corresponds to the first part of "Shipwreck," while Amanda's extolment by the painting is in agreement with the notion of the extended imagination. The panorama fails to address the imagination of the viewer since it directly and starkly showcases the actual events leaving no room for reimagination. On the other hand, the painting and its aura "fire" Amanda's imaginative faculties thanks to the affectivity between her and the painting because "[u]nderstanding narratives, just like understanding in general, is never purely cognitive" (Schneider 136).

2.2. The 4EA of Cognizing the Author's Actual World, and the Storyworld of *A History*

This section of the study scrutinizes the aspects and agency of the actual physical environment surrounding Barnes, and of the fictitious landscape of *A History* that activates the readers' cognitive/imaginative faculties. Therefore, it inquiries into both the artifacts in Barnes's factual world, the recurring narrative environments and narrative artifacts in *A History*, and argues that they are filled with the autopoietic capacity to intensify or impede the readers' cognitive/imaginative activities. The narrative is conceived as a whole through these reverberating narrative environments and narrative artifacts. They help the readers (re)imagine the imaginary environments by seeing and thinking through them.

The same physical surrounding becomes an indispensable part of Barnes's creative process for 30 years. The features of the physical environment turn into an integral part of the writer's creativity. The atmosphere of his study room and the aura of his imagination participate in the writing process of his numerous narratives. His room is always painted in the same color, a bright "almost Chinese yellow, giving the effect of sunlight" ("A Writer's Room" para. 1). The embedded capacity of the physical environment to boost the creative processes evinces the strong and close connection between the actual physical environment and creativity because creative cognition is embodied, embedded, and enacted (Malinin 5-13) and affective in the physical environments during creativity. It is embodied as people "see through" tools and materials which become extensions of themselves, and they promote deep immersion in the process. It is embedded since people consider materials, or aspects of their environment as instruments "to think." It is enacted because people build "cognitive niches" to augment their creativity by organizing and sustaining their actual physical environments (Malinin 5-13). It is also affective in the sense that the interaction between the artist and the characteristics of the environment "affect and is affected" by each other. Within the scope of enactive thesis, which co-opts the notion that people utilize the features of their surrounding environment in order to increase their cognitive capacities, Clark deploys the term, "cognitive niche construction," which is defined as,

> the process by which [people] build physical structures that transform problem spaces in ways that aid (or sometimes impede) thinking and reasoning about some target domain or domains. These physical structures combine with appropriate culturally transmitted practices to enhance problem solving and, in the most dramatic cases, to make possible whole new forms of thought and reason. (*Supersizing the Mind* 62-63)

The physico-intellectual environments built with a particular importance for them function as Umwelt or niche rather than a neutral physical world. The authors or artists construct their own "cognitive niche" so as to serve their cognitive activities. An affective relationship between the writer and the environment is realized as both act upon each other.

Barnes builds his own "cognitive niche" with the same bright color, viewing the tops of prunus trees, expanding his desk to place his typewriter ("A Writer's Room" para.1), and placing the cicadas in a glass case on his desk, which Barnes picked up in

Washington. He explicates the notion behind the glass case calling it “London Literary Life:”

> [Cicadas] climb up trees, then they grip the tree and their cases split and the flying things fly off. I made that in 1976 … The idea is that you start off and it seems like a steady, slow slope and you go round, then you reach a point on the right-hand side where the road runs out, and you can only get to the top by climbing on the backs of other people. Then, when you get to the top, you’ve no time to admire the view because you’re too busy trying to stay there. This was when I was a free lance.

The cicadas extending their actual existence and going beyond their actual meaning energize the inventiveness of the writer. They are transfigured into the extended image of his mind. The objects, colors, and materials participate in the creative activities of the author, which is modified and shaped by the author himself, eliminating the features of his study room that impede thinking and creativity.

In his study, the constant instrument of Barnes’s composition is an electric typewriter, an IBM 196c although he thinks that first-drafting in longhand “probably makes you more concise,” and writes *Love, etc*. (2001) and *The Sense of an Ending* (2011) in that way. He owns three IBM 196c typewriters, which are no longer manufactured, and as he thinks that their breakdown rate is high (Guignery, “Introduction,” *From the Margins*). When both break down, he visits the same person in the same south London shop for decades. Once all his typewriters were broken down at the same time, and he had to use a computer, he expected to find himself “getting much more prolix and windy,” but instead, found himself over-correcting on the first draft despite almost always relying on a free first draft. For Barnes, the computer does not “represent what [he] was thinking, what [he] needed as a writer” (Crick 155). About his emotional bond with the specific tools during the writing process, Barnes remarks that

> [s]ometimes you need your thoughts to go down your arm in what feels like a direct feed via pencil or felt-tip to paper, sometimes you require a more formal “sit up and address a machine”. When I tried writing on a computer, it felt an inert business. I had no relationship with the machine; whereas my IBM 196c makes a nice hum, as if it's saying quietly: “Come on, get on with it” or “Surely you can improve on that.” (Allardice pars. 1-3)

In contrast to Barnes’s link to his pencil and particular typewriters, the computer fails to perform the connection that feeds his creativity, blocking the way from his mind to the

paper. The tools and materials in the act of creation function as extensions of people to organize their creative experiences (Sennet). Artifacts in the actual environment are embodied when they are familiar, or promote thinking-in-action such as writing, painting, model making, or intensify immersion in the creative act (Malinin 6). Acting jointly with the cognizer, the tools in the surrounding, in this regard, participate in and promote cognitive capacities. When a tool becomes a part of the body schema[12] functioning as a "transparent equipment," in Clark's neologism, the user "*sees through*" the tool to the task at hand (*Supersizing the Mind*, 10, 33). Rather than a computer that fails to communicate his ideas, Barnes's pencil and IBM 196c function as the "transparent equipment" that the flow of his thoughts in his mind moves through his arm, later to the pages of his narratives. The mind, at this point, goes beyond its boundaries and extends into the environment. To put it differently, in the process of creation, an affective interplay between the artifact and the creator comes into play through which the creator perceives. The artist "*sees through*" the artifacts since the tools or the physical environment become a part of the creator's thinking (Malinin 6-7).

Unsurprisingly, Barnes in "Shipwreck" elucidates how Géricault equips his studio before painting *The Raft of the Medusa* (1818-19). Géricault shaves his head as a "do not disturb" (cp. 5) sign, and isolates himself in his studio. So as to boost the power of his imagination, he places a scale model of the raft by the carpenter of the Medusa, positions wax models representing the survivors, his own paintings of severed heads and dissected limbs creating an air of mortality, and portraits of Savigny, Corréard and the carpenter "to infiltrate the air with mortality" (cp. 5). By doing so, Géricault builds his own "cognitive niche" and "*sees through"* the aiding materials and cognitive artifacts in his studio in order to understand and feel the havoc, altering his environment in ways that expand his imagination.

[12] Shaun Gallagher clarifies the confusion between the concepts of "body image," and "body schema." According to this distinction, the body image is "a conscious image or representation, owned, but abstract and disintegrated, and appears to be something in-itself, differentiated from its environment." In contrast, the body schema works "in a non-conscious way, is pre-personal, functions holistically, and is not something in-itself apart from its environment." ("Body Image and Body Schema" 541)

In the same vein, the recurring narrative environments and narrative artifacts in *A History* are also embodied, embedded, enactive and affective cooperating with the reader in reimagining and rebuilding storyworlds. The readers visualize the narrative environment of *A History* through the narrative artifacts, which perform a similar task as a "transparent equipment" in the actual environment. They prompt the readers to simulate and understand the experiences of storyworld inhabitants. The narrative artifacts are "inherently purposeful," (Thompson, *Mind in Life* 146) and intentionally situated in the particular parts of the narrative by the author. They activate and energize the imagination of the readers, thereby predisposing them to conceive the connections and fill in the gaps in *A History*. Consequently, a reciprocal relationality is established through which the storyworlds of narratives are not decohered from one another. The PHMSV of *A History* manifests itself through the multiplicity of storyworlds in each chapter that are inextricably intertwined and interconnected.

Related to the denomination of *A History* as a collection of disconnected short stories rather than a novel, Barnes rejoins that "it was conceived as a whole and executed as a whole. Things in it *thicken* and *deepen*" (Cook 21; *emphasis added*). That thickening effect that he refers to is maintained through recurring narrative environments and narrative artifacts throughout the narrative. The readers re-enact and bring forth PHMSV in the narrative by seeing and thinking through the narrative artifacts. Thanks to their autopoietic capacity, they prompt the readers to explore the unknown and uncharted storyworlds in the narrative. The readers, unearthing and tracking them, read each chapter recalling the storyworld of the previous one(s) rather than separately. The narrative artifacts in the narrative not only alter the environment of the readers from the actual world to PHMSV, but also by means of "intra-universe relations," (Ryan 558) dispose them to travel between storyworlds of each chapter. The narrative structure, in this regard, is dynamic in the sense that it is based on the readers' act of detecting and cognizing the recurrences of the narrative artifacts. The narrative loses its center and hierarchical structural pattern, resulting in the rhizomatic narrative structure. In his search for new narrative forms, the writer states that he is

> very interested in form and in seeing what happens when you bend traditional narrative and fracture it. And deciding to write a book which begins in the Ark and ends in heaven and doesn't have any continuous characters except a

> woodworm is obviously stretching it to the point at which you hope the chewing gum doesn't snap. (Stuart para. 4)

The point of fracture disappears thanks to the recurrence of narrative environments and artifacts. The readers proceed by deconstructing and reconstructing the previous chapter(s) and present one through these narrative tools. If the readers fail to notice and cognize them, *the chewing gum snaps*, and thus, the narrative structure follows a linear course culminating in the decoherence of PHMSWs from each other.

As indicated in Barnes's notes in the archives, the writer intentionally places "Stowaway" as the first chapter, and his editor, Hermione Lee, does not suggest any changes in the order of this chapter (Guignery, *From the Margins* 135) because the chapter introduces the recurring narrative artifacts; to name, the ark, the Woodworm, Noah, the (un)cleans, the reindeer, the bitumen, and the absents. The ark portrayed by the stowaway narrator is "more like a prison ship" rather than a "nature reserve" or "some Mediterranean cruise." Noah's rigid discipline pervades the atmosphere of the ark. It is filled with the stench that makes even the Woodworm shudder though it is "hardly squeamish" (cp. 1). According to the account of the Woodworm, the animals are pushed to the ark as a consequence of God's wrath on the humans. In order to survive the Flood, they do not have any other chance. They are obliged to undergo a strict body-search before getting on and being released from the ark, several female beasts complain about undergoing internal examination by Shem, and "some were even doused in tubs of water which smelt of tar" (cp. 1). Even though the depiction of the ark by the Woodworm underscores the human and nonhuman divide in the actual world, the ark functions as a narrative artifact that ensures the interaction between these supposedly divided (story)worlds since it reappears repeatedly throughout the narrative. The ark opens up a corridor through which the various storyworlds are interconnected.

The narrator underscores a further divide, that is the distinction between the clean and unclean species, that reverberates with different characters in the alternative storyworlds of the narrative. All the animals are not allowed on board. The Noah family announces a sort of "beauty contest" (cp. 1) for twosomes, and they have to present themselves before the ark by a certain month. The announcement causes panic and chaos among the animals because they possibly miss the competition while some hibernate, as others

think that they do not need a luxury and all-expenses-paid cruise holiday, and since certain animals by nature travel more slowly than the others. The Woodworm protests the contest calling it "natural selection" (cp. 1).

Apart from calling him a tyrant and drunkard, the Woodworm denounces Noah as not an "early conservationist" who collects the animals together so as to save them from drowning. It is not because Noah cannot endure the idea of witnessing their extinction. But he needs them to survive during the journey, and after the Flood has subsided. Because of Noah's despotic and anthropocentric policies, many species and one fifth of the animal kingdom in Varadi's ship vanish: the mythical beasts such as the behemoths, the salamander that lives on fire, the carbuncle as Ham's wife wants to have the precious jewel inside its skull, the simian, the basilisk, the griffon, the sphinx, the hippogriff, the unicorn as a result of Noah's jealousy, the warbling goose. Despite their extinction, their (story)world does not disappear or is decohered from the PHMSV of *A History*. The Woodworm's recount of their story does not allow the agency of the absent to dissipate in the rhizomatic mapping of the PHMSV in the narrative. It also creates a sharp blast targeting the buried anthropocentrism in the so-called sacred narratives. Unlike the official story, the ark is replete with the atmosphere of paranoia and terror. The ban that hinders Noah and his family from eating "any females that [are] in calf" engenders a kind of "hysterical pregnancy" (cp. 1) and trauma among the animals. Retelling the well-known stories from the perspective of the other-than-human and the absent uncovers the potential of narratives to undo the blinding effects of these stories.

In "The Visitor," Noah's ark turns into a cruise ship named the Santa Euphemia. Unlike Noah's Ark, the passengers in the Santa Euphemia relish the voyage with many facilities ranging from "reading to deck quoits, and sun-bathing to the disco … t[aking] most of the supplementary trips to disdain[ing] straw donkeys in the souvenir shops" (cp. 2). Upon witnessing the couples boarding, Franklin Hughes comments that "[t]he animals came in two by two," which immediately and directly takes the readers back to the storyworld of "The Stowaway." The (re)statement directs them to "enact" both storyworlds of the two chapters simultaneously. The readers are drawn into the middle of the terror in both chapters. They have difficulty in separating the horror inflicted on

the nonhuman in the ark and the human in the Santa Euphemia. Nonhuman focalization pervades in the atmosphere of this chapter as well notwithstanding that the section is narrated by a third-person heterodiegetic narrator focalizing through Hughes' mind.

The restatement of "[t]he animals came in two by two," also anticipates the terror awaiting the voyagers inflicted by the Arab hijackers. The incident is based on the Italian cruise ship, the *Achillo Lauro* hijacking of 1985 (Finney 36) by four Palestinian militants associated with the Palestian Liberation Front. They demand the release of the fifty Palestinian prisoners by Israel (Pallardy pars. 1-2). Likewise, the hostages on the Santa Euphemia, upon the order of the Arab terrorists, "are to be moved in twos" to the dining room, and are shot in twos an hour as the terrorists, assuming Noah's division of the clean and unclean species among the animals, shoot the unclean nationalities that are allegedly responsible for the plight of the Palestinians. To put it another way, the terror in the atmosphere of the section is not limited to the hostages on the Santa Euphemia, instead, it extends into Noah's ark.

"The Wars of Religion" offers another story of the stowaway woodworms in a different imaginary environment, in a court scene. They are accused of devouring the leg of the bishop's throne. The chapter introduces spatio-temporally different woodworms from the first chapter, and splits into another storyworld in a different space and time, that is, Mamirolle in 1520. However, the coherence among the possible storyworlds is preserved through the echoes. In the trial, the petitioners state that "[h]oly writ makes no mention of the woodworm embarking upon or disembarking from the mighty vessel of Noah" (cp. 3). Nonetheless, the Woodworm's account in the first chapter already negates their claim. The readers recall the Woodworm's words about how the seven woodworms secretly and sneakily embark on the ark. The entanglement between these purportedly separate storyworlds emerges from their interaction initiated by these reverberations. The thickening effect works retrospectively as well, taking the readers into the storyworld of the previous chapter. The passage to the storyworld of the Woodworm nullifies the allegations of the petitioners that the woodworms were not allowed on board since their habits of gnawing might cause the shipwreck and death of the passengers, and the woodworm is "an unnatural and imperfect creature which did

not exist at the time of the great bane and ruin of the Deluge" (cp. 3). From the beginning of the chapter, the readers are, therefore, critical of their dualistic allegations.

In "The Survivor," Kathleen Ferris, looking at a Christmas card, always imagines the reindeers "as happy couples, like the animals that went into the Ark" (cp. 4). Immediately, the readers, in their minds, revisualize the competition and the strict body-search to get on the ark. The simultaneity in the narrative does not allow one point, incident or character to dominate the whole narrative structure as the point of climax or the rising action. It preserves the rhizomatic characteristic in the narrative structure, and the affectivity among the chapters. Moreover, this chapter also discloses the reason behind the reindeer's fear, not just of Noah's tyranny, but "something deeper" (cp. 1). The readers take a deep dive into the two storyworlds at the same time to unearth the truth behind the reindeer's fear that remains a mystery in the first chapter. At this point, this chapter interacts directly with the first chapter by filling the gaps in the Woodworm's account.

Though *A History* is multiplied into various distant spatio-temporal storyworlds in the so-called separate chapters, they become entangled when the readers trace these recurrences. The readers travel back to the Flood to complete the Woodworm's account about the reindeer. The repercussions of a nuclear accident in Russia expands into Norway with a cloud of poison coming down in the rain on the lichen where the reindeers graze, and irradiating them. At first, the authorities plan to bury them. However, burying seems to be a problem, so they decide to feed it to the animals that the humans do not consume, that is to say, the minks. To escape the nuclear war similar to the way the Noah family and the animals on the ark try to survive a global disaster, Ferris sails in a boat with her two cats named Paul and Linda. Mundler states that Ferris stands for the Noah family, and the cats for the animals in the ark. Nonetheless, the exchange between her and one of the psychiatrists at the hospital reveals the shift in her role, from guiding the boat to being in "the zoo," just like the other animals in the same boat or the ark; she needs to be watched and kept behind the bars on account of her allegedly unstable mind (pars. 8-9). Upon Ferris's comment that "we've been punishing the animals from the beginning," many alternative storyworlds probabilistically co-exist at once. The readers oscillate among the storyworlds of "The Stowaway," "The Wars of

Religion," and of "The Survivor," eventually bridging all. By virtue of the intra-universe relations, they travel among these possible storyworlds, or reside in them simultaneously. They revisit the horror on the ark, the unjust accusations directed towards the woodworms and their banishment from their home.

"Shipwreck" depicts another disaster, that is to say, the passengers' struggle for survival and chaos in the raft. The second part of the chapter revisits the same catastrophe in the painting *The Raft of the Medusa*, which generates "a double transfer" from the actual disaster to the painting, and from the visual to the textual analysis (Guignery, *The Fiction of Julian Barnes* 65). In addition, the chapter precipitates a third transfer, that is to say, the relocation of the readers into the PHMSV of the narrative by simultaneously (re)activating the previous narrative environments. The scattering of the flotilla consisting of four vessels in the beginning owing to the strong winds and navigational ineptitude in "Shipwreck" hints at the lost vessels of Noah, the hospital and the stores ships, and particularly that of Varadi filled with one fifth of the animal kingdom. On the raft, fifteen healthy passengers among the twenty-seven, after a calculation of the food supply, make a terrible decision to perform the abhorrent but allegedly necessary execution of the six sick passengers for "the common good of those who might yet survive" (cp. 5). The readers picture and simulate the scenes of despair, the horrors of anthropophagy, and constant sight of death inflicted by hunger and thirst on the raft of the Medusa and the lost ships in Noah's flotilla at the same time.

After the separation of "the healthy from the unhealthy … like the clean from the unclean" (cp. 5), the readers, though unsure of the accuracy of the reference to the ark before, now feel sure and ready to "enact" the storyworld of "The Stowaway," "The Visitors," and "Shipwreck" at the same time. Barnes also makes an explicitly direct relocation to Noah's ark in the sudden appearance of the white butterfly as a sign of rescue, a messenger from heaven like Noah's dove signaling that the land is not so far away, and by drawing attention to the presence of surprisingly few paintings of Noah's ark due to the potential reason, for Barnes, that "the Flood doesn't show God in the best possible light" (cp. 5).

“The Mountain” revisits the account of the wreck of the French frigate Medusa and the raft in Messrs Marshall’s Marine Peristrephic Panorama and Géricault’s painting at the exhibition in London. Colonel Ferguson is enthralled by the panoramic portrayal of the disaster, whereas for her daughter, Amanda Ferguson, the catastrophe is best represented by the simple canvas which “though static contained ... much motion and lighting and, in its own way, music, … more of these things than did the vulgar Panorama” (cp. 6). The readers together with the Colonel in the panorama re-experience the real catastrophe, and with Miss Ferguson they are lost between hope and despair in the painting. The different portrayals of the disaster reawaken the same feelings that the readers experience before in a different dimension and with different storyworld inhabitants.

A few weeks after seeing the Peristrephic Panorama, the Colonel makes a parallel with Noah’s ark when rowing his daughter, Miss Ferguson on a boat. He reveals his doubts about the reliability of the official version of the narrative. The readers also capture the connection that he makes, and recollect the Woodworm’s version by traveling between the storyworlds of the Woodworm and “The Mountain.” After her father’s death, Miss Ferguson invites Miss Logan to undertake an expedition to Arghuri on the lower slopes of Mount Ararat to find Noah’s ark. Nonetheless, Miss Logan reveals the fact that “[t]heir purpose in coming here had been to intercede for the soul of Colonel Fergusson. Yet so far they had not prayed; Amanda Fergusson appeared still to be arguing with her father” (cp. 6) about Noah’s ark. At their ride to the summit, Miss Logan unravels the fact that since her childhood she is consumed by curiosity concerning the landing of the ark upon the top of a mountain: “Had the peak risen up from the waters and punctured the keel, thereby skewering the vessel in place? For if not, how otherwise had the Ark avoided a precipitous descent as the waters had retreated?” (cp. 6). The Woodworm’s account also omits the landing part, offering no details.

Miss Ferguson refers to Noah’s drunkenness upon Miss Logan’s plan to drink wine on Mount Ararat verifying the Woodworm’s account, and furiously leaves the monastery when the priest offers the fermented grapes of Noah’s vines. On their route to the top, Miss Logan, observing several butterflies and lizards, feels disappointed upon witnessing few of the creatures which descend from the ark as she pictures the slopes of

the mountain as a kind of “zoological garden” (cp. 6). The readers recall the extinct species that are lost in Varadi’s ship or in the feast table of the Noah family. Additionally, in “The Mountain,” the priest shows a small black amulet, claiming that it is a piece of bitumen which is assuredly from the hull of Noah’s Ark and effective in averting the mischief. Miss Ferguson responds to his point by referring to the low likelihood of its being a piece from Noah’s ark as it is impossible to ascend to the top of the mountain. Instead, she points out the possibility of a bird carrying it there by alluding to the dove carrying the olive branch in Noah’s flood. On the other hand, Miss Logan’s inner thoughts about bitumen being the material used by artists to blacken the shadows in their paintings is a direct reference to Géricault’s use of this material in his painting. Barnes comments that Géricault, aiming at depicting the oscillation between hope and despair, paints the raft with a contrast of bright and deepest darkness, and utilizes quantities of bitumen to depict “the shimmeringly gloomy black” (cp. 5).

In the first story of the next chapter, “Three Simple Stories,” the storyline of the narrative splits into another dimension, yet merges with the other storyworlds through the account of the shipwreck of the Titanic and its survivor Lawrence Beesley. When the Titanic strikes the iceberg, Beesley is saved by lifeboat 13 and picked up by Carpathia. According to the amusing speculation among his family members, he escapes from the Titanic in women’s clothing. Beesley’s survival hypothesis proves that “the ‘fittest’ were merely the most cunning” (cp. 7) as in the case of Ferris. She comments that her journey is “the Survival of the Worriers” (cp. 4) because people like Greg is not able to survive opposed to those who are aware that everything is connected. The remark about the Darwinian theory also alludes to the Woodworm as the cunning passenger; the natural selection in the competition; the separation of the clean and unclean both in the ark, in the Santa Euphemia, and in the raft of the Medusa. The narrative, in this sense, follows a rhizomatic path to the PHMSV of the narrative, eschewing any center or binaries of the human and nonhuman storyworlds.

The narrative pushes its limits by branching into distant possible storyworlds in one chapter, and creating the coherence among them. The second story in “Three Simple Stories” presents another story of God’s wrath on the wicked people, and Jonah’s escape on a boat from God’s command of preaching to them. The readers set sail again

this time together with Jonah. Upon the outbreak of a violent storm, he is thrown into the water as the cause of the evil by the mariners and swallowed by the whale as a punishment of God. In contrast to God's version of the story, the narrator highlights the fact that the emphasis in the works of Giotto, Gouda, Brueghel, Michelangelo, Correggio, Rubens and Dali is on the whale rather than the Nineveh or the Jonah. The narrating-I wittily states that "Jonah (portrayed as everything from muscular faun to bearded elder) has an iconography whose pedigree and variety would make Noah envious" (cp. 7).

Through the last story of the St. Louis and the 937 refugees from the Nazi state, the narrative constructs intra-relations with the two other storyworlds in this chapter and with the other alternative storyworlds in the whole narrative. In this regard, it challenges the alleged fragmentariness by means of recurring narrative artifacts - the ark and the separation of the clean from the unclean. The narrator notes that "their escape from Germany felt as miraculous as that of Jonah from the whale" (cp. 7). The suicide attempt of the two passengers redirects the readers to the storyworld of the Raft of the Medusa. The narration proceeds by following multiple directions rather than a one-way movement underpinned through the blatant rephrasing of the clean and unclean in the separation of the 250 Jewish passengers to make room for those on shore in Havana. The pervading dilemma surfaces again with the question: "how would you choose the 250 who were to be allowed off the Ark?" (cp. 7).

In "Upstream!," with meticulous attention to detail as Géricault does with his painting, the director Vic seeks to construct an "imaginary niche" to recreate the story of two Jesuit missionaries in the jungle near Mocapra for his film project. According to the story, a couple of hundred years ago, the two men on their way back to the Orinoco come across a group of Indians. They build a raft for the missionaries and pole them until the raft overturns. The two men are nearly drowned and the Indians disappear in the jungle. Vic's researchers track these Indians and persuade them to help the film crew "do exactly the same thing a couple of hundred years on" (cp. 8). In the camp, the Indians are supposed to act out their ancestors and build a raft. In addition, the film crew journeys into the heart of the jungle on foot, and the equipment is airlifted; they are not allowed to use the radio-telephone, or ask for mosquito repellent, or read the

newspaper. To Vic, the actors are supposed to "suffer for [their] art" (cp. 8) and setting up two separate camps, one for the whites and one for the Indians, is more appropriate because "there would have been two originally and it would psychologically prepare the Indians for playing their ancestors" (cp. 8).

Also, with the recurrence of the raft, the *thickening* effect escalates. The narrative generates wormholes bridging the distant storyworlds- those of the ark that the Woodworm sneaks in, the Santa Euphemia, Ferris's boat, the raft of the Medusa, the ark in Mount Ararat, the Titanic, Jonah's boat, and the St. Louis. Thanks to these passages, it is almost impossible for the readers to reimagine these spatio-temporally distant but interdependent storyworlds separately. Along with the repetition of the raft tragedy, the chapter offers a more direct reference to the ark in Charlie's letter to his beloved, writing: "[he] could … buy [their baby] one of those big wooden Arks with all the animals in" (cp. 8). The precaution of putting the letters into a plastic bag against the beetles or woodworms prevents the readers from residing just in this storyworld of the narrative.

The parenthetical chapter illustrates the way that almost all parallel storyworlds coexist and interact with each other. The autobiographical narrator of the half chapter defines love as "the promised land, an ark on which two might escape the Flood." However, it might turn into an ark "on which anthropophagy is rife; an ark skippered by some crazy greybeard who beats you round the head with his gopher-wood stave, and might pitch you overboard at any moment" ("Parenthesis"). He further adds that just as the bishop in the state of imbecility, love makes people devastated either immediately or later, "when the woodworm has quietly been gnawing away for years and the bishop's throne collapses" ("Parenthesis"). As a response to the materialist attack of love as the result of "pheromones," the narrator, borrowing from Colonel Ferguson, maintains that the lovers "are just a grander version of that beetle bashing its head in a box at the sound of a tapped pencil" ("Parenthesis").

With a reference to Ferris, the narrating-I diagnoses that the history readers are like "voluntary patient[s]" who lie "in the hospital bed of the present … in bandaged uncertainty." By referring to the ordinary sailor, rather than Columbus, as the first man

to sight the New World in 1492 and the real winner of 10,000 maravedis, he recalls the storyworld of the absent, that is to say, "the dove still elbowing the raven from history" ("Parenthesis"). On the other hand, he avows that history is good at unburying things such as the irradiated reindeer of "The Survivor," the Titanic, and the wreck of the Medusa. Through these reverberating narrative environments and artifacts, the storyline bifurcates, generating rhizomatic branches. The readers do not lose their route in the multiplicity of the storyworlds; instead, as a "thickening effect," they cognize all the possible storyworlds at the same time.

In "Project Ararat," the ark turns into a church, a worship center with all the animals in the ark. Hearing the voice saying "[f]ind Noah's Ark," readers accompany the astronaut, Spike Tiggler in his search for Noah's ark in Mount Ararat. Tiggler, presuming that the ark made of gopher, is resistant to both rot and termites, plans to announce their discovery to the world. The Woodworm's scurrilous lampoon of Noah's choice of gopher wood in the construction of the ark echoes. It beams the readers up, and takes them to the storyworld of the first chapter as Tiggler remarks that: "You come back to where you started from" (cp. 9). At the foothills of Mount Ararat, Jimmy is unsure of whether he and Spike are about to find the whole ark or just some remnant such as the rudder, or some planks still covered with bitumen. Their expedition ends with the discovery of Miss Ferguson's skeleton.

The *thickening* effect pushes the boundaries of the narrative structure, and "the chewing gum" stretches so far that it intertwines with all the storyworlds throughout the whole narrative. The narrator of "The Dream" in the dreamlike story-heaven goes shopping and eats more animals than the ones in Noah's Ark. He indulges in almost all the activities of the previous chapters - going on several cruises (chapter 2 and 7), canoeing (chapter 8), mountaineering (chapters 6 and 9), escaping from danger (chapters 4,5, and 7), exploring the jungle (chapter 8), watching a court case and disagreeing with the verdict (chapter 3), trying painting (chapter 5), falling in love (the half chapter), pretending to be last and first person on earth (chapters 10 and 1) (Finney). Among the many celebrities, the dreamer surprisingly meets Noah and Hitler channeling the readers from heaven to Noah's ark and the St. Louis. Upon his will, the narrator is judged in a court building with walls that no woodworm is able to permeate as they are covered

with marble, brass and mahogany. At the end of the trial, he is released with no verdict very unlike the woodworms of "The Wars of Religion."

The narrative artifacts, therefore, ensure that PHMSWs in *A History* are not decohered as Ferris claims that "everything is connected, even the parts we don't like, especially the parts we don't like" (cp. 4). Relying on the probabilistic nature of the PHMSV, the narrative diverges into many possible storyworlds. The recurring narrative environments and artifacts lead to the splitting of storyworlds into many alternative ones. Hence, the readers travel through the PHMSV not following straight storylines as in the traditional narrative structure, but along the curves, backwards and forwards, and inhabit them simultaneously. Barnes, notably in "Stowaway," and as he himself does in analyzing *The Raft of the Medusa*, concentrates on the omissions and the absents, and guides the readers to follow his route in cognizing the narrative. These gaps in *A History* are replaced by these narrative environments and narrative artifacts to enable the readers to form their imaginative niches.

2. 3. "My account you can trust": Empathizing with the Woodworm

This section deals with the narrative strategies that enable readers to mirror and understand the perceptions and feelings of the other-than-humans, and how the generic qualities of the narrative divert the readers' "horizon of expectations" to feel with them. Among the narrative techniques that promote readers' empathy, *A History* introduces the Woodworm as the narrator of the well-known biblical story of Noah. Even though the Woodworm eye-view of the flood ends in the first chapter, the Woodworm's absent presence never fades away throughout the narrative, either by unexpectedly popping-up of woodworms in all stories excluding "The Visitors" and "The Survivor," or through its never vanishing words reiterated by the focalizing characters. The narrative also employs an amalgamation of fact and fiction, the familiar and the unfamiliar, the real and the imaginary where the readers fail to imagine and step into the PHMSV. On the one hand, by taking refuge in the actual and the familiar, *A History* fights against the readers' insistence on maintaining their distance, and their resistance to enter into the storyworld. On the other hand, the narrative, by introducing the fictional and the unfamiliar, predisposes the readers to reimagine the factual, the unimaginable and the

unvoiced. The co-presence of multifarious genres in the narrative which pushes the generic boundaries, and intentionally blurs the genre distinctions remove the barriers in the readers' empathic engagement.

In *A History*, anthropomorphic apperception comes into play through Barnes's animal narrator, the Woodworm. The homodiegetic narrator (character-narrator) explains why "it's normal for [the allegedly clean species] to gloss over the awkward episodes, to have convenient lapses of memory" (cp. 1). Unlike them, the stowaway narrator is never chosen, and does not have a reason not to narrate the flood narrative from the nonhuman perspective. As woodworms are not companion animals such as dogs, cats, turtles, or even tarantulas, they are the unwelcome guests of the furniture as they devour the legs of the bishop's throne, or that you want to keep away from your letters or souvenirs, or due to their sickening appearance on your plate. Hence, it is a challenge for the readers to picture the Woodworm as the narrator recounting the story of the flood that they are already acquainted with. Nonetheless, Barnes's preference is pertinent in that the Woodworm is compatible with its duty as a chosen onlooker in terms of its witty and sneaking nature. The woodworm proudly reports that their species "get on board without either bribery or violence" (cp. 1). Besides, pertaining to the issue of the ostensible division of the human and nonhuman, the clean and unclean species, the Woodworm retells the biblical story from the point of the doubly marginalized.

On the other hand, the Woodworm narrator is not a source of surprise for the readers since the tradition of the nonhuman narration goes back to the fables of the classical and the Middle Ages, continues in the children's literature and it-narratives[13] of the eighteenth and nineteenth centuries, and in contemporary narratives as well. The readers are already acquainted with a vast array of nonhuman narrators such as the ant and the grasshopper of the Aesopian fable, the mice in Robert Henryson's *Morall Fabillis*, the coin in Charles Johnstone's *Chrysal; or, The Adventures of a Guinea* (1760-65), the flea recounting its soul transmigrating from one nonhuman body to another in John

[13] It-narrative is a type of prose fiction in which inanimate objects such as coins, pins, corkscrews, coaches or animals function as the central characters. They are also called novels of circulation, object tales, spy novels (Blackwell 10). These nonhumans are given the agency to narrate their stories, or the narratives are focalized through them.

Hawkesworth's *Adventurer 5* (1752), the huge breast in Philip Roth's *The Breast* (1972), the canine narrator of Paul Auster's *Timbuktu* (1998).

Nonetheless, Barnes's animal narrator differs from the nonhuman narrating voices in the fables, in which the human vice and folly are criticized by projecting them onto other-than-human characters, and in the eighteenth and the nineteenth-century children's animal stories which add a new dimension to the Aesop's fables - an anti-cruelty message and natural history of the species under focus (Cosslett 11). It also does not share the same intention as it-narratives which critique the degradation of animals into commodities, and draw a parallel between the status of animals and slaves (Ellis 96). Instead, "The Stowaway" presents Thomas Nagel's question of "what it is like to be" (439) a nonhuman without "the badge of cleanness" (cp. 1) for a woodworm in the ark. The woodworm's version of the flood narrative does not reflect upon the human world and their experiences. Rather, it allows the readers to reimagine the nonhuman (story)world as nonhuman. In this respect, it results in "defamiliarizing the human way of perceiving the world" (Jacobs, "Animal Narratology" xi). In a similar fashion, the Woodworm alerts the readers that "accounts differ." Rather than the "much repeated version," the narrating voice recounts the unfamiliar story of "the 'second' Noah, which is replete with "drunkenness, the indecency, the capricious punishment of a dutiful son" (cp. 1). In fact, Barnes's initial intention is to write *Geoffrey Braithwaite's Guide to the Bible*, the retired doctor and amateur Flaubert expert in *Flaubert's Parrot*, (Guignery, *The Fiction of Julian Barnes* 61) yet transforms it into the woodworm's account of Noah's Ark. Barnes makes use of, as Vermeule argues, the readers' cognitive habit of anthropomorphizing and the nonhuman tendency towards animism (26).

Yet, in *A History*, the real challenge for the readers is to re-envision what is already imposed on their minds, and not to allow this sacred version to inhibit their reimagining process. Drawing a contrasting picture, the Woodworm predisposes the readers to revisualize, smell and feel the scene in Noah's Ark that it

> wasn't like those nursery versions in painted wood which you might have played with as a child – all happy couples peering merrily over the rail from the comfort of their well-scrubbed stalls. Don't imagine some Mediterranean cruise on which we played languorous roulette and everyone dressed for dinner; on the Ark only the penguins wore tailcoats. ("The Stowaway")

The picture that the narrator draws shatters the sacred, idealistic and dualistic portrayal of the ark in the minds of the readers, subsequently drawing away from the actual world and channelizing them into the PHMSV. The narrator, by this way, deconstructs the biblical version by targeting the deliberate gaps, and by blatantly negating several facts in the official narrative (Kotte 83-87).

On the other hand, with respect to eliciting empathy, the Woodworm narrator is regarded as a narrator who "automatically evoke[s] antipathy" because the nonhuman narrator is not one of the "sympathetic" characters such as "[h]ousehold pets, farmyard animals, jungle dwellers, birds and sea creatures" (Keen, "Fast Tracks" 138). As an unreliable narrator, the Woodworm persistently repeats, "[m]y account you can trust," and adds that "I am reporting what the birds said, and the birds could be trusted" (cp.1). By doing so, Barnes prompts the readers to question their trust in "the much repeated version" of the story rather than believing in the Woodworm's testimony. Because the nonhuman narration augments the possibility of

> acknowledg[ing] the similarity and otherness at the same time, to recognize the ratness of the rat, the monkeyness of the monkey and the humanness of the rat and the monkey as well as the ratness and the monkeyness of humans. In that way, stories narrated by non-human animals can destabilize anthropocentric ideologies. By giving a voice to non-human animals and facilitating empathy, these narratives can place them on a continuum with humans, rather than constructing them as opposites. (Bernaerts et al., 73-74)

Re-thinking the story from the perspective of a woodworm standing for all the other-than-humans offers a form of alienation from anthropocentric thinking by questioning the biblical narratives. Anthropomorphism also erases the "false representation on existence" (Williams 28) which overlooks the entanglement among all life forms. Barnes suggests that retelling the story from the Woodworm's perspective is "still a very partial truth" since the author aims not to replace the so-called authorized version (Guignery, *The Fiction of Julian Barnes* 70). Instead, Barnes prompts the readers to reverse "the placebo analgesia[14]" of the old narratives that erases the empathic response

[14] The study, conducted with Markus Rütgen and his colleagues, aims at assessing the effects of placebo analgesia on empathy for pain. The researchers divide the test group into the control and the placebo groups. A medical doctor gives the placebo group a pill informing participants that the medication is an approved, highly effective as well as expensive pain killer, though in fact inactive. The team asks the participants to rate the amount of the pain they experience from the small electric shocks and the pain

towards the nonhumans. Removing the placebo effect of the biblical version in the same way as the painkillers that reduce the empathic response, the readers immerse into PHMSV and empathize with them.

Alber maintains that what postmodernist narratives contribute to the nonhuman narrative tradition in the fables is to dispute the human and other-than-human divide and to underline "the continuity between the human world and the animal world." He adds that "The Stowaway," adopts this post-anthropocentric attitude "by linking the fate of a woodworm with the fate of Noah" as they are in the same boat (70). However, the Woodworm's account, from the very beginning to the end, indicates that the dualism between the human and other-than-human is man-made, in other words, it is culturally and politically constructed by the humans to guarantee their supremacy, and narratives transmit this dualistic thinking. In fact, the Woodworm blatantly inverts anthropocentrism stating that "[y]ou know, the trouble with you human guys is that you're very unevolved as a species. We are what we are, you know, we're evolved--but you humans still have quite a long way to go" (cp. 1).

Through the Woodworm's apperception, Barnes provides the readers with a luggage packed to the brim with the past experiences, affective states, feelings of the clean and unclean nonhumans in the ark; in other words, all the necessary equipment to understand them. The Woodworm holds the dualistic understanding against the human by inverting it as follows:

> If you think I am being contentious, it is probably because your species – I hope you don't mind my saying this – is so hopelessly dogmatic. You believe what you want to believe, and you go on believing it. … you all have Noah's genes. No doubt this also accounts for the fact that you are often strangely incurious. You never ask, for instance, … what happened to the raven? (cp. 1)

Just like the story of the serpent, the Woodworm alerts the readers that Noah's version of the flood narrative is merely "Adam's black propaganda" (cp. 1). The narrating-I

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they witness that another person is undergoing the similar electrical stimulation in an adjacent room. The team measures the results of the experiment using self-report and event-related potentials (ERPs), which allows scientists to observe brain activities that reflect cognitive processes through EEG. The report suggests that "analgesics may have the unwanted side effect of reducing empathic resonance and concern for others." (Rütgen et al. 8931-8945)

underscores the points which anthropocentrism fails by negating the human perception and account of the nonhuman (story)world. The Woodworm disclaims that Noah and his sons are righteous, fair and wise; their world is "brutal, cannibalistic and deceitful (though you might acknowledge the argument that this makes us closer to you rather than more distant)" as a result of which the human look down on the nonhuman world, and underlines that "one animal is capable of hunting the other does not make the former superior and the latter one subordinate since this is a concept difficult for [the human] to grasp" (cp. 1).

On the other hand, anthropomorphism is not a prerequisite for readers' empathic response to nonhumans (Mossner, *Affective Ecologies* 106). Narratives, instead, present characters providing an insight into an entangled world. Barnes, in line with it, deploys Ferris in "The Survivor" as a focalizing character, whose perception the author employs in narrating the events. Ferris manages to survive a nuclear disaster by sailing off Australia on a raft with her cats, Paul and Linda. The narrative, in this respect, is avowedly a reference to the nuclear catastrophe at Chernobyl on 25 April 1986 (Guignery, *The Fiction of Julian Barnes* 61). Readers undeniably recall the calamity engendering irreversible damage: the release of up to 30 percent of Chernobyl's 190 metric tons of uranium into the atmosphere, the evacuation of 335,000 inhabitants of the nearby area, and establishment of 19-mile-wide "exclusion zone" around the reactor with the estimation of the scientists that the zone around the plant will not be able to be inhabitable up to 20,000 years (Blakemore pars. 1,6). *A History* amalgamates fact and fiction, the familiar and unfamiliar. The readers, therefore, sometimes rely on facts, and at times they are sheltered by, what Keen calls, "the protective fictionality," thereby, deconstructing and reconstructing facts from another perspective, in a more general sense, from the target, or in this case from the other-than-humans. Moreover, Barnes's dual use of fact[15] and fiction, of the familiar and the unfamiliar updates both the readers'

[15] Barnes, in the note at the end of the novel, states that he draws on real events and some sources in narrating some of the events in the novel:

Chapter 3 is based on legal procedures and actual cases described in *The Criminal Prosecution and Capital Punishment of Animals* by E. P. Evans (1906). The first part of Chapter 5 draws its facts and language from the 1818 London translation of Savigny and Corréard's Narrative of a Voyage to Senegal; the second part relies heavily on Lorenz Eitner's exemplary Géricault: His Life and Work (Orbis, 1982). The third part of Chapter 7 takes its facts from The Voyage of the Damned by Gordon Thomas and Max Morgan-Witts (Hodder, 1974). I am grateful to Rebecca John for much help with research.

imaginative-box and belief-box, thereby inhibiting a conflict between “the inputter” and the moral judgment system.

The narration in “The Survivor” alternates between first-person and third-person, yet still presenting Ferris’s apperception of “the first big accident” (cp. 4). It also encompasses the media’s and people’s reactions that “[i]t wasn’t a very serious accident, … not like a bomb going off … it was a long way away, in Russia” (cp. 4), thereby posing no danger for them. At first, people become worried about the spread of the “cloud of poison,” eventually sinking into an unconscious oblivion. Nonetheless, the first-person narration subsuming also Ferris’s apperception, reports that “[t]he cloud had gone over where the reindeer grazed, poison had come down in the rain, the lichen became radioactive, the reindeer had eaten the lichen and got radioactive themselves” (cp. 4). Ferris gives up eating meat as she thinks of the reindeer every time she sees a plate with a slice of beef imagining “[t]he poor beasts with their horns stripped bare and all bloody from fighting. Then the row of carcasses each with a stripe of blue paint down its back, clanking past on a row of shiny hooks” (cp. 4). The empathy-promoting impact of the scene expands into the first chapter in which the reindeer experiences an inexplicable horror in the ark, and into the nonhuman (story)world. It interlaces not only the alternative storyworlds of the narrative but also the imaginary environment with the actual world. The narrative offers the readers the chance to understand the real devastation in the natural world and their victims which they fail to empathize with. The disaster nurtures Ferris’s empathic response, whereas it showcases people’s empathy inhibition. Since people fail to understand Ferris, and the fact that “everything is connected” (cp. 4), they are unable to make sense of her sorrow because they think that “after all it wasn’t as if she had to live off reindeer meat, and if she had some spare sympathy going shouldn’t she save it for human beings?” (cp. 4). In addition, Barnes’s double projection of the opposing responses - Ferris’s empathic engagement and her friends’ refusal to empathize - eliminates the possible resistance of the readers to empathize.

The doctor’s diagnosis of “persistent victim syndrome” that indicates she is “exteriorizing things, transferring [her] confusion and anxiety onto the world” (cp. 4)

implies the unreliability of Ferris's narration of the catastrophe. However, Barnes already deactivates this possibility of empathy inhibition referring to the actual disaster and its effects. Hence, the readers already acknowledge the fact that "[t]he whole bloody world's a persistent victim" though what Ferris really experiences is doubtful. To put it briefly, the narrative predisposes the readers to take sides with Ferris by questioning why people always punish animals by poisoning them, exploiting them and turning them into soap, and underlines the fact that "it's the duty of those of us who care about the planet to go on living" (cp. 4).

In "The Wars of Religion," the trial scene demonstrates the clash of anthropocentrism and the nonhuman perspective. The charges and defenses lay bare how humans define themselves and the woodworms. The petitioners describe themselves as "humble villagers, wretched as the grass beneath the foot" (cp. 3). On the contrary, they call the woodworms "diabolic bestioles" and "the malevolent invaders" (cp. 3). The petitioners do not limit their accusations to woodworms, instead support them with numerous examples about other animals such as rabbits which destroy the crops of "the inhabitants of the isles of Minorca and Majorca," the locusts "that darken the sky like the hand of God passing over the Sun," the rats that lay waste as did the boar to the environs of Calydon," the weevil that "devours the grain in their winter storehouse" (cp. 3). Up to the defense of the woodworms, the narrative maintains the balance in the belief-box and the imaginative-box as the narrative does not add anything new that contradicts the beliefs or norms of the readers concerning other-than-humans.

However, the defense of the woodworms, though with bitter irony and biting humor, destabilizes both "the updater" and "the inputter" by providing an insight into the false assumptions about the nonhuman world. The procurator of the bestioles negates the charges owing to the fact that they are "summoned to explain their behavior as if they were accustomed to employ the human tongue" (cp. 3), and notes that the summons against them are not valid. Because it implies that the woodworms are bestowed with "reason and volition," being thereby capable of committing a crime and answering a summons for the trial of the mentioned crime. Yet, they are regarded as "brute beasts acting only from instinct" (cp. 3). In other words, the procurator gives the petitioners a taste of their own medicine by negating their accusations through their own

anthropocentric and Cartesian claims of the human sovereignty over the nonhumans thanks to their reasoning and language. At this point, the mechanisms of the "inputter" and "the updater" become active as a consequence of the addition of the new information about the nonhuman world both to the imaginative and belief-box. Because the readers on their way back to the actual world, also transport the knowledge of the imaginary to the real world. They start to see the actual world through the knowledge that they obtain in the storyworld. Cognizing the other-than-human (story)world from a non-dualistic perspective hinders the readers' imaginative resistance, and initiates the simulatory and empathic response of the readers.

Barnes's handling of the human-nonhuman relationship in a humorous way is compatible with the definition of historiographic metafiction in that it deals with retelling of traditional narratives in a parodic way, and by installing and blurring the sharp line between fact and fiction (Hutcheon 11). Barnes's humor and amalgamation of fact and fiction prompt the readers to evaluate their myopic perspective into the nonhuman world. Also, *A History* targets the gaps in the narratives that invigorate anthropocentrism and the Cartesian outlook. It challenges and calls into question their legitimacy. It prompts the readers to question their blinded trust in them. Barnes prescribes "fabulation" for this purpose. In an interview, the author pays attention to the clinical origin of the term:

> it's a medical term for what you do when a lot of your brain has been destroyed either by a stroke or by alcoholism [...] the human mind can't exist without the full story. So it fabulates and it takes what it thinks it knows, and then it makes a convincing link between the two. (Guignery, "History in Question(s)" 64)

In line with this, the doctor elucidates the term in *A History*: "[y]ou make up a story to cover the facts you don't know or can't accept. You keep a few true facts and spin a new story round them" (168). Barnes through "fabulation" retells the well-known story of the Flood from the Woodworm's mouth, to lay bare the fallacy of defending anthropocentrism in the trial scene. *A History* predisposes the readers to see "everything is connected, even the parts we don't like, especially the parts we don't like," (cp. 4) and to make parallels between the devastations in the Raft of Medusa, the Saint Euphemia, the Saint Louis, or the lost species in Varadi's ship. By doing so, the

narrative opens up the possibilities of understanding the other-than-human world, and induces the readers' empathic response.

The term "fabulation" also indicates "generic mongrelism" (Holmes 15) in *A History* which assists Barnes in presenting familiar narratives in a new form and from a different perspective. The narrative presents a multiplicity of genres encompassing the fable, bestiary, epistolary form, essay, travel writing, legal proceedings, art analysis, a new genre "love prose," ("Parenthesis") science fiction or a psychiatric case study, and a dream-vision (Finney). Together with fabulation, the generic multiplicity does not restrain Barnes's creativity in much the way that they divert the readers' horizon of expectations. They help Barnes transform the famous biblical story into a fable or bestiary, the scene of shipwreck into an art analysis, the catastrophes into science fiction or psychological case study. Likewise, they widen the readers' horizon of expectations by not reducing the narrative into singularity of meaning, and enclose them within the borders of generic characteristics. Generic multifariousness enables the readers to go beyond the frameworks of genre, and the expectations and assumptions that genre determines. The narrative, thus, embraces, in Barnes words, a "freeing" and "enlarging" perspective in terms of navigating the readers towards the PHMSV. Instead of allocating agency just to one party, that of the human, the multiplicity of storyworlds in the narrative offers an inclusive and expanded notion of agentic capacity in much the way the actual world is constituted by, in Baradian terms, the intra-activity of agencies. It evinces the human (story)world as not just the one among the multiplicity of (story)worlds.

CHAPTER III

LONDON AS A PART OF ACKROYD'S MIND AND A MONSTROUS BODY

> London has also been envisaged *in the form of a young man* …The byways of the city resemble thin veins and its parks are like lungs. In the mist and rain of an urban autumn, the shining stones and cobbles of the older thoroughfares look as if they are bleeding. … London was a great body which "circulates all, exports all, and at last pays for all." That is why it has commonly been portrayed in *monstrous form, a swollen and dropsical giant* which kills more than it breeds. Its head is too large, out of proportion to the other members; *its face and hands have also grown monstrous, irregular and "out of all Shape*." It is a "spleen" or a great "*wen*" … (Ackroyd, *London: The Biography; emphasis added*)

Peter Ackroyd is a poet, biographer, historian, and novelist acclaimed for and specializing in English history, English writers and particularly London. Born in London, Ackroyd hardly ever leaves the city. His writings concentrate on the dark and uncanny side of the city, remarking that darkness is its essence partaking of its true identity, (*London: The Biography* cp. *9*). Ackroyd maintains that the inhabitants are deeply affected by the city, its nature and history. It is called "territorial imperative, or genius loci" (*London*, *The Biography* cp. 12). The city's vigor, in a similar way, affects Ackroyd's mind and his creative capacity.

London is a recurring setting, motif, and even a character in Ackroyd's narratives, to name a few among the many, in *The Great Fire of London* (1982), *Hawksmoor* (1985), *Chatterton* (1987), *The Plato Papers* (1999), *The House of Doctor Dee* (1993), *Dan Leno and The Limehouse Golem* (1994), *London: The Biography* (2000), *The Lambs of London* (2004), *The Casebook of Victor Frankenstein* (2008). Ackroyd is deemed to be "London's most devoted acolyte - the cartographer of her unseen tracks, ... the cardiologist of what Wordsworth called her mighty heart" (Walsh para.1). In *London: The Biography*, the author anthropomorphizes London describing it in a human shape, more particularly as a young man with its byways as thin veins and its parks as lungs, and as "a deformed giant" ("The City as Body") with disproportionate and distorted head, face and hands. Similarly, in one of his London novels, *The Casebook,* which is a reimagining of Mary Shelley's *Frankenstein, or The Modern Prometheus* (1818),

Ackroyd rebuilds London the way Victor Frankenstein creates the Monster. The scientist associates the creature particularly with London. He is unable to cognize them separately as one evokes the other.

Therefore, this chapter aims to analyze how Ackroyd utilizes the socio-historical, cultural, and physical features of the city in the rewriting process by referring to the fact that London is embodied and embedded in the author's life and in *The Casebook*. In this regard, it is possible to maintain that the "coupling" of Ackroyd's mind with London and his affective states in relation to the city results in the reconceptualization of the implied author in reimagining *Frankenstein*. The integrated cognitive/imaginative system of the writer and the city extends into the narrative, building spatiotemporally overlapping storyworlds of Frankenstein, London and the Monster. As a consequence of the non-linearity and interconnectedness among these alternative storyworlds, the PHMSV in the narrative is not constructed consecutively but simultaneously. The rebirth of Mary Shelley's monster as a trilateral entity, that is the embodiment of the disabled and techno-body of the Monster, London as a monstrous body, and the scientist's disturbed mind, overthrows the normative understanding of the human.

3.1. Ackroyd's Mind Extending into London

This section argues that in *The Casebook*, London becomes more than a city by constituting a part of the writer's mind and as a nonbiological environmental prop aiding his cognitive activities, and a monstrous body with narrative agency. In the rewriting process, Ackroyd fuses factual details into fiction by introducing real characters and actual scenes from Mary Shelley's life. Mary Shelley's father William Godwin, and her husband Percy Bysshe Shelley enter into the storyworld of the narrative, whilst Frankenstein, the imaginary figure in Mary Shelley's gothic narrative, appears in her real-life visit to Villa Diodati, which inspires her to write *Frankenstein*. Like the real-life guests of the villa, namely William Wordsworth, Samuel Taylor Coleridge, John Keats, Lord Byron, and John William Polidori, who writes the progenitor *The Vampyre* (1819), Frankenstein participates in the writing-contest proposed by Byron, and actualizes his terror story by creating the Monster.

Also, as a paramount quality of his writings, Ackroyd changes the setting from the University of Ingolstadt in Switzerland, where Frankenstein carries out experiments in search for the elixir of immortality in Mary Shelley's narrative, to the University of Oxford, and finally to London. Ackroyd "sees [*Frankenstein*] through" (Clark, *Supersizing the Mind* 10) London, keeping some details and recreating a different image of *Frankenstein* and London. In this respect, it can be argued that London gains an additional functionality, that of an external complementary and integrated artifact that assists the writer in the recreation of Mary Shelley's narrative. The city, as more than a mere non-cognitive environmental prop, conjointly functions in the recreation process. The author's cognitive activities in the process of reimagining are not bounded inside the writer's head. It covers London and his affective states in relation to the city because external resources are not regarded as "external aids or scaffolds for thinking," instead, joint parts of the extended cognition (Wilson and Clark, "How to Situate Cognition" 15). To put it briefly, Ackroyd's brain is not the only agent that realizes all the thinking and reimagining process. London, though non-biological and external, becomes one of the active units of Ackroyd's cognitive/creative capacity. The boundaries between his body and mind, exterior and internal are blurred.

Analogously, the opening of *The Casebook* reiterates the same notion of the body, mind, and environment as a whole. Frankenstein considers himself not separate from his environment, seeing no distinction between him and the universe (cp. 1). He is "embedded" in his environment and "densely coupled to" (Kirsch 172) the exterior world. In Geneva, he feels himself melted into the surrounding environment, or the universe is absorbed into his body and mind. In virtue of this interconnection between them, he is eager to learn everything about the universe. He is aware that unfolding the secrets of nature equals to knowing the unseen and unknown about the mind, body and the self. For this purpose, Frankenstein studies natural philosophy. To perfect his studies, he decides to study in London, where the latest experiments are performed by galvanists and biologists. Unlike his hometown, for Frankenstein, London is like a "vast electrical machine, galvanising rich and poor alike, sending its current down every alley and lane and thoroughfare in the course of its pulsating life" (cp. 2). The city in the same way energizes Frankenstein's mind in his endeavor to perfect the human race. Frankenstein actively utilizes the aspects of London, whether it be physical, social,

cultural or scientific as the way people "exploit environmental resources" in order to boost their creative capacities (Malinin 9). The city contains the social and cultural aura dynamizing his enthusiasm for his experiment on discovering the source of life. It offers him the chance to participate in the latest experiments on galvanism, the intellectual ground to exchange ideas on the power of imagination with such important figures, such as Coleridge, Byron, Percy Bysshe and Mary Shelley. Leaving his hometown Geneva, which does not generate the same enthusiasm and provide him with the necessary resources to boost his mind, Frankenstein opts for London as a new environment to energize his cognitive/creative experiences.

Ackroyd's affective connection with London alters the way he approaches *Frankenstein*, and influences its narrative structure and content. The city acts as a blind mind's cane that accompanies and directs the writer's mind during the reimagining process. In this sense, it can be argued that London, rather than "just a source of inputs" (Dawson 61), turns out to be an active unit of the writer's mind that boosts his cognitive/creative capacity. It functions as a mental resource "coupled" (Clark, *Supersizing the Mind* 10) to his mind, gaining an other-than-mind agency. In reanimating Shelley's monster, Ackroyd in fact thinks of London and what the monstrous body evokes in Ackroyd's mind is nothing more than the city itself as it is evident in the synchronous projection of the city and the Monster. It is "the city as body" ("The City as Body") that Frankenstein fastens to the table with leather straps and that trembles violently when he accelerates the power of the electricity. The writer, at this point, makes use of "regional analogy," which entails the transferring of the cognitive structure by making an analogy between the two completely dissimilar domains (Dunbar 11), that is, between the city and the creature.

London evokes an uncanny presence that follows Frankenstein everywhere. The city and its electric current, even before the creation of the Monster, affect his perception and sensation. After attending Dr. Humphry Davy's lecture on galvanism, he walks out into the streets of London. He feels suffocated either because of the atmosphere of the surrounding or the electrical energy in the air. He is overwhelmed by the strange feeling that somebody is running beside him. Even though he is unable to perceive it, he is certainly aware of its presence. The unknown and urgent impulse is so intense that he

breaks into a run and his mind is filled with the idea of escaping the confines of the city. He is aware of the presence of his pursuer but unsure of its source and nature. In his bed at home, the noise of the city, “a confused but not inharmonious muttering as if the city were talking in its sleep” (cp. 3) wakes him up alarmed. The roar of the city is so alarming for him that it recalls the disasters like an avalanche or rock-fall in Geneva. In his dreams, he feels like someone lies beside him. The uncanny pursuer that he is unable to identify occupies his mind and his presence.

The “always shadowy” (*London: The Biography* cp. 9) nature of the city, deeply affecting the scientist, generates continuing anxiety and uncertainty in him. In a similar way, at Drury Lane Theater, in spite of the laughter, Frankenstein fears the London crowd, which resembles “some restless creature in search of prey” (cp. 4). He runs out into the dark and deserted streets of the city. Through Ackroyd’s vivid mapping of the streets of London, the readers follow Bysshe and Frankenstein, on their way to Harriet’s house, walking down Aldgate High Street and crossing into Whitechapel, the main street. Frankenstein, pointing out the filthiness in the region, states that “[i]t is monstrous. And it will create monsters” (cp. 4). During his experiments on the body parts, he walks through the silent ways at his night walks and hears the footsteps of an unknown presence behind him. He looks over his shoulders, expecting to see a form or its shadow.

In line with Ackroyd’s depiction of London as a young male, Frankenstein, in his deal with the resurrectionists, asks for only young male corpses with no deformities for his experiments. However, Frankenstein’s belief and attempts in the perfectibility of human beings culminate in the “terrible rebirth” (157) of Jack Keat as the Monster. As Hayman, the electrical engineer, maintains that the electrical fluid is deemed to be monstrous by many. Likewise, Frankenstein’s reanimation of the corpse through the electrical fluid culminates in a monstrous form. Frankenstein, upon the terror of his recreation, decides to put as much distance between himself and London since it means escaping from his monstrous creation. Upon his return from Keswick to London, Frankenstein’s fear increases with the smell of London because it is as if he smelled the Monster. When he approaches Highgate, from the hill Frankenstein describes the scene of London which is like a “great immensity boiling and smoking” listening to its

"encroaching sound … [like] that of a vast herd of beasts …[with] its "streets and *entrails*" (cp. 12; *emphasis added*).

Under the effect of Polidori's opiate prepared by mixing opium with laudanum, Frankenstein walks on the Thames estuary becoming aware of a great and dark shape hiding in the distance, and he is sure that "the malevolent presence was that of London." (cp. 18) Wandering on the dark streets filled with dark black stone walls without doors or windows, he hears the stones shrieking "in agony, in fear, in consternation" (cp. 18). He turns to another street, and shudders with horror as a result of the sonorous, loud cry of pain coming from the walls and the ground. As he hurries down the streets, the screaming grows more and more immense. He cannot bear the cacophony. The noise, as Ackroyd puts it in *London: The Biography*, is "part of its unnaturalness, …, like the roaring of some monstrous creature" (cp. 5). However, he further adds that it is an indication of its energy as well. The city offers Frankenstein the energy to revitalize, though in a monstrous form, Jack Keat's dead body; and Ackroyd to reimagine Shelley's monster, or *Frankenstein*.

Albeit tacitly hinted, the narrative unravels a shocking but reconstructive detail which is buried until the last page of the narrative: "Given to me by the patient, Victor Frankenstein, on Wednesday November 15, 1822. Signed by Fredrick Newman, Superintendent of the Hoxton Mental Asylum for Incurables" (cp. 22). The perplexing final remark by the director underlining the fact that Frankenstein is an inmate in the asylum. The ending note erases the existence of the Monster in Frankenstein's actual/imaginary (story)world. It designates that the Monster exists within the borders of Victor's mind. That is why the scientist/author fails in his attempt to reverse his experiment. He places the electrical charges on the temples and the spine of the Monster, but this time to destroy him. The body of the Monster shakes violently, and dust comes from his open mouth when Frankenstein releases the electrical fluid. Yet, the Monster opens his eyes. Even though Frankenstein augments the level of the fluid at the second and the third trials, he witnesses with horror that the creature does not lose the vital signs. Upon Frankenstein's warning about the creature, Polidori remarks that all the things that Frankenstein experiences are just an invention of his imagination, occurring in his dreams and mind. His diagnosis not only engenders confusion in

Frankenstein's mind but also the disclosure predisposes the readers to reconstruct the narrative. The readers, therefore, rework the combination of London-plus-the Monster by adding Frankenstein to it. The narrative prompts the readers to connect the storyworlds of the Monster, the city and Frankenstein with each other as it is impossible to cognize them separately.

On the other hand, the ending of the narrative suggests that it is Frankenstein's imagination that gives life to the Monster, and the casebook is the manifestation of his extended imagination. The uncanny and dark nature of the city, its scientific and cultural background affect Frankenstein's imaginative capacity. Correspondingly, *The Casebook* becomes Ackroyd's extended imagination when his mind extends into London. In this regard, what constitutes the implied-Ackroyd in *The Casebook* is not limited to "the flesh-and-blood" (Booth 71) Ackroyd. Hence, it is possible to redefine the implied author encompassing London and Ackroyd's affective relationship with the city. This complementarity extends into the narrative resulting in Ackroyd writing, as Booth puts it, "in a different air" (71). The author's mind and body, London and his affective states concerning the city as an integrated whole constitutes the implied-Ackroyd in the narrative. To put it differently, the integration of the inner and the outer forces, that is Ackroyd and London into the implied-Ackroyd manifests itself in the case of the inseparability of London, the Monster and Frankenstein in the narrative.

The narrative, in fact, is concerned with imagination rather than galvanic reanimation. Through Frankenstein's reanimation of the Monster, Ackroyd offers a handbook for the congealment of imagination into the narrative, albeit in a monstrous form. Imagination, as Bysshe maintains, "can form a thousand different men and worlds. It is the creator. It is the seed of new life" (cp. 4). His comment manifestly denotes the capacity of imagination in terms of creating (story)worlds. Also, Frankenstein is familiar with the poetry of Samuel Taylor Coleridge partly through *Lyrical Ballads*, and attends his lecture in the Welsh Hall in Cornmarket Street. In the lecture, Coleridge underscores the power of imagination by negating Newton's claim that his theories are the products of experiment and observation. To Coleridge, they are produced by his mind and imagination. His speech on the shaping role of imagination triggers Frankenstein's zeal for unearthing nature's secrets and initiates his experiments on body parts and animals.

With a sudden desire, Frankenstein tests the electrical fluid in his own body by placing a metallic band upon his wrist. Even a low level of current is enough to move his hand with an impulse to write. Under its energizing power, he writes; “I cannot think of external things as having an external existence, … , and I commune with everything I see as something not apart from but inherent in my own nature” (cp. 10). The note suggests that his surrounding environment is integrated into his mind and body, and the innate complementariness is realized through the electrical force in the environment which moves along the nerves of his mind and body. Additionally, the writer refers to Coleridge’s primary imagination as “the living power and prime agent” and “a representation in the finite mind of the eternal act of creation” (cp. 7). From his definition, Frankenstein concludes that what can be imagined can be created as well. Under the spell of Coleridge’s talk, Frankenstein’s imagination becomes his guide, dragging him into a direction that he is unable to take control of.

Frankenstein’s story comes into existence in the laboratory, surpassing his mind and is embodied in the creature and the casebook. The guests at Villa Diodati agree on writing a tale of terror upon Byron’s suggestion when they are stuck at home on account of the stormy nights and bored by a collection of German tales. Even though Ackroyd deploys actual incidents from Mary Shelley’s life, the scene includes one more guest, that is, Frankenstein. The scientist, driven by his imagination, takes his place among Byron, Percy Bysshe Shelley, Mary Shelley, Coleridge and Polidori. He attempts to exclude himself from the project unpretentiously stating that he is “a mere mechanic and experimenter” (cp. 19). Nevertheless, he cannot deny the fact that he already composes his own tale that can fill them with horror. The Monster too stresses the creative agency of imagination calling Frankenstein as his author, and Frankenstein’s notes about the reanimation process as the narrative of his unnatural rebirth.

In the introduction to *Frankenstein*, Mary Shelley discloses the fact that her narrative is based upon Darwin’s galvanic experiments on vermicelli. As she explains,

> [m]any and long were the conversations between Lord Byron and Shelley [about] the experiments of Dr. [Erasmus] Darwin …, who preserved a piece of vermicelli in a glass cage, till by some extraordinary means it began to move with voluntary motion … [and about how] a corpse would be reanimated, galvanism has given token of such things, [how] the component parts of a creature might be

> manufactured, brought together and endued with vital warmth. (“Introduction” to *Frankenstein* 455)

In regard to her explanation about the origin of *Frankenstein*, she draws on scientific knowledge and the actual material in her life, which actuates her imaginative power. On the other hand, in *The Casebook*, Mary Shelley pens *Frankenstein* being inspired by the Monster reanimated by Frankenstein (Rosenbaum para.7). She sees the Monster before her window, which engenders “a sequence of images … unbidden … In the first of them some pale student of unhallowed arts was kneeling beside a man stretched out, but yet it was not a man at all” (cp. 19).

To Polidori, there exist other means in generating life such as the Golem, which is “the creature of the Kabbalah” and is brought to life by “the invocation of ritual words” (263). Ironically, Frankenstein proposes that [t]he electrical charge is more powerful than words.” On the other hand, after seeing the voltaic battery, solar microscope, glass jars and phials, Frankenstein likens Bysshe’s imagination to “the voltaic battery from which lightning issued forth” (cp. 1). Mary Shelley in *The Casebook*, by the same token, upholds Frankenstein’s argument claiming that “[w]ithout the imagination ... the human frame is dust and ashes.” (cp. 15) Frankenstein himself stresses the imaginative facet of his experiments. Referring to the reanimation process, he confesses that he takes pleasure in arranging the dead body of Jack Keat upon the table as if he were a sculptor or painter completing his composition. Even the material he works on hints at the artistic angle of his experimentation. Rather than being a patchwork of corpses, it is one newly dead poet whom Frankenstein reanimates. The corpse’s name strongly evokes the poet John Keats, as well as its physical description and the circumstances of his death recall the poet (Miquel-Baldellou 198). As the narrative is about delving into the unexplored imaginary worlds, Ackroyd depicts Frankenstein as more of a poet rather than a scientist as Percy Shelley puts it, “[t]he great experimenters are poets in their way. They are travellers in unknown realms. They explore the limits of the world” (cp. 19).

3.2. London Electrifying the Scientist’s Mind and the Monster’s Body

This part deals with how the electricity, by vibrating through the city, the Monster’s body, and Frankenstein’s monstrous mind and intertwining them, showcases its agentic

capacity. As a consequence of the complementarity in Ackroyd's cognitive/imaginative process, the storyworld of *Frankenstein* bifurcates into many (story)worlds. To be more precise, the coupled system of Ackroyd-plus-London, and the writer's affective states in relation to the city are projected upon the multiplicity of storyworlds. The PHMSV in *The Casebook*, as in the quantum multiverse, is not "spatially arrayed" and "temporarily sequential." Rather, it is "inter constituted" (Rubenstein cp. 6) by the overlapping storyworlds of Frankenstein, the Monster and London. They are intertwined and embodied in Frankenstein's body and mind. These storyworlds are already entangled at the beginning of the narrative. However, the readers, till the very end of the narrative, cognize and "enact" the posthuman multi(story)worlds divergently. With the closing remark about Frankenstein, they go back to the very beginning and re-enact these storyworlds together. Following the narrative environments and artifacts - in particular the microscope, corpses and body parts that Frankenstein studies, electricity, and voltaic battery occupying his room, the tools in his laboratory in The Limehouse, the dissecting room, and the Morgue - the readers get access to the storyworlds of Frankenstein, the Monster and London. Nonetheless, among these narrative artifacts, it is the agentic capacity of the electric current that ends the decoherence among the alternative storyworlds and that triggers the overlapping of these seemingly disconnected worlds.

Ackroyd induces narrative artifacts in *The Casebook* as the way the scientist constructs his experimental tools and instruments in the laboratory. Frankenstein's ineffable interest in and enthusiasm for uncovering the secret of the universe is initiated firstly by the microscope that his father purchased as a gift. The same microscope through which the scientist observes the "unseen and unknown" about the world, and the energy instilled even in the smallest organism leads the readers to his mind, body and world. It throws light on his "indescribable interest" (cp.1) and unabated ardor to discover the hidden energy and agency in the world. However, for Frankenstein, the microscope alone is not enough to unearth the mysteries in the world and to get full entry into his storyworld. Additionally, Frankenstein participates in lessons every morning at the dissecting room of St. Thomas's Hospital. The dissecting room, for Frankenstein, is the place where people find progress and are able to alleviate human suffering rather than be engulfed in fear or nausea. His detailed description of the ambiance in the room corroborates his claim. In the dissecting room,

> [t]he corpses were placed on the dissection tables, in the middle of the room, with six or seven students intent upon rummaging about their bones and entrails. Some concentrated on an arm, others on a leg or bowel. … There were glass cases ranged along the walls with bodily specimens of every conceivable kind. In a large fireplace, on one side of the room, stood a copper pan that was used for boiling the bodies when the work of the knife became too slow. (cp. 4)

The smell of the rotting or rotten flesh mixed with the smell of preservatives is equivalent to death, whilst to Frankenstein, it turns out to be "a wonderful perfume" (cp. 4) if he is able to overcome death. His account gives insight into the mechanism of the mind of the scientist, how his mind together with tools and instruments that are embodied and embedded in his environment becomes dynamic parts of his mind.

In a similar way, the Morgue in Paris, where the unidentified corpses are on display at certain times of the day so that they might be identified by their friends and relatives, does not generate an unpleasant spectacle for Frankenstein. Instead, walking among the dead bodies in the Morgue arouses the same gratification and indulgence as walking in the ruins relishing the traces of old times. He even depicts it like "a London coffee-house" with small-paned windows, and instead of the seats and boxes, shallow panels are situated to place the corpses on them. After providing a detailed description and examination of the decomposed bodies, Frankenstein avows that he does not regard the sight of the decayed bodies as a source of abhorrence; on the contrary, he is fascinated by their appearance, and the stillness of the bodies fills him with curiosity. He "sees through" these experimental tools which are also utilized alike as narrative tools by the readers. These narrative artifacts disclose Frankenstein's perceptions, emotions, and self. They need to be absorbed by the readers so as to understand the way he cognizes his surroundings and to reach his (story)world. The dissecting room and the experimental laboratory he sets up in his bedroom are embodied and embedded. He reorganizes his environment and rearranges the artifacts in his surroundings in such a way that they do not impede his cognitive activities. His room, as a small laboratory, is part of his cognitive processes replete with some crucibles, tubes, a portable burner. He places a simulacrum of the human brain with all its perfect details and fibers among his linens, which Florence, the servant, sees as worms rather than the fibers of the brain.

However, to fully energize both the Monster's and his mind and body, the scientist needs the electrical force which "animates all matter" (cp. 19) and is not distinguished

from the energy in nature. His fascination with the electrical fluid and his desire to unveil the secrets behind its agency increases after his sister Elizabeth's and his father's death. He builds a great laboratory in the Limehouse, and furnishes it with all the necessary tools and apparatus he requires to create the electrical fluid in his new "cognitive niche" (Clark, *Supersizing the Mind* 62). Francis Hayman, the British artist and book illustrator, who recreates the scenes and characters mainly in Shakespeare's plays and John Milton's *Paradise Lost* (1667), appears as a civil engineer, or in his words, an "electrical friend" (cp. 8). The artist/engineer builds his own invention, the gigantic electrical column in the laboratory in order to help Frankenstein to recreate the Monster, which is given life by Mary Shelley. Frankenstein's "cognitive niche" functions as an imaginary niche that aids the readers when entering into Frankenstein's mind and simulating his actions. These narrative artifacts, functioning like a magnifying glass, help the readers to gain a deeper insight into the scientist/creator's perception of the surrounding environment, and his commitment to uncover the hidden power of the electricity.

By means of the electrical machine, Frankenstein incessantly performs numerous experiments by testing every fiber and muscle in damaged bodies and body parts for its electrical potential, and draws "an electrical map" (137) of the human body. Additionally, Frankenstein attends lectures by the experimenter, Humphry Davy at the Society for the Encouragement of Arts and Manufactures about the mysteries of electricity. Davy, who has "the temperament of an artist" describes the electric current as the manifestation of the Greek philosophers' statement that "there is a fire within all things … [calling] it the spark of life, the Promethean flame, and the light of the world" (cp. 3). In the discussion over the electricity, Ackroyd alludes to real figures such as the English physicist Davy, and Erasmus Darwin, whose experiments inspire Mary Shelley in writing her narrative as she herself avows in the introduction part (455). In a similar vein, their studies electrify Frankenstein, the scientist/author in (re)forming the creature and the narrative of the reanimation procedure.

The electrical energy is "deposited in a latent state in unlimited quantity in the earth, the water and the atmosphere ... in the sheet of summer lightning ... in the raindrop … In you. … in me," (cp. 8) in the Monster, in Frankenstein's imagination, and in the

narrative. The electrical fluid penetrates into every tissue of the corpse, rejuvenating his deceased fibers, ultimately transmuting him into a monstrous being. Furthermore, the agency of the fluid enables the Monster to extend his mind to Jack Keat's as the creature states that "It seemed that [his] physical body had some memory of the past buried within it" (cp. 14). In his search for his beforelife, he recalls the name of Jack Keat, and his sister as indescribably familiar in her posture. In spite of having no real memory, his mind recalls a memory in which she bows over him on his deathbed. The agentic capacity of the electrical energy in extending the Monster's mind to Jack Keat's indicates trans-corporeality referring to the enmeshment of all embodied beings with the material world which passes from body to body, transforms them, and consequently is transformed by them (Alaimo 435).

The detailed description of the reanimation procedure adds to the immersive capacity of the narrative and increases the potential of the narrative to produce a shared affective state:

> With trembling hands I engaged the power of both and watched in fascination and excitement as the electrical fluid surged through the young body. There was the slightest agitation and then, to my alarm, dark red blood seeped out of his nose and ears; yet I reassured myself that this was an excellent sign of arterial movement. If the blood was circulating through his body, then a first stage had been accomplished. His heart then began to beat very quickly and, when I placed my hand upon his chest, there was a definite sensation of warmth. To my horror I sensed a smell of burning. There was smoke coming from his lower limbs, and I saw at once that the soles of his feet were becoming horribly blistered. I was tempted to lower the charge at once but then the crisis passed; the smoke disappeared, together with the smell of burning. (cp. 11)

Thanks to the embodied simulation, the readers accompany the scientist/author during the process, possibly simulating the diligence in his actions and the depth of his excitement because reading action related-words also activates the mirror neurons:

> Face, arm, or leg actions, or listening to sentences expressing actions performed with the mouth, the hand, and the foot, both produce activation of different sectors of the premotor cortex. . . . These activated premotor sectors coarsely correspond to those active during the execution/observation of hand, mouth, and foot actions. Thus, it appears that the MNS [mirror neuron system] is involved not only in understanding visually presented actions, but also in mapping acoustically or visually presented action-related linguistic expressions. (Gallese, "Mirror Neurons and Art" 443)

Thus, together with Frankenstein, the readers initiate the process by engaging the power, and share his enthusiasm with trembling hands. The smell of burning likely addresses and activates the readers' olfactory receptors along with Frankenstein's because the embodied simulation does not predispose the readers to mirror just the actions of the storyworld inhabitants. The mirror neurons also become active in cognizing their emotions such as the recognition of pain, grief, and happiness. The system, as Rizzolatti and Sinigaglia put forward, energizes the same areas in the cerebral cortex both when the readers witness the storyworld inhabitants experiencing these emotions, and when the readers themselves experience the same emotions (xii). The embodied simulation generates a direct experiential and visceral understanding of Frankenstein's actions and attitudes.

By the same electrical fluid, Frankenstein tries to destroy what he brings to life after the murder of Martha. He searches for the exact formula for the reversal of the electrical charge in order to "reduc[e] the creature once more to inanimate matter." (cp. 15) To this end, Hayman builds an engine that makes use of magnetic force to absorb the electricity from the body of the Monster. However, the formula fails as the creature already comes into existence in the narrative. Both the writer, who initiates the reanimation process, and the readers who cooperate with the scientist do not accompany him in the act of destroying the Monster. Because they enjoy "the protective fictionality" (Keen, *Empathy and the Novel* xiv) of the narrative, and the storyworld poses no dangers in recreating the Monster. In fact, they are not as reluctant and perturbed as Frankenstein to create a monstress since the narrative offers a safe zone (Keen, *Empathy and the Novel* 4) without posing a similar threat to the one Frankenstein experiences. In other words, they seek refuge in the imaginary niche of the narrative.

Also, the electrical current eradicates the decoherence among the (story)worlds of Frankenstein, the Monster, and London, forming the PHMSV. The readers persistently "enact" these storyworlds separately. The distance among them is the result of the unquestioned stubborn insistence on the separateness of bodies, minds, and (story)worlds, and on the binaries between the internal and the external. This "life force" which "pulsates in every living thing" (cp. 19) generates vibration through which

these quasi-distant (story)worlds exist not in succession or uniformly, but in a simultaneous way. Therefore, the agentic capacity of the electric current in the narrative precipitates the overlapping of the parallel storyworlds. The scene in which Frankenstein leaves Davy's lecture on galvanism draws attention to its agency.

> Whether it was the atmosphere of the place, or whether *it was the influence of the electric current in the aether*, I felt stifled. I walked quickly, but then broke into a run. *I knew that I had to escape the confines of the city*. It was the strangest impulse I had ever experienced, so alarming and so urgent that my heart seemed to beat faster with every pace I took. *I might have been fleeing from someone, or something, but the nature of my pursuer was not known to me*. (cp. 3; *emphasis added*)

The electrical energy, which brings forth monsters, is latent and dormant in the air and the confines of the city until after Frankenstein reanimates it. It pulsates through the fibers of Frankenstein's mind and veins in his body, London's streets and corners, and the dead body of Jack Keat, eventually cohering into a monstrous being. If the readers fail to detect the narrative agency of the electrical energy, they have to wait until the very end of the narrative in order to find out that the creature is the extended version of his imaginative potential, and link the storyworld of Frankenstein, the Monster, and London. The scientist exploits the "natural force" (cp. 3) as an instrument to attain the anthropocentric desire for the infinitude of the human and perfect human kind. Nevertheless, the electricity turns into a narrative agent that builds the PHMSV.

3. 3. Economy of Bodies, Minds and (Story)worlds

This part fuses posthumanism with critical disability studies by examining the Monster's disabled and techno-body, Frankenstein's disturbed mind, and London as a deformed body. Particularly in the discussion of empathy and disability studies, this section presents disability not as a source of evoking pity and fear in the reader. Instead, it introduces the subject as a "narrative prosthesis," (Mitchell and Synder) which is capable of restoring agency to these paralyzed narrative artifacts in building the PHMSV in *The Casebook*. The monstrosity in the narrative extends into the unmapped (story)worlds of the nonhuman to showcase the multiplicity and fluidity of identities.

Posthumanism and critical disability studies inevitably and undoubtedly converge because they both aim to trouble the dominant and normative understanding of the

human, and seek the ways disability adds to the definition of the human. Ironically enough, posthuman disability studies, otherwise known as DisHuman studies, is also in pursuit of the ways through which the allegedly less-than-humans seek to be acknowledged just like the human (Goodley et al., "Posthuman Disability Studies and Dishuman Studies" 342-45). From both perspectives, it targets the division between the human and nonhuman, and the discriminatory and exclusive categorizations among the different categories of the human. Critical disability studies, as Braidotti puts it,

> are perfectly at ease with the posthuman subject, because disability has always contravened the classical humanist conception of what it means to be human. The converse is also true as disability invites a critical analysis to the posthuman, to the extent that disability epitomizes a posthuman enhancement of the self while simultaneously demanding recognition of the self in the humanist register. (*Posthuman Knowledge* 68)

In other words, posthuman disability studies incorporates simultaneously a disavowal for the human and a desire for the sameness and normativity. Rather than creating a contradiction, it initiates a DisHuman condition that shatters the supremacy of the human and breaks the binary of the human and the disabled.

Posthumanism and critical disability studies together interrogate the norms of the human, their standardization, and the denial of difference in favor of sameness. They argue for the deconstruction of the corporeal normativity which is actually idealized and almost unattainable. To attain the Vitruvian man ideal, Frankenstein attempts to create the perfect man. He asks for the corpses of only adult males without "*deformities*" in his deal with the resurrectionists although he starts working upon "the damaged specimen" (cp. 9; *emphasis added*). When resurrectionists deliver Jack Keat's dead body, Frankenstein is enthralled by its beauty and perfection:

> His was the most beautiful corpse I had ever seen. It seemed that the flush had not left the cheeks, and that the mouth was curved in the semblance of a smile. There was no expression of sadness or of horror upon the face but, rather, one of sublime resignation. The body itself was muscular and firmly knit; the phthisis had removed any trace of superfluous fat, and the chest, abdomen and thighs were perfectly formed. The legs were fine and muscular, the arms most elegantly proportioned. The hair was full and thick, curling at the back and sides, and I noticed that there was a small scar above the left eyebrow. That was the only defect I could find. (cp. 11)

Frankenstein reiterates the humanist orthodoxy that fosters the normative standards and excludes those with physical impairment, in other words, not-quite-the human or less-than-human. His fascination by the beauty of the dead body is a reminder of the constructedness of disability rather than a biomedical categorization. Disability studies, in this regard, draws attention to the fact that disability is a product of discourses that are based on the preconceived notions of normal bodies (Nayar 102). Jack Keat's complete, idealized and proportioned body complies with the norms of the human, whilst "the altered form" (cp. 14) displays the frustration and discontent of normativity with the distorted body image. Frankenstein details the alteration that the corpse undergoes, and how it turns into an anomalous body after the process:

> [I]n a moment the body … had gone through all the stages of decomposition before being reclaimed and restored to life. His skin seemed to quiver, with a motion like that of waves. But then he grew still. Now his appearance resembled nothing so much as wickerwork. His eyes had opened, but where before they had been of a blue-green hue they were now grey. The body itself had not been deformed in any way: it was as compact and as muscular as before, but it was of a different texture. It looked as if it had been baked. (cp. 11)

The "renewed form" (cp. 14) is conspicuously odious and loathsome in the sense that it is no longer Jack Keat, but something "deeper and darker" (cp. 15) that Frankenstein is unable to define. The beauty of the body is no longer a subject of fascination for the creator, and is replaced by the fear and horror on the face. With regard to the Monster's corporeal anomaly, the wide difference between his creation and Bysshe's daughter frustrates the scientist since his creation contradicts the normative, normal, and the standard body.

Non-normativity of the disabled bodies and minds invokes monstrosity (Goodley et al. "The DisHuman Child" 772) engendering fear, panic and horror. Unable to anticipate the horror of the tragedy awaiting him, the Monster enjoys the light and warmth, and sensing life in the waters of the river. However, his joy comes to an end when he is out of the water, and he sees the signs of terror and horror on the men's faces on a boat. One of the men throws himself overboard in trying to escape him. The reactions of his surroundings persuade the creature to believe that he is "not of their kind" (cp. 14). Thus, the Monster is forced to cover his face and seeks out dark and silent corners as soon as he hears a "human step" (cp. 14). Though the Monster tries to hide his non-

normative body by wearing Frankenstein's cloak and hat, his disguise fails to cover his white face, "seemingly curved and crumpled like a sheet of paper, with the same blank eyes" (cp. 12).

In despair and desolation, he discovers a solitary dwelling, a barn to hide himself. Unfortunately, wherever he goes, he is doomed to experience the same terror again and again. The father and daughter in the barn flee from the creature:

> with the strength born out of *fear*, he ran quickly from me across the fields. They had fled from me as *from an abhorred thing*. I, who had deemed myself worthy of human companionship, was for them *a creature of horror and nightmare*. … I fell upon my knees, and beat the ground with my fists. I may have howled, or shrieked, I do not remember. But my thoughts were of rage and revenge—against the father and daughter, against the human species, and against you my creator! (cp. 14, *emphasis added*)

The Monster's "corporeal aberrancy" (Mitchell and Snyder 4) excites fright accompanied by alarm and shock in people even though he does not harm even a small creature. Their biased and unfair responses to his deviant body compel him to escape the human and hide himself as if he committed a "heinous crime" (cp. 14).

The "fiend," as Londoners call him, remains completely horrified and helpless because even the rats fear him. Upon seeing the renewed form of her brother, even his sister, Annie Keat throws herself into the river and dies of panic and fear since the transformed body is "a more odious type of [the normal], more loathsome even from the resemblance" (cp. 14). The disabled body arouses fear and horror on account of both its sameness as and difference from normality. Regarding the threat of the sameness of the disabled body, Margrit Shildrick contends that

> [p]eople identified as disabled provoke anxiety, not because of their difference as such, but because they are too much like everyone else; worse yet, anyone could become one of 'them'. In other words, they defy the boundaries of sameness and difference and spread impurity through the normative categories. The dehumanisation of disabled people … is, then, a denial of any commonality with the normative majority that allows and implicitly demands violent action against the threat of a disordering ambiguity. (*Dangerous Discourses* 51)

The (un)familiarity of the anomalous embodiment poses a major threat to the normativity. Beyond the difference, the sameness and the probability of becoming the same as the disabled engender fear among the human. That is why the creation of a

bride for the Monster with equal strength means inflicting more havoc and chaos upon the world. The Monster is an example of "humanism's profound fear of the disabled" since he is "read: socially marked and biologically determined as undesirable" (Murray 11-12). The techno-body created by the power of electricity is the embodiment of the posthuman which bluntly defies the predetermined and exclusionary standards.

The monstrous body is a microcosmic version of the PHMSV ostensibly hosted just by the creature till the last page of the narrative, but in fact also is inhabited by Frankenstein and London at the same time. Though vaguely implied at times throughout the narrative, Frankenstein's "cognitive aberrancy" (Mitchell and Snyder 4) is not disclosed till the very end of the narrative. However, the narrative does not fail to provide access to Frankenstein's experiences, mind and affective states. The narrative predisposes the readers to imagine Frankenstein's anomalous mind through the concurrent and concomitant projection of the creature's monstrous body. Frankenstein's disturbed mind is mapped by mirroring the creature's attitudes, thoughts and affective states.

The deliberate deferment of the revelation about Frankenstein is the way the author deals with the "authoritative breakdown" which would culminate in the erasure of the Monster's existence and the projection of the city as a monstrous body. After the revelatory note about Frankenstein, the Monster does not vanish as the monster is already created by the readers by simulating the scientist's procedures. The readers, therefore, add a third dimension to the PHMSV rather than destroying the entangled and already constructed storyworlds. They return to the storyworld to reconsider the cues about Frankenstein. Even before the rebirth of the creature, Frankenstein walks through the streets of the city with the impression of a shadow following him everywhere. He is unable to discover the source of the uncanny doubleness in his presence until after the creation of the Monster. The doubleness in his Self is implicitly conveyed by Frankenstein and the Monster, and the very ending of the narrative evinces it. In the morning of the execution of Daniel Westbrook, who is charged with murdering his own sister Harriet, Frankenstein cannot sleep and walks on the streets of London contemplating that:

> [i]f it were possible to be *two people*, then this was my condition: I wished to be hidden away, lamenting the fate of Daniel in the secrecy of some locked chamber, but at the same time I walked with fiery eyes towards the prison to see him despatched. I seemed to be possessed by *some spirit that broods over London* on a hanging day, some craving for blood and punishment that is beyond rational calculation. A further consideration occurred to me later. I had given life to the creature, but *could the presence of the creature be changing me*? (cp. 13; *emphasis added*)

The Monster is the psychological doppelganger of Frankenstein (Prosser 179). The German word 'Doppelgänger' means 'double-goer' or 'walker,' and the term, a part of the gothic tradition in the nineteenth century, signifies the immanent desire to become reunited with a lost center in one's personality (Jackson 108). The creature reminds Frankenstein of the bond between them, the "pact of fire that can never be abrogated" because they are "wedded to [each other] so closely that [they] might be the same person" (cp. 15). The narrative, unable to reveal Frankenstein's anomalous mind and waits till the end, reflects it by associating it with the monstrous body of the creature and the city.

He seeks the source of the unease prevailing in him. Dr. Polidori diagnoses "tremor cordis," (cp. 15) that is, atrial fibrillation in Frankenstein, and in order to ease his trouble, he prepares his special prescription of the opiate. Unfortunately, his formula fails to subside the storm in him since Frankenstein is overwhelmed by the continuing conundrum of whether he himself, or the creature or the world is monstrous. The monstrous corporeality is more than the mere psychological doppelganger of Frankenstein. It inhabits a tripartite trans-corporeality which inhabits the creator, the creature and the city because at the end of his search for the source of life, as the scientist himself puts it, he "re-creates" (cp. 8) his Self, manifesting itself as a multiplicity.

In *London: The Biography*, Ackroyd describes London as "a swollen and dropsical giant" body (cp. "The city as a Body"). Nonetheless, it is hard for the reader to visualize this analogy in their minds since it is a mere description lacking any imaginative stimuli and cues to cognize the city as such. On the other hand, in *The Casebook*, the author does not repeat the same mistake that he makes in *London: The Biography*. He tries to remove the authoritative breakdown or the failure of predisposing the readers to imagine London as a monstrous body by the concurrent and concomitant projection of the

creature, the monstrous city, and Frankenstein's aberrant perception. The concurrent existence of the three storyworlds in the monstrous corporeality provides economies of bodies, minds and storyworlds. Thanks to this economy, *The Casebook* eliminates the readers' resistance to imagine monster-like London, and prevents the readers' pop-out of the fictional world. The monstrous corporeality, in other words, functions as a "narrative prosthesis" (Mitchell and Synder) and destroys the transparent gap that cuts the affective flow, and that prevents the subsequent affective-matching between the readers and the monstrous bodies and minds. The embodied simulation allows the readers to mirror the experiences and affective states of Frankenstein's cognitive aberrancy and the anomalous body of the city through another supposedly lower version of the human, that of the Monster.

The city is a body with its complex and dynamic structures as Ackroyd argues "[w]hether we consider London as a young man refreshed and risen from sleep, therefore, or whether we lament its condition as a deformed giant, we must regard it as a human shape with its own laws of life and growth" ("The city as Body"). It constitutes and is constituted by its interaction with the external world. The narrative transmits this interchange through the anomalous body. London and the Monster are not separate and unlike each other. Both London and the creature are "man-made menaces" (Charnick 66). Frankenstein's fear increases with the smell of London since it is as if he smelled the Monster. He suffers from hallucinations increasing his focus on the obsession of being followed by a dark shape. However, he concludes that "the malevolent presence was that of London. Man had created London" (cp. 18). Frankenstein describes both the Monster and London as dark and dreadful, familiar and unfamiliar.

Regarding the fact that Ackroyd is a strong believer of genius loci - the protective spirit of a place (Niedokos 83), the Monster functions as an "Anthropocenic genius loci," which does not designate "a pure, static nature, but a hybrid, altered nature in flux. It is a monstrous spirit of a monstrous place" since "[t]he genius loci of a place does not abandon the place, but evolves with it in the spirit of adaptation" (Noble 127). In this sense, the Monster's body reanimated in a former factory is the other and ugly creation of the anthropocentric hubris which manifests itself in Frankenstein's belief in and endeavor to achieve human perfectibility.

Frankenstein fails to differentiate between the smell and noise of the river and the mechanical movements of the Monster:

> [t]here was a smell of *oil and tar* coming from the water, and I could hear *the low murmur of the tide* against the wooden walls of the embankment. I could see a log, perhaps fallen from a merchantman, coming up with the current—yet *it was no log*. It was a swimmer, quite straight in the water; I saw his arms moving with almost *mechanical force*, and he left no wake behind him. (cp. 13; *emphasis added*)

The readers' immersion into the PHMSV of *The Casebook* corresponds to their transportation into the unnatural body of the Monster. Espousing Morton's notion that "[i]f we think that environmentality has to do with specific 'settings', we have seriously crippled the concept of environmentality" (Morton 148), the monstrous body turns out to be a surrogate for the anthropogenic city as a result of human intervention and exploitation. The Monster is similar to the Golem in Ackroyd's *Dan Leno and the Limehouse Golem*, which serves as "a materialized evil spirit representing the dismal effects of the Industrial Revolution and capitalism on the weaker members of London society" (Chalupský, "Crime Narratives" 124). The monster expresses his rage against the humans and threatens them:

> I am fearless, and therefore powerful. I say this clearly to you now, even though I am wrapped in anger and in the contemplation of revenge. Your days will pass in dread and horror, and soon enough you will repent of all the injuries you have inflicted on me. One day you will curse the sun that gazes on your misery. …I am no slave. I am your master. (cp. 15)

Both the creator and the creature believe in the notion of entanglement of various entities. The scientist pursues his research underpinning the belief that "all life was one and that the same spirit of existence breathed through all created forms. … everything has a life of its own, and we are all one life." (cp. 7) The Monster, likewise, feels the power of "one life" while contemplating on his origin, whether he comes from the waters of the river, or grows out of the earth that gives life to all the plants in the world (cp. 14). Both the creature's and the creator's stress on the shared existence moves the centeredness and agency away from the human, thereby promoting "entangled empathy," through which the readers empathize with other-than-humans by acknowledging the interaction between the human and nonhuman.

The fact that the Monster is an electrified body produced in a factory-laboratory, a technologized body with supernatural powers of movement and sense along with human abilities such as language, reasoning, and memory (Jack Keat's), an embodiment of Frankenstein's cognitive aberrancy and London designates the Monster's multiplicious ontology which evinces the fluidity of identities as a result of the dynamic interaction among (story)worlds. The monstrous body which becomes entropic as a consequence of human intervention debunks the notion that the human is separate from the environment by virtue of their bodily and cognitive activities. Such an outlook on the body is analogous to the idea of bodies within bodies from the perspective of the posthuman multiverse because the capacity of a body is not measured or assessed by a body alone but is "always aided and abetted by, and dovetails with, the field or context of its force-relations" (Gregg and Seigworth 3).

CHAPTER IV

THE VEGETALIZATION OF SWAMP THING

Originally created by Wein and Wrightson for comic horror anthology series *House of Secrets*, *The Swamp Thing* (1972-1976) recounts the explosion caused by arson in the scientist Alec Holland's laboratory and his subsequent transformation into a monstrous form made up of human and plant. In his new form, the swamp monster struggles to restore his humanity and seeks revenge for the murder of his wife. However, Swamp Thing's quest comes to an end due to the decline in the readers' interest though each volume is populated with different characters varying from werewolf to Batman. After eight years, the writer Alan Moore, together with the penciller Stephen Bissette and the inker John Totleben, reanimates the swamp monster for DC Comics with a radical shift in its genesis from the "muck-encrusted mockery of a man" (Wein and Wrightson 31) to the plant monster with Alec's consciousness and memory. This chapter explores how Swamp Thing is metamorphosed into Moore's extended imagination, which is shaped by the real-life horrors, his concern about ecological devastations, and the findings of the scientific experiments about the memory transfer in planarian worms. It also argues that this new dimension added to its origin and disclosed by the graphic details turns Swamp Thing into an embodiment of the posthuman multiverse in which the human, the formula (as a part of the bioengineering technologies), the plants and microorganisms in the bayou co-emergently exist.

4.1. "New Hard Scientific Evidence" about Infected/Extended Minds

Alan Moore's *The Saga of the Swamp Thing* preserves Wein and Wrightson's root of the story in which the scientific couple Alec and Linda Holland invent a bio-restorative formula that is designed to promote sustainable growth of plants, even in hostile terrains. They hide the formula in the Louisiana swamp in an attempt to protect it from attacks. However, their research is destroyed by the blast plotted by rival companies. By the impact of the explosion, Alec is engulfed in flames and throws himself into the swamp, where his body, the formula, the flora, and the organisms in the swamp are mingled and cohere into Swamp Thing. The monster was in a persistent vegetative state

waiting to be revived by Moore in 1984. Moore, as Di Liddo puts it, uses fiction as a "scalpel" to dissect and reconstruct the narrative tradition, thereby pointing out political, cultural, and environmental issues (13). In *The Saga of the Swamp Thing*, the botanist Dr. Woodrue takes the scalpel to carry out the autopsy of the monster as Moore does to dissect the swamp creature and resuscitates him. Dr. Woodrue immediately starts his task of anatomizing Wein and Wrightson's humanoid vegetable creature so as to diagnose the problems that eventually cause a decline in readers' interest, and the monster to go into a deep coma for eight years. He discovers pseudo-organs, anatomical structures that resemble human organs, but they do not function in the same way. After six weeks, he unravels the fact that:

> Alec Holland is already dead. His body goes into the swamp along with the formula that it is saturated with. ... it decomposes … [in a] patch of swampland like that would be teeming with micro-organisms. … Those plants eat him. … and they become infected by a powerful consciousness that does not realize it is no longer alive! It wasn't. It was a plant that thought it was Alec Holland! A plant that was trying its level best to be Alec Holland. (25-26).

According to the writer, the problem in the origin of the monster is that Swamp Thing's main goal is to regain his lost humanity and become Alec Holland again. It leads to a dead end because the readers/recipients knew that the adventures of the monster would be completed after achieving his aim. What the writer needs in recreating the swamp thing is to add another dimension to its formulation. In an interview, he explains how he rethinks the monster as follows,

> from a more hard science fiction angle, investigate the possibilities of his being a plant . . . In the future, what we can do is to try and examine him . . . there's a lot of things about a plant that supply you with story ideas, things we can slowly and gradually explore. We want to explore his psychology, his emotions, his physiology. (Thompson 100)

Instead of restraining the monster within the limits of the human, in other words reducing it to a one-dimensional character, the author underlines its plant characteristics. Thanks to this device, the swamp creature is transfigured from a traditional bloodthirsty character (Di Liddo 51) - who is after revenge for his imprisonment into an alien body and the murder of his wife - into a plant monster.

In overcoming the ontological problem in the swamp monster and uncovering the plant characteristics in his new form, Moore resorts to the scientific developments peculiar to

his time and environment in order to augment his cognitive/creative capacity. More particularly, the author draws upon an experiment about planarian worms. This experiment conducted by James McConnell in 1962 focuses on the planarian worms to investigate whether learning is transferred when untrained worms consume the pieces of trained worms, and the study produces the intended results proving that learning is transferred from trained to untrained worms through cannibalism (Aleixo and Norris 39). Referring to the findings of that experiment, Dr. Woodrue unearths how the plants are infected by the scientist's consciousness and memory, and reveals the true identity of the monster.

The transmission of consciousness could also be related to the theory of the extended mind, which is in favor of the post-cognitivist view of cognition that offers alternative ways of exploring cognitive processes and redefining the borders of the mind. According to the new experimental findings, quite similar to the animals such as spiders that extend their cognitive capacities by transferring part of the information processing to their webs, plants could also extend their cognitive capacities into their environment by means of their root exudates and the microorganisms that are linked to the roots (Parise et al. 2-3). Analogously, in the narrative, with the help of their root systems and microorganisms in the swamp, the plants extend their minds into their environment where they merge with the bio-restorative formula, and Alec's consciousness and memory. To put it simply, the plants-plus-their root systems constitute the cognitive system. The altered plants, under the influence of Alec Holland's consciousness, try to shape themselves a body with the human skeleton and muscles from plant fibers, and duplicate organs like lungs, a heart, and a brain. As a result, Wein and Wrightson's Swamp Thing is reborn as a plant monster, not as a man turned into a plant.

Swamp Thing, thus, steps out of Wein and Wrightson's graphic world which imprisons him in the human body. Reading Dr. Woodrue's report prompts the creature to question his existence and self because he recognizes that he is now:

> a mass of plant fiber that had somehow been infected with the consciousness of Alec Holland. … just the moss-encrusted echo of a man. Not a man at all. … He's given up on being human. … He's a vegetable. He hasn't moved in a fortnight. He's put down taproots and stopped pretending to breathe. (42).

Moore's monster gives up being human and loses hope of retrieving his humanness. He starts the change in his self by abandoning the effort to build the human simulacrum. The disclosure of his true nature initiates another process, that of constructing new anatomy and physiology as a plant by reshaping the plant cells that he previously tried to give the human form. As part of the plantae, he mimics what the plant cells do such as developing a taproot system, adopting the plant respiratory system, and producing tubers.

In trying to revamp the swamp thing in the image of a plant monster, Moore incorporates the elements in the cultural arts along with seeking resources in science. The writer, as he himself puts it, draws on Francisco Goya's 1799 etching entitled *The Sleep of Reason Produces Monsters* (*Alan Moore: Conversations* 40). In the image, an artist is asleep at his drawing table and surrounded by bats, owls, and a lying lynx. The title of the work is written in front of the artist's desk in the image. Goya adds a caption to his picture expressing his vision of art and clarifying its message that "[i]magination abandoned by reason produces impossible monsters; united with her, she is the mother of the arts and source of their wonders" (Kuspit 78). In other words, for Goya, imagination should be combined with reason in producing art. Likewise, in order to eliminate the impossible in Wein and Wrightson's monster, Moore turns to science and the real-life horrors of his time, melding them with his imagination. In the introduction to *The Saga of the Swamp Thing*, the writer touches upon how horrors in the actual world become the source of the horror genre. As he explains in detail:

> [w]hile the AIDS virus sweeps through society with a chilling ease, … the shelves of our bookstores creak beneath the weight of plagues and infestations filling the pages they're forced to support - whether they be the plagues of rats, slugs, crabs, or centipedes that characterize the nastier end of the market or the real thing…While the radioactive clouds blow west and test-ban treaties go up in a mushroom of poisonous smoke, punk bands gob out splatter-movie imagery with a ferocity that at best signals hopeless defiance and at worst a preserve and nihilistic acceptance of the situation. (*Introduction to The Saga of the Swamp Thing* v)

His comment discloses the mechanics of his creative process, and the basis that his narratives are grounded. He claims that creativity is based upon the horrors that his audience is familiar with and a part of their real world. To put it differently, his cognitive/imaginative capacity covers the spatio-temporal aspects of his environment. Thus, Swamp Thing's monstrosity does not spring just from the writer's mind, but feeds

on the challenges and disasters in the actual world, and his response to them. In the documentary entitled *The Mindscape of Alan Moore* (2008), the writer unravels the way he expands the borders of his mindscape by

> link[ing] up the elements of fantasy horror from our imaginations [such as] werewolf, vampires, zombies and the like with real life horrors - racism, sexism, pollution, the collapse of the environment - and thus lend these social issues some of the weight that fantasy fiction could offer. (39.35-40)

This strategy allows the author to reinvent the creature by mingling what his mind and his environment offer him. As Moore himself puts it, it supplies the writer with new narrative materials such as exploring his physiology, his psychology, and his emotions as a plant. It also connects Swamp Thing to the actual world. The fantastic features of the plant monster not only appeal to the imagination, but also encompasses, as Moore touches upon in the introductory part of the narrative, the major environmental disasters of the time such as the radioactive cloud from Chernobyl, the failure of the test-ban treaties that bans the test of the nuclear weapons underwater and in the outer space, and the rapid increase of the AIDS virus (v-vi).

After acknowledging the plant facet in his identity and expanding his consciousness to the very heart of the natural world, he becomes a "green superhero" (Di Liddo 52) who fights against the anthropogenic activities of the humankind. Swamp Thing is able to detect a sense of foreignness or something harmful among the green. The danger in the green is Dr. Woodrue, who achieves his purpose to get access to the green after ingesting a piece of Swamp Thing's tubers. He is transformed into the Floronic Man, the voice of "the regret and anger" (82) of the wilderness. As soon as he attunes to the green world, he wages war against those who "[destroy] the creatures that would destroy [the natural world], that would destroy the ecosphere with their poisons and bulldozers" (81). The Floronic Man's rage is fueled by the environmental degradation triggered by the anthropocentric activities of the human. He starts exterminating the human/animal existence on earth by manipulating the green.

Nonetheless, Swamp Thing rebukes the Floronic Man for his ill desire for vengeance stating that [t]his … is not … the way … of the wilderness. This … is the way … of man" (96). Although the Floronic Man claims that he serves to the ends of the green, his mind and consciousness are overwhelmed by the human arrogance. Swamp Thing

reminds the Floronic Man of the fact that were he to destroy all the animals on the planet there would be no way left to change the oxygen back into carbon dioxide, which is an essential part of the plant life. The green villain reverses the binary of the human/animal and plant by objectifying the human/animal. Gray expresses as follows,

> Woodrue [the Floronic Man] inverts the epistemological schism between human subjectivity and objectified nature, reducing humans to 'screaming meat' [whereas] Swamp Thing [reiterates a] more relational understanding of biospherical interdependency, echoing ecosophical notions of harmony between humanity and nature. (cp. 3)

Swamp Thing's stress on the "intra-action" between the natural world and human/animal world immediately disrupts the Floronic Man's connection with the wilderness. He can no longer feel the presence of the green planet in his mind, leaving "a big hole as big as the world" (97) in his head.

The radical ontological transformation in the monster, thus, prevents the monster to be a mere product of imagination because Swamp Thing does not occupy just the imaginative world. He inherently contains the part of the actual world, which carries the potential of engulfing the readers/recipients into the storyworld. *The Saga of the Swamp Thing*, in this sense, turns out to be an arena for Moore and his collaborators Bissette and Totleben to discuss the natural devastation that characterizes and dominates the market in music, art and literature of their time. Moore's affective engagement with the environmental problems peculiar to his time extends into the genesis of the swamp thing, turning the narrative into an "ecological critique of the free-market Reagan-Thatcher years," demonstrating his participation in the "green activism" of his time (Bradshaw cp. 7). Even though the emergence of environmental movement both in the UK and USA goes back to the late nineteenth century, not until the 1970s environmentalism became a social movement. On the other hand, the same period also experienced a divide in the political strategy within the environmentalism movement of the time. As Sale explains in detail,

> [w]here mainstream organisations, including many of the older conservation groups, were becoming increasingly professionalised, focusing on lobbying, legislation and litigation, alternative groups perceived the incorporation of such 'envirocrats' into existing state institutions as compromising and undemocratic. They advocated grassroots community organising and direct action; it was these groups that grew in the 1980s in the face of the New Right backlash against

> existing environmental policies and commitments. Both the Reagan and Thatcher governments were antipathetic to state regulation and intervention in this area, seeing it as a threat to private enterprise. (58)

To put it briefly, these grassroot groups took action against the existing policies of the government that fail to promote environmental justice. Moore became a part of the green politics of the time as a consequence of the involvement of his collaborators in the local Northampton Green Party group, for which he illustrated some posters (Bradshaw cp. 7). The writer later decides to concentrate on his writing, and *The Saga of the Swamp Thing* is not only an embodiment of his imaginative activity, but his participation in the environmental movement of the 1980s as well. All in all, in recreating the saga of the monster, the writer investigates his environment and makes use of the embedded resources in scientific and socio-political environments, and in arts. He also turns to the horrors in real life such as plagues, infestations, and environmental degradations that characterize the age and the public taste in music, literature and cinema. Moore's swamp creature embodies the affective interplay between the writer and his environment, and is foregrounded by graphic agency. The interplay between them influences his creative process.

4.2. The Role of Graphic Agency in Fighting Against Imagining Swamp Thing's Multiplicious Ontology

The Saga of the Swamp Thing starts with "The Anatomy Lesson" in which Dr. Woodrue, like Moore, immediately starts to dissect the monster in order to examine a "human-vegetable hybrid" (20). The embodied simulation and the graphic details enable the readers/recipients to participate in the anatomy lesson, taking the scalpel. As a meticulous process, Dr. Woodrue delves into every organ and structure inside the creature. Intentionally located circular panel in the middle of the page in which his eyes are zoomed in amplifies his point of view and canalizes the readers/recipients into his mind. By means of the embodied simulation, which is enhanced by the drawings, readers/recipients simulate Dr. Woodrue's actions. In this way, the same neural structure in their brains becomes activated. Furthermore, the depiction of his facial expressions and their perception by the readers/recipients lead to a shared affective state. That is to say, the activation of mirror neurons in their brains results in experiencing and understanding the curiosity that he feels during the examination, and

the excitement when he resolves the mystery behind the genesis of the plant creature. The embodied simulation, at this point, enables a direct experiential understanding of Dr. Woodrue's actions, perceptions, and emotions (Gallese, "From Mirror Neurons to Interpersonal Relations" 9). Without any use of action-based descriptions, the drawings potentially engender an affective flow between the botanist and the readers/recipients. More precisely, they presumably hold and feel the lung of the monster in their hands, and become confused just like Dr. Woodrue upon seeing plant fibers instead of capillary tubes; place their hands to their forehead and feel lost when they fail to make sense of the existence of useless human organs.

The way Dr. Woodrue works in the laboratory projects how Moore reimagines the creature by scrutinizing every system inside him and studying their functions so as to uncover the problem as a preparatory procedure in the reimagining process. When examining the chest cavity, Dr. Woodrue sees human-like organs, but they are malfunctional:

> There were two large, pod-like structures…they look like lungs…but human lungs have tiny capillary tubes that let oxygen pass through into the blood…These are vegetable fibers. Vegetable fibers are too coarse to allow molecules of oxygen through in that way. These things suck and blow. They don't work. They're not lungs…the spongelike vegetable brain…Even without the bullet hole it couldn't possibly work. It had no synapse gaps…[and] the useless heart…the unworkable pseudo-kidneys. (21)

Dr. Woodrue tries to define the nature of the monster with a comparison to the human form, that is to say, through what is unhuman about his design. The creature develops configurations quite analogous to those of the human after being infected by the consciousness of Alec Holland. Although the pseudo-organs of the swamp monster such as the brain, the heart, and kidneys achieve a fully human appearance, they are not functional, but defective to the extent that leads to anomalous physiology and anatomy. The scientific evidence implies that Swamp Thing is a "pure simulacra," Alec Holland's "ersatz double" (McDonald and Vena 199) that tries to build an approximate resemblance of a man he was once. The autopsy, in this respect, discloses his un-humanness and hybridity. His un-human characteristics do not show him as a nonhuman other because the unhuman is not "a simplistic negation of the human, but a polymorphous, monstrous aberration of the unitary, humanistic and anthropocentric

subject form in its entirety" (Mazurov 262). The reciprocal interplay between the familiar and the unfamiliar in his body and mind is a way of challenging the assumptions of the singular bodies and minds, and as an embodiment of cohesively existing multispecies entities.

The medical vocabulary during the autopsy accompanied by the images augments the immersive capacity of the narrative, breaking the readers/recipients' imaginative resistance in visualizing the unordinary structure of the monster in their minds. Moreover, Moore's addition of the science fiction angle to the monster's transfiguration by referring to the actual experiment concerning the transmission of consciousness and memory both erases its narrative limitations and contributes to the ontological status of the monster. According to Dr. Woodrue's explanation based upon the study on planarian worms, the root systems of the plants altered by the bio-restorative formula ingest the remains of the scientist after the explosion, and consequently, his memory and consciousness are transmitted to them. The remains of Alec Holland and the plants altered by the formula constitute the swamp thing. He contains multiplicities disclosed by the scientific information provided by the botanist and underlined by Bissette and Totleben's drawings.

Dr. Woodrue's lecture in "The Anatomy Lesson" begins with the instruction to "imagine," (25) disposing the readers/recipients to pay attention to the drawings. His narration of the blast in the scientist's cabin is isometrically divided into sequential panels. Nonetheless, as soon as the narrative starts recounting the scientist's alteration, the vertical or horizontal division of panels disappears. Bissette's and Totleben structural design of page 25 (fg.1) imitates the verbal narration and the process of transformation in the sense that the panels on this page extend beyond the frame into the gutter and the other panel at the bottom of the page. The page forms overlapping panels that indicate the entanglement of the inhabitants of the bayou and the scientist. Also, in the sequence depicting Dr. Woodrue's account of Swamp Thing's real genesis,

> [the] perspective shifts from that of an observer to the detailed close-up of a microscope. We read … from the upper right hand corner diagonally down to the lower left hand corner and then across to the lower right hand corner, our eyes

Figure 1. Dr. Woodrue narrates the swamp thing's transformation process.

> drifting downward following Holland's burning grimace … as it sinks into the murky … depths of the swamp—a rictus of agony transforming into the fixed stare and hollow grin of a recognizable skull that then further disintegrates into its watery surround. (Bealor 122-23)

The microscopical perspective projects how the scientist's consciousness and memory, "the chemical soup" (18), microorganisms and the flora in the bayou, all form a new assemblage. The experience that the "vegetable embryo" (Bealor 123) undergoes is a testimony to the co-emergence of the monster emphasized by the lack of panels that divide the storyworld of the swamp creature, and by the lack of speech bubbles.

The unframed and without-a-gutter panels and interpenetrating images appear on the next page (fg.2) too as the metamorphosis of the swamp monster continues. To guide the readers/recipients in picturing his revival as the plant monster, Bissette and Totleben's detailed drawings along with the words propel them to follow every step in his transformation:

> [i]magine that cloudy, confused intelligence, possibly with only the vaguest notion of self, *trying to make sense of its new environment…gradually shaping the plant cells* that it now inhabits into a shape that it's more comfortable with… Gradually shaping the plant cells that it now inhabits into a shape that it's more comfortable with. (*emphasis added*, 26)

The consumption of Alec Holland's remains and consciousness by the plants, and their act of replicating the human organs though they are nothing more than nonfunctional fibers designate their self-regulatory activity to preserve their maintenance. All in the bayou made up of Alec Holland's body and consciousness, the microorganisms, and the chemical fluid constitute a new environment for the transmuted plants by the same forces. They try to make sense of this new environment and realize a reciprocal relationship with their surroundings. It suggests purposefulness and self-maintenance in the modified plants for the continuity of their existence. The activity of sense-making, the enactivist idea avers, is a mark of cognition, and is also affective. As Colombetti notes,

> the claim is not that all living systems, including the simplest ones, have emotions. The claim is rather that even the simplest living systems have a capacity to be sensitive to what matters to them, and in this sense they are affective. Nor is the claim that even the simplest living systems are conscious; rather, the simplest living systems already realize a relationship with themselves

> and the world in which they are situated that entails purposefulness and concern for their existence. But such purposefulness and concern need not be accompanied by consciousness; rather, they ought to be understood as properties of a specific organization that sets up an *asymmetry* between the living system and the rest of the world, which consists in a perspective or point of view from which the world acquires meaning. (*The Feeling Body* 2)

To put it briefly, according to enactivism, the sense-making activity of an organism so as to maintain itself as an autonomous and self-organizing system "coupled" (Clark and Chalmers, "The Extended Mind" 8) to the environment is affective. The concerned and purposeful act for viability and continuity indicates that it also 'cares.' The living system is able to detect and distinguish what is needed or suitable for its maintenance. Its ability to discriminate and evaluate is the remark of cognitive-affective capacity that requires the living system to be 'affected' by the suitability of an event or the environment. As a self-maintaining living being, the swamp thing, similarly, "enact" or "bring forth" (Thompson xxvii) his own cognitive domain by his autonomous agency and coupling with his environment.

Along with his struggle to build the human skeleton, after reading about Dr. Woodrue's diagnosis about his genesis, Swamp Thing returns to the bayou in Louisiana, where he surrenders to plant cells by producing tubers and converting to photosynthesis, or in Woodrue's words, abandoning "the illusion of meathood and sinking back into and welcoming the green" (43). This next step in discovering his new identity exemplifies the endeavor to construct an Umwelt pertaining to the self-regulatory system of organisms. The idea of Umwelt, to Colombetti, is thoroughly affective in the sense that it is not a world that is neutral; it is rather a world of significance that strikes the organism with regard to its purpose of self-maintenance (*The Feeling Body* 18-19). To support her claim, she refers to Damasio's characterizations of emotions as the branches of a tree, whose lowest part of the trunk is composed of basic organismic self-organization processes such as metabolism or homeostasis shared by all living systems. In the multi-branched tree of emotions, Damasio portrays emotions from the simplest to the complex. Simple emotional responses which are located in the lowest part of the tree-image are present in all living organisms; to illustrate, a paramecium, a simple unicellular organism with all body but no brain or mind, swims away from a possible

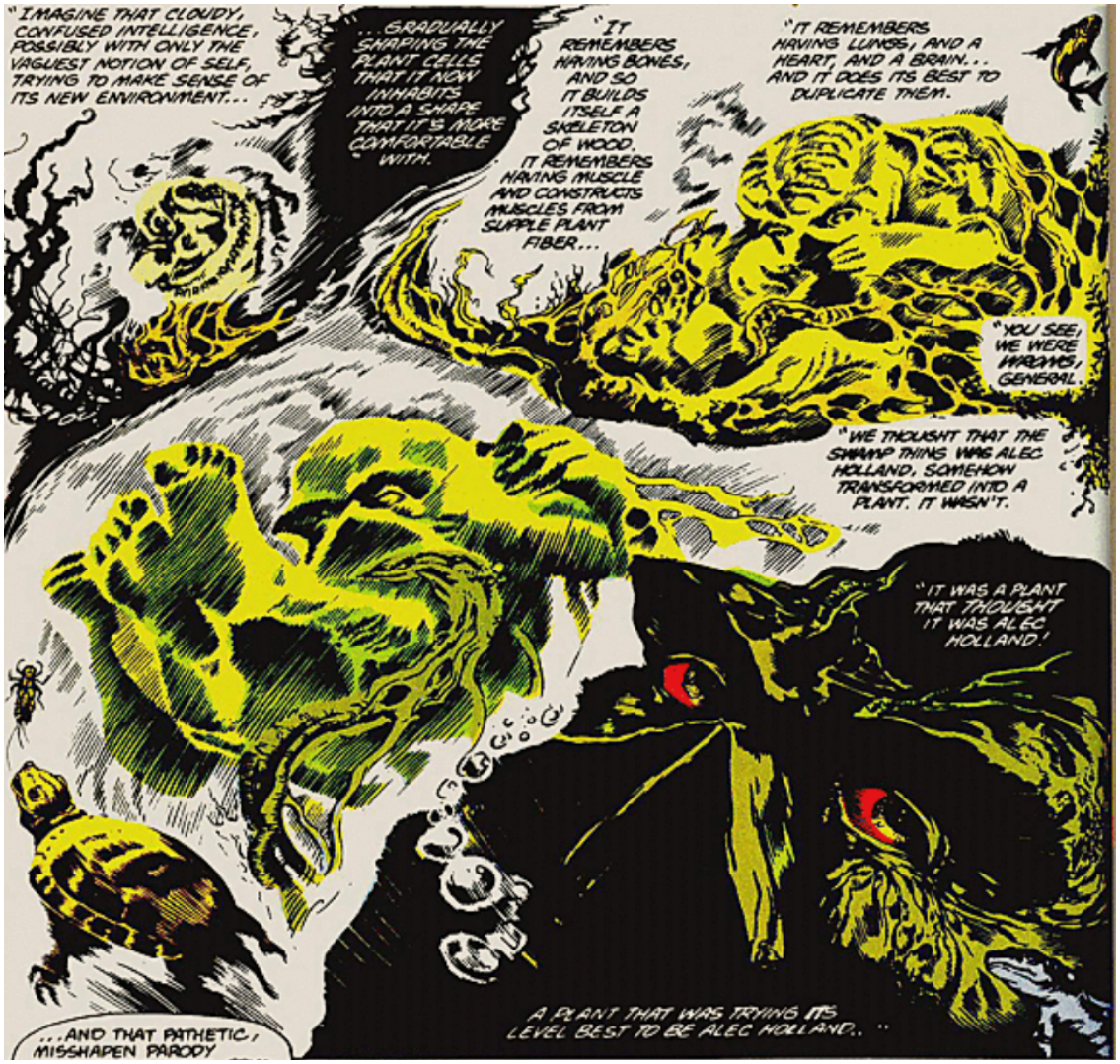

Figure 2. Swamp Thing's metamorphosis.

danger such as a poking needle, or too many vibrations, or too much/little heat, or towards nutrients (*Looking for Spinoza* 67-84). In Damasio's discussion of emotions, Colombetti calls attention to the fact that Damasio's conception of emotion is broader than the one embraced in affective science, and more importantly, is in compliance with the enactive claim that metabolism and homeostasis as fundamental life-maintenance processes are indicative of mentality and constitutive of a level of existence that can already be regarded as affective.

Therefore, the enactive affectivity and the act of building an Umwelt unearth Swamp Thing's affective and autopoietic capacity to organize his environment. To possess a different cognitive system, as in the case of the swamp monster with malfunctional

organs and a humanoid structure, does not make him a lower version of the human devoid of reason and autonomous agency because thinking, as Braidotti states, is not "the prerogative of the antropos" ("Posthuman Neo-materialism and Affirmation" 23). The enactive and affective interaction of the swamp thing with his environment evinces its "trans-corporeality," which means that all creatures are embodied and intermeshed with the material world as a consequence of the dynamic interchange with the environment which crosses through them and transforms them (Alaimo, "Trans-corporeality" 435-36). The monster's quick shift from one form to another hints at the permeability of identities and casts doubt on the delusion of fixed standards of existence.

On the other hand, McDonald and Vena suggest that Moore's reconceptualization of Swamp Thing transforms the monster into a "thing; an obdurate entity that does not easily adhere to rigid classifications of 'human' or 'plant,' of 'animate' or 'inanimate,' of 'original' or 'copy.'" They argue that the inclination throughout the narrative to determine whether Swamp Thing is a vegetable, a plant monster, or a humanoid plant only serves to the end of categorizing the organic matter relying on dualistic and anthropocentric orthodoxies (202). However, while trying to show how erroneous to classify Swamp Thing as either a plant or a human, their reading of the monster as a thing, though the word demonstrates its "imponderable, slightly creepy what-is-it-ness," (Plotz 110) is still not inclusive and comprehensive to denote his complexity and multiplicity. Thanks to its trans-corporeal body and identity that cannot be captured by the labels of the human-vegetable hybrid, the plant monster, or a-man-turned into plant, or a thing, Swamp Thing emerges, as Ferrando articulates, as a posthuman multiverse.

Swamp Thing's identity crisis which manifests itself as a sense of insecure and unstable Self plunges other storyworld inhabitants into that state as well, aggravating its degree and making it more difficult for the creature to overcome. Despite the scientifically proven plantness of the creature, Abigail Cable, a friend of Alec Holland, insists that Swamp Thing is a human, "the most loving, the most gentle, the most *human* man" (51). Swamp creature reprimands her when she calls him Alec, restating the fact that he is not Alec, which is a reminder also for himself and for the reader/recipients so as not to make the same mistake with Abigail. Dr. Woodrue's diagnosis that the swamp

monster is suffering from a "psychological setback" (42) after losing the hope of regaining his humanity negates her claim. Also, the graphic details portraying the monster as indistinctive from the green aids and endorses his explanation. Thus, in Book Two "Swamped," it is impossible to separate the background and the swamp thing since the layers of the creature interlaced with his environment, blurring the distinction between them. Confronting the fact that he is no longer a human, the swamp thing feels at peace with his new identity as a plant, retrieving into the Louisiana bayou. He becomes rooted in the swamp, producing edible yams, and being inhabited by insects.

Nonetheless, Swamp Thing's inner peace is interrupted by the intrusion of "another mind in[to] the green … crawl[ing] like cancer … painting everything with the sticky darkness of old blood" (67). The disturbance is the Floronic man, who connects his mind to the world of the green by consuming the swamp thing's tubers. He resolves to destroy the human world by exploiting the power of the green. Swamp Thing is enraged by the Floronic Man's intrusion into the green, perceiving the green villain's act as an interference in claiming a single, definite identity for himself. As the swamp monster explains,

> [h]e took…my humanity…away from me…caused so much agony…and when I thought the agony was…over, …he wanted that as well … They wouldn't let me be human and I became...a monster... but they wouldn't let me be a monster...so I became a plant. And now... you won't let me...be a plant. (74)

Swamp Thing utilizes his own body as his own Umwelt by modifying and shaping a meaningful niche in which he finds peace and creates a new self, leaving behind his identity and past experiences. His state is delienated as a form of nonresistance and submission, which shows Dr. Woodrue's conclusion about Swamp Thing's true identity as hypothetical.

Throughout the process of his becoming "swamped," (57) the drawings which depict his actions and emotions contribute to a simulation-based empathic engagement of the readers/recipients with the monster. On page 31, upon the revelation that the creature loses its humanity forever, the narrative conveys the cascade of fury hinted at his facial expressions and bodily postures. The graphic details loaded with emotive cues have the

capacity to stimulate the mirroring process which leads to the readers/recipients' engagement with the creature:

> [b]y internally imitating the facial expressions of others, mirror neurons enable the reader to activate the neural pathways for the associated emotions and directly 'feel what the character feels'. This mirroring process is what enables us to gain an understanding of the mental states of another individual, whether they are real or fictional. (Clay and Iacoboni, "Mirroring Fictional Others" 322)

The monster appears before his enemy with red eyes, and a gigantic, muscled body covered with fibers. The dark gap instead of a mouth creates the impression of a sudden and quick movement to swallow his foe. The panels on the next page, increasing the scale of the monster's eyes and the definitely depicted mouth, totally concentrate on the anger on his face. Therefore, the rage reflected on his eyes and mouth fills the whole panels on page 32. The big red eyes and the clenched teeth covering the whole page canalize the readers/recipients into the anger that he deeply feels, and engender the affective flow between the swamp monster and the readers/recipients. The drawings thus have the capacity to initiate the mirroring process and readers/recipients' empathic engagement with the monster. They enable them to look underneath the source of the terror the creature causes.

On the following two pages, the scale of the drawings focusing on the monster's face and the magnitude of the horror in the scene are equally proportioned. The horrific revenge of the monster is divided into panels rather than a full depiction (fg.3). The division of the horror in panels, and the gutters between them activate the imagination of the readers/recipients by predisposing them to connect these seemingly unconnected moments, and mentally reconstruct a continuous and coherent story. The readers/recipients, as the "equal partner in crime," (McCloud 68) complete the missing scenes that take place between the panels when "the other-oriented perspective-taking" (Coplan 6) happens and the readers/recipients are able to see the horror through his eyes. The narrator, with the phrase that "I don't know if there will be blood," (36) invites the readers/recipients to determine the degree of the terror which starts with the monster burning down everything and catching "the old reptile" (36).

The multimodal narration prompts the readers/recipients to visualize a counter transfiguration, that of Dr. Woodrue's. Also known as the Floronic Man in the DC

comic world, he is a shape-shifter with the ability to dissolve his skin and communicate with plants. Though he defines himself as a prominent botanist, what he seeks is to satisfy his "hunger for that green and silent eternity" (43). As his intelligence remains too human and "too far removed from the viridian state of grace," (52) he needs an intermediary to connect his mind with the wilderness in order to take complete control of it, through which he plans to destroy the other-than-plant life. By devouring the swamp monster's tuber, he commences the process of his alteration. He describes it as follows,

> I...am...the plant...and beyond the plant? The grass outside...I lie a million silver blades threatening the moon and...and the trees! I...am...the trees. A boa of moss hangs about my shoulders...I feel the intricate genius of the lianas...the giant, timeless wisdom of...the redwoods? … How far am I reaching?...I am withering with a yellow arctic poppy, up the slope of Alaska. So cold....I drift with the seaweed, off Samoa. Somewhere in Russia I incline toward the sun as a field of sighing gold...feel the chrome dustiness of Australia... of Africa...or the Amazon basin. (58-60)

He emerges as the Floronic Man, a human-plant hybrid, by being "engulfed" and "swamped," (60) imitating the swamp creature's metamorphosis. Nevertheless, the Floronic Man's entanglement with the green mind results in a premeditated crime to destroy the non-plant life on behalf of the green. He becomes "an eco-terrorist," who is motivated for revenge against the human, a notion that "metastasizes into a form of cancerous biophilia" (Krinsky 231). The destruction of the non-plantae starts with the imprisonment of the inhabitants in their houses, which are airtightly closed by the rapid growth of moss and vine. The potted plants in these houses, upon the Floronic Man's order, accelerate their production of oxygen at an alarming rate causing the inhabitants to be poisoned by the hyper oxygen, which ultimately ends in their death. The Floronic Man attempts to justify his violent actions by regarding the desire of the green and himself as the "green's servant" (96).

Swamp Thing, eventually embracing his true identity, senses and detects something red and foreign invading the green mind. In the middle of his "madness," (97) Swamp Thing warns The Floronic Man that the plants need the humans and animals for changing the oxygen into carbon dioxide that the plants need to survive (96-97).

Figure 3. Swamp Thing avenges the loss of his humanity and his wife's death by killing the head of the Sunderland Company.

The Floronic Man experiences a moment of epiphany in that he acknowledges that the destruction that he inflicts on the non-plant life in return destroys the plant life since there exists a kind of "parasitism," or "a universal cannibalism," that resides in the domain of the living beings, it nourishes itself without noticing that it needs other modes of existence. In fact, his actions are not motivated by a sense of interrelatedness with the plant world. Considering that he is a botanist, it is nothing more than sheer "madness" (97) that he fails to recognize the symbiosis and entanglement in the planet. Suddenly after that revelation, he loses his connection with the green in his mind. As opposed to Swamp Thing's, the Floronic Man's ontological change fails to achieve a full "coupling" to the green since it manifests itself as a fatal flaw that leads to his un-attunement from the wilderness.

In their affective encounter with the Floronic Man, the readers/recipients simulate his actions and facial expressions revealing the motives behind his evildoings even though the narrative depicts him as the Swamp Thing's "evil Doppelgänger" (Ecke cp. 3). As a consequence of the augmented effect of the multimodal narration that likely triggers the affective flow between the readers/recipients and the Floronic Man, the readers/recipients feel what the Floronic Man feels when he expresses his hatred for the human race through the following words:

> I am one with the wilderness…Its will works through me. For I asked of it, saying "what would you have me do?" And it said "purify." And it said "destroy." Destroy the creatures that would destroy us, that would destroy the ecosphere with their poisons and bulldozers! Cut them down, like blighted wood. Let us have another green world! (81).

Tough The Floronic Man is an unsympathetic character, the readers/recipients at first accompany "Wood-rue" (81) during his devastation of the human/animal world, and later most likely suppress the mirroring either through "control mechanisms" or "super mirror neurons" (Clay and Iacoboni, "Mirroring Fictional Others" 325). The scene in which Woodrue is no longer able to feel the presence of the green within his mind at the same time cuts the affective flow between Woodrue and the readers/recipients.

The narrative, in this sense, offers a verbo-pictorial narration of the two contrasting transformations, those of Wein and Wrightson's swamp thing into the plant monster, and of Dr. Woodrue into the Floronic Man. The multimodal depiction allows the

readers/recipients to "enact" (Caracciolo, "Narrative, Meaning, Interpretation" 10) the strangeness of the (un)familiar storyworlds in a more multifaceted and intense way compared to novels and movies as the degree and duration of mirroring elicited by the verbal narration differs from the visual narratives. The verbal description of actions and feelings of storyworld inhabitants carries the potential of activating the mirror neurons. However, experimental studies draw attention to the discrepancies between the verbal and visual narration with regard to the spatial extent and magnitude of activation of mirror neurons. As Clay and Iacoboni explicates:

> [w]hile we watch somebody grasping a cup of coffee, we perceive a specific hand, a specific cup, and a specific grasping action. In contrast, when we read the sentence 'He grasped the cup of coffee', we are given a much more abstract description of somebody grasping a cup. Indeed, while there is a large overlap in premotor activation for both videos showing actions and sentences describing actions, the activation associated with the latter tends to shift slightly anteriorly and is slightly reduced in magnitude. This may be due to the fact that when reading the sentence describing a grasping action, we may simulate only some aspects of the grasping action without simulating the action in all its details. ("Mirroring Fictional Others" 325-26)

In the above example, it is claimed that the affectivity between readers/recipients and storyworlds is low in verbal narration; and therefore, the novels have a low empathy load when compared to films. However, the researchers mentioned in the study reconsider the immersive capacity of verbal narration and draw attention to the duration. Accordingly, whereas the intensity of mirroring activity may be very high during the approximately two-hour period of a typical film, readers take much longer to read a novel across multiple time periods. Whenever they resume reading, they most likely revisualize what they have read previously. Hence, while watching might offer a higher intensity of mirror neuron activity, the mirroring during reading novels is more extended in time (Clay and Iacoboni, "Mirroring Fictional Others" 325-26).

In this respect, graphic narratives providing a verbo-pictorial narrative experience have the capacity to present a more powerful mirroring experience both in terms of duration and intensity than reading and watching. To participate in the autopsy with Dr. Woodrue's meticulous approach, and for the readers/recipients under the influence of anthropocentrism to enter into the multiplicity of storyworlds in Swamp Thing's body/mind require to simulate these processes in all details, which only the multimodal

narration offers. Moore, Bissette and Totleben, anticipating the difficulty particularly for Wein and Wrightson's readers/recipients in reimagining Swamp Thing as a plant monster gradually depict the dehumanization of the monster which serves as a way of achieving affective-matching to some extent.

4.3. Swamp Thing: The Vegetalization of the Human Mind and Body

Swamp Thing and The Floronic Man's vegetal ontologies form the basis of the discussion about critical plant studies and posthumanism together in this part. As a newly emerging field, critical plant studies, casts doubt on the traditional zoocentric understanding of plants as passive and lacking decision-making ability by drawing attention to the scientific evidence concerning their being as dynamic and sentient entities. Resting on the critical plant studies, this subsection traces how human thinking and body are dehumanized and rendered plant-like in Swamp Thing, transfigured by the ongoing symbiotic encounter among the various life forms. The graphic details functioning as a microscopic examination into the plant cells and a close insight into the plant mind are effective in removing the imaginative barrier in readers/recipients' immersion into the plantae, especially when the mute and alien world of flora is taken into consideration.

Critical plant studies, both in theory and practice, is concerned with the unquestionably accepted ontological otherness of plants to animals. Compared to animals, plants, as Marder puts forward, "have populated the margin of the margin, the zone of absolute obscurity undetectable on the radars of our conceptualities" (*Plant-Thinking* 2) throughout the Western thought. Critical plant studies not only defamiliarizes the traditional perception of plants as passive but also help posthumanism in putting into question the centrality and exceptionality of the human as the only agent with a unique body structure and cognitive capacities. By underscoring the vegetal agency, the field rethinks the understanding of the plant life and the human/plant relation. It aims to demonstrate how the concepts and characteristics attributed solely to the human/animal are "vegetalized" (Lawrence 636) by offering a broader perspective to the plant world. By doing so, it seeks a renewed interest in the ethical and philosophical treatment of plants.

The knowledge regarding the plant world was basically limited to what Plato and Aristotle claim about them until negated by the recent findings in neurobiology and plant science. In *Timaeus*, Plato contends that the plant "partakes of life;" on the other hand, it is "passive," sessile, lacking opinion and mind, existing to be food for the human (1809). The Platonic portrait of plants as the lowest form of the livings reappears in the Aristotelian Chain of Being, in which plants reside in a place between the animate and inanimate entities (6). *On the Parts of Animals*, Aristotle regards animals as higher than plants because animals possess similarities with the highest form of life, that is, the human. In other words, they are deemed to be lower than animals because of their being devoid of movement and sensation while they are bestowed with life compared with other corporeal beings. They are supposed to possess animal-like characteristics so as to be included among the living organisms.

The plant-life seems to offer the human nothing to connect with the plantae. The bodily differences such as a mouth or eyes, arms or legs cause them to lead a life that closely differs from those of the human/animal. Neither their family relationships nor their reproduction system is identical to those of the human. The allegedly huge gap between the human/animal world and the plantae makes it impossible to bring them together. As Marder puts forward that although they are living creatures,

> we fail to detect the slightest resemblances to our life in them and, as a consequence of this failure, routinely pass a negative judgment on their worth, as well as on the place they occupy in the modern version of the "Great Chain of Being," from which both the everyday and the scientific ways of thinking have not yet completely emancipated themselves. (*Plant-Thinking* 3)

To put it differently, resemblance to the human measures their worth and determines their place among the living. The interaction between the human and plant is predicated upon and limited to the dependence of the human on plants for their survival. Marder touches upon the limits of the human-plant relationship as follows:

> Humans, to be sure, join in communities, ecosystems, and rhizomatic assemblages with plants, but these multifaceted interactive formations do not usually involve a compassionate rapport. It is thus questionable whether one can be *with* the plants at all, precisely because the prospects of "suffering with" them are severely restricted. ("The Life of Plants" 261)

The principal reason for the gap between them is the otherness of the plant body and life, which erases any slight potential or possibility to form an affective interchange between them. The failure of finding any similarity between the human and plant creates a sense of disconnection with the plant world, making it difficult to enter into the plant world and to identify with them in narratives. Hence, the influence of this limited human-plant relationship also extends to narratives. The scarcity of plants as subjects in Western literature especially when contrasted with the abundance of animals as narrators or storyworld characters as a consequence of the analogies between the human and animal existence in many respects may result from Aristotle's positioning of plants in a liminal zone between animate and inanimate (Laist and College 11- 12). Nonetheless, the anthropocentric prejudice and resistance to acknowledge the experimental knowledge which uncovers the inherent potentiality of plants as intelligent and sentient organisms possibly form a major barrier to embrace the agentic capacity of plants as well.

The otherness of the plant against the near-sameness of the human and animal imprisons plants in another form of otherness, that is to say, in a monstrous body populating horror and science-fiction narratives. Keetley develops a plant monster theory, explaining the reasons behind the monstrous depiction of plants in narratives. According to it, the humans in the actual world are unable to form the kinship that they have with the animals because the plants represent complete otherness. They remain outside the human perception because of the difference in their physiology and anatomy. This does not mean that they are absent. However, the human suffers from "plant blindness," (Wandersee and Schussler 86) which arises from the deep-rooted tendency to see plants as passive, invisible and harmless. Their otherness and the anthropocentric insistence to acknowledge their agency cause the depiction of plants as monstrous. In spite of their invisibility at the beginning, plants create horror with their uncontrollable growth, overspreading everywhere. Plants are also oppressed as well, exploited and destroyed in favor of the human survival. Not surprisingly, plant horror manifests itself in narratives with a vengeful return, threatening as a potential force of both the repressed and oppressed. Plant horror may always emerge not in the form of a discernible monstrous entity, but without a recognizable and obvious agent. The source of the horror can be the revenge of the vegetable life or the projection of anthropocentrism (Keetley 6-20).

Nevertheless, new insights into the plant world which help erase the rooted perception of plants as a pure embodiment of monstrosity and as mere objects have lately gained momentum within the scope of critical studies and philosophical debates.

Advances in a recent field of inquiry called plant neurobiology aspire to destroy the exclusionary perception and reductive attitude of the Aristotelian tradition, which has survived to the present day. The field paves the way for a rediscovery of plants which radically differs from the conventional understanding of these so-called mute and passive entities. By redefining the concepts like intelligence, sentience, brain, and consciousness from the plants' eye-view, the studies in this field aim to validate by experimentation the plants as intelligent and sentient organisms, which shapes the perspectives of critical plant studies. Relying on the findings of plant neurobiology, critical plant studies calls for a reconfiguration of these anthropocentric terms and an understanding of the plants which is distanced from the hierarchical chain of being.

Correspondingly, the multimodal depiction of the vegetalization of Alec Holland's body and mind helps the readers/recipients rediscover the plant (story)world and remove the barriers in reimagining his doubly othered body on account of both his plantness and monstrosity. At the beginning of Swamp Thing's transformation, the altered plant cells by the formula demonstrate resistance to the vegetalization process under the influence of Alec Holland's consciousness. Therefore, their first endeavor is to construct a human skeleton and duplicate the human organs, all of which are made up of "supple plant fibers" (26). At first, Dr. Woodrue, despite being a botanist and examining a human-vegetable hybrid creature like himself, is unable to recognize the plant anatomical and physiological formation inside the monster. He fails to make sense of the humanized, non-functional organs inside the monster. He later uncovers the real genesis of the creature drawing from an experiment on animals. His initial approach to the swamp monster serves as a reminder of the anthropocentric barriers in imagining the alien and unfamiliar plant body when compared to those of the human/animal. It is related to the human tendency to search for the familiar, avoiding the alien.

In the conflict between the human and plant inside the swamp thing, the domineering human consciousness disposes the plant cells to develop human organs even though a plant body does not possess individual organs such as a brain, a heart, lungs, or kidneys.

The fact that plants do not have individual organs is a part of their survival mechanism because a removal or injury as a result of an attack by herbivores would put the entire organism in jeopardy. As Mancuso and Viola explain that

> [a] plant's functions are not related to organs—which means plants breathe without having lungs, nourish themselves without having a mouth or stomach, stand erect without having a skeleton, … It's because of this very special physiology that large portions of a plant can be removed without putting its survival at risk …One consequence of their having a structure so different from ours is that plants seem very distant from us, alien, to the point that sometimes it's even hard for us to remember they're alive. The fact that we share with almost all animals a brain, a heart, one or more mouths, lungs, stomachs makes them seem close and comprehensible. (cp. 2-5)

Rather than a form of agentic capacity, the distinctive physiology of plants which is based on different principles from those of the human/animal is regarded as an absence within humanism and the anthropocentric thinking that condemn them to the lowest part of the living pyramid. The fact that they do not have functional organs similar to the human such as a brain, a heart, and kidneys does not mean that they are inferior to the human/animal because it is a result of their complex and special physiology that allows them to survive any outside attack. To regard their difference in their structure and anatomy as a lack or absence results in a failure of recognizing their complexity and more-than-human agency.

Within the anthropocentric and zoocentric borders, any attempt to imitate the human body results in failure, just like the altered plant cells' endeavor to mimic the human form which culminates in a "pathetic misshapen parody," (26) or "a walking pile of mold and lichen and clotted weeds that thinks it's a rational man" (31). In an attempt "to be Alec Holland," (26) the plant cells of the swamp creature duplicate "unworkable" (21) pseudo-human organs. Nonetheless, Swamp Thing as a plant does not need these malfunctional human organs in order to survive or maintain his overall bodily functions. Hence, the pseudo-absence in the physiology of the swamp monster evokes a way of marginalization of the other-than-human bodies, whether it be a plant or a monster.

The established anthropocentric thinking, focusing just on the so-called exceptionality and singularity of the human, reduces the differences in the other-than-human bodies to a form of deficiency rather than a privilege. Dr. Woodrue, while revealing the plantness

of the swamp creature to the head of the Sunderland Company, intends to underscore the fact that

> [y]ou can't kill a vegetable by shooting it through the head…You could give it such a shock that it would plunge into a cellular coma. You could keep it in that state by placing it in a freezer unit…But you couldn't kill it" (29-30).

The head of the company neither "ha[s] the correct background" nor pays attention to the scientific information gathered by the botanist. Thus, he fails to anticipate the imminent danger awaiting him. He embraces the human insistence on the blindness to acknowledge the capacities peculiar to the plants, or what Mancuso and Viola call, "regenerative capacity" (cp. 2).

Since the plants exist beyond the point at which the human and animal worlds meet, it is not difficult to imagine the plants as monstrous. While the plant monster seems familiar in its anthropomorphized version, it is not enough to identify it outside the category of the other. On the other hand, the step-by-step depiction of Swamp Thing's metamorphosis in the drawings of the monster showcases that what makes Swamp Thing a complex monster is not only the alienness and unfamiliarity of the plant body in comparison to the human's but the simultaneous existence of both the plant and the human in its ontology as well. Though rewriting Swamp Thing's origin story by referring to the actual experiment on animals, Moore brings the human and plant together in a single body against the ongoing affinity between the human and animal, and later stages how the human is vegatalized. The author removes the strangeness in the plant monster by offering a chance to witness an experimental autopsy led by a botanist and a human-plant hybrid, and to get access to Swamp Thing's mind.

The pages about how Swamp Thing relinquishes "the illusion of meathood" and "welcoming the green" (43) are followed by the drawings that illustrate how the creature's consciousness ceases to be human and becomes "swamped" (57). Swamp Thing's giant eye sockets at the top of page 44 accompany the readers/recipients into his struggle to sustain his humanity by recalling Alec and Linda Holland's wedding day memories. As the mark of his confused human consciousness fighting against the plant cells, the key moments and points in his life ranging from his wife's death, the bio-restorative formula, and the planarian worms are mingled into a seemingly meaningless

pile of disconnected instants. Even though the narration continues with the alternating stories of Dr. Woodrue's "hunger" (43) for the green and Abigail's denial of Alec's vegetalization, the narrative continually concentrates on Swamp Thing's consciousness by focalizing on his eyes and gaze in order to delineate every phase of the greening of his mind.

On page 49, Alec in an attempt to save Linda carries the deceased body in her wedding gown into a macabre banquet where planarian worms consume Alec's corpse. They leave him "the best part," his humanity, no more than the skeleton, advising him not to lose it (50). He abandons his wife in order to bear the burden of his human part. In a parody of Hamlet's graveyard scene (Bealer 124), Swamp Thing questions the reason why he carries this "nagging" (56) skull with him, and the skull tries to convince him to run saying that

> I'm still worth all the effort, aren't I? After all, without me there'd be no point in running, would there?" and "This is the human race! You have to keep running or you get disqualified!...I'm your humanity, I'm important. I'm what keeps you going…I know I'm a little bit beaten up and battered. But I'm still worth all the effort, aren't I? After all, without me there'd no point in running, would there? (56)

The greening of his consciousness and mind turns into an inner conflict in which the human tries to dominate. Nevertheless, Swamp Thing does not surrender himself to the human part in his mind, becoming embedded in, inseparable and indistinctive from the green, and finally and totally "swamped" (57). The creature is reborn in "somewhere quiet…somewhere green and timeless" where he is "at peace" (63). As a sign that denotes the completion of the greening of his mind and body, he achieves the sense and state of being connected to the wilderness. His mind, "expanding out through the forgotten root systems," and "feeling its way through the filaments…the fibers," perceives the intrusion of another mind into the green which "crawls like cancer" (67, 73). Though the Floronic Man claims that his vengeful acts are in the name of the green, the intrusion of the human suggests the sickening of the green mind as anthropocentrism poses danger. Swamp Thing abandons his human consciousness and memories, and his mind is completely "swamped" after overcoming his inner conflict. However, he is unable to put an end to the anthropocentric intervention into the green.

That the mind of the monster is not separate from his body and works in tandem with the green hints that the monster is an embodied agent which is in close interaction with his environment. New experimental findings demonstrate that plants perform cognitive processes through fibers, filaments, and the root systems rather than a specific organ such as a brain to perform cognitive functions. This characteristic also separates them from the human and animals, erasing their inherent autopoietic capacity and making them closer to the inanimate. However, recent experimental evidence helps them to restore the dignity that they deserve from the very beginning, and overcome "the ethical neglect" (Marder, *Plant-Thinking* 5) that they suffer in science and philosophical discourse. Although the plants eat, breath, see, and taste without any specific organs as in the human and animal body, the human willingly espouses the belief that plants are unable to think as they are devoid of brains. Plant scientists, namely Stefano Mancuso and Alessandra Viola, going beyond the prejudice of the plants as brainless, cast doubt on the brain as the mere and only site for intelligence, and concentrate on whether a brain can function without a body (cp. 5). Such a nondualistic approach to the mind and intelligence collapses the humanistic bias against and removes the unfair judgment upon the plants. The fact that the mind goes beyond its boundaries gives rise to the possibilities for rethinking the plants as sentient and intelligent entities.

Reviving the Darwins' root-brain hypothesis, plant neurobiology reconsiders the false premise that the absence of a brain-like organ in plants culminates in their inability to cognize. In *The Power of Movements in Plants* (1880), Charles Darwin and Francis Darwin maintain that the root tip of plants functions as a brain-like organ as they explain it in the following quote,

> [i]t is hardly an exaggeration to say that the tip of the radicle thus endowed [with sensitivity] and having the power of directing the movements of the adjoining parts, acts like the brain of one of the lower animals; the brain being seated within the anterior end of the body, receiving impressions from the sense-organs, and directing the several movements. (573)

The Darwins, presenting no corroboration from anatomical evidence, suggests that the root tip perceives the environmental stimuli, discriminates them, and responds to them by growing the root. Their acknowledgement of the root tip acting like a command and decision center, directing several movements does not create an overriding impression

in favor of the agentic capacity of the plants. However, the empirical evidence in plant studies negates the notion that plants lack neurons and synapses, and it argues that plant cells have the capacity which is considered to be specific only to neurons in the human/animal brain. This "phyto-cerebrated" view of plants evinced by numerous data and results invalidates the classical perception of plants which locates them outside "the realm of cognitive, animated, animal living systems—a view which traces back to Aristotle" (Baluška et al. 1122). Likewise, Swamp Thing's "spongelike vegetable brain" with no "synapse gaps," and neurons (21) does not act like a decision-making and directing center. The lack of some brain-like information processing system that coordinates his behaviors and responses does not denote that Swamp Thing is incapable of cognition. As a part of his greening process, Swamp Thing abandons his human-infected consciousness and becomes "phyto-cerebrated." He extends his mind through "the forgotten root systems," "the filaments" and "the fibers," and seeks the danger threatening the green through them.

Furthermore, the experiments demonstrating the presence of a brain-like center in plants pave the way for the discovery of associative learning in plants. The studies with mimosa plants show that they have the ability to remember a stimulus such as a drop or a shake, decide whether a stimulus could be paid attention or safely ignored, and display the learned response after initial testing (Gagliano et al. 65-70). In line with this, it can be stated that through his root-brain, Swamp Thing remembers that he is confined in cryo-chest by the Sunderland company, and that Dr. Woodrue takes his humanity from him and causes so much agony in his life. The plant monster demonstrates the learned response by perceiving Dr. Woodrue as a danger to his survival and the wilderness, and regarding it as an external stimulus which should be stopped.

Therefore, the disclosure of learning by association in plants underscores the fact that brains and neurons are not essential requirements for learning, and the differences in anatomy and physiology do not mean a lack, or is not regarded as an inability to execute that particular function through the specific center. The discernible and observable results of the experiment, for plant neurobiologists, denote the presence of a certain kind of sentience peculiar to the plant life. At this point, concepts such as sentience, intelligence, and brain which have been defined according to the human world and

attributed merely to the human and higher animals so far encapsulate the plantae too. The experimental disclosure of associative learning in plants calls attention to "the distributed definitions of sentience [and] intelligence" which are defined as the ability to respond to environmental stimuli (Pollan).

Such a reconceptualization of intelligence as distributed to the body and environment unveils how the eradication of mind-body dualism extends into our perception of the plant world. In other words, by destroying the traditional explanations and borders of the term, the fact that intelligence incorporates head, body and environment manifests itself in the plantae as well. The discussion in this chapter, in this regard, revolves around the difficulty in emphasizing the complexity of the plants' bodily and cognitive capacities through human terms and terminology within critical plant studies and narrative theory. In an attempt to avert "backgrounding of herbality," (Houle 92) it adds the plant agency to the definition of storyworld as an "imagined totality" (Ryan, "Texts, Worlds, Stories" 13) rather than just the spatial setting. Hence, it maintains that Swamp Thing is more than an uncanny vegetal copy of Alec Holland, an embodiment of PHM(S)V, which is characterized not by its individual components, but assemblages.

CONCLUSION

The cataclysmic impacts of the environmental crisis, the outbreak of the pandemic, and the techno-scientific advancements underscore and attest to the complex interdependencies in bodies and the natural world. The ways of defining ontology are now replaced by the notions of the fluidity of identities, permeable boundaries between species, and interconnections between different forms of life which are previously deemed to be separate. However, much of the debate concerning the interrelation between the human and nonhuman is often discussed through the interaction among various agentic capacities in the environment, and within and across the human body. Besides entangled corporealities, it is necessary to draw attention to the wider and relational perspectives to the understanding of the mind and cognition, and its relation to econarratology and posthumanism. Although there have been a few attempts on this subject, it deserves more attention in terms of underscoring the interrelations between the human and nonhuman and the role of the other-than-mind forces in mental processes, and disclosing the difficulty in defining the nonhuman bodily and cognitive capacities through the human terms and terminology. This study has contributed to the subject both by referring to the new approaches to the mental processes and the mind, and co-opting them in reworking writers' and readers/recipients' cognitive activities.

While the studies in the Humanities have focused on the animals, things, and monsters, and give ethical consideration to the understanding of their worlds that they deserve, it is only recently that scholars have turned their attention to the plants as a result of a radical paradigm shift emerged with the latest scientific discoveries. The fact that cognition is not confined to an organism's brain or the nervous system, but extends into the outer world paves the way for the acknowledgement of the brain as not the only center for cognition, and leads to the overcoming of the bias that the plants are brainless and incapable of learning and memory. On the one hand, this new paradigm has led to the controversial debate between the members of the plant science community and the principal advocates of plant neurobiology over the plant intelligence and the root-brain hypothesis. On the other hand, it has gradually dissolved the hierarchical categorization of the plant as lower than the human/animal, exposing the fallacy of regarding the plants as sessile, non-sentient and passive entities existing just for the survival of the human.

This study, embracing these non-dualistic perspectives on cognition and agency, concentrates on different facets of the other-than-human agency - including the animal, the disabled and the plant - in each chapter, and the narratives under consideration have accordingly been selected. The first chapter deals with the Woodworm's view of the flood story which recounts the persecution of the animals by the human. The nonhuman narration of the familiar story reveals that anthropocentrism lies at root of empathy inhibition. Also, Barnes's account of the transformation of catastrophe into art is analyzed in the light of the 4EA cognition. Barnes showcases how the artists' cognitive/imaginative capacities transform catastrophe into art when the aspects of the physical and socio-cultural environment act upon their mental states, and an affective relationship is formed with their environment. By unearthing the nonhuman agency and other-than-mind forces at the foundation of the storyworld of *A History*, it has been argued that the narrative is, as Barnes also puts it, constituted as a whole. By doing so, this study has expanded and contributed to the research area of *A History* which is restricted to the discussions of history, postmodernism, and reconstruction focusing on single chapters rather than regarding the narrative as a whole.

The second chapter of this dissertation brings posthumanism, critical disability studies and monstrosity together. In *The Casebook*, one of Ackroyd's London novels, the city appears more than a passive background to the story and becomes an external aid that assists the author's cognitive/imaginative processes in reanimating Mary Shelley's monster. The agentic capacity of the city manifests itself in the simultaneous existence of the anomalous body of the city and Frankenstein's non-normative cognition added to the Monster's genesis. On the one hand, the corporeal anomaly of the Monster represents the deconstruction of the preconceived notions of the perfect and idealized human endorsed by humanism. On the other hand, the Monster's attempt to become a part of the human world suggests the disabled's desire to be acknowledged like the human in social life. Ackroyd's association of the Monster, London and Frankenstein with one another in the narrative, and the Monster's multiplicious ontology enable the readers to discover and experience the storyworlds of the city transformed into a monstrous body because of anthropogenic activities, and of Frankenstein's anomalous mind.

The last chapter integrates critical plant studies with posthumanism in order to study the other-than-mind forces during Moore's recreation of the swamp creature, and the impossibility of defining the plant anatomy and cognition through the human terminology and terms. The horror in the swamp thing's ontology originates from Moore's affective concern for the environmental devastation, and the scientific facet added to his genesis derives from Moore's incorporation of the scientific knowledge of his time into his cognitive/imaginative processes. Moreover, the multimodal narration in the narrative destroys the plant otherness in terms of plant physiology, anatomy and cognition by helping the readers/recipients to visualize the vegetalization of Alec Holland's body and mind. His metamorphosis is explained with the help of theories of enactive affectivity and extended mind which shed light on the entanglement of the human and nonhuman corporealities and the integration of other-than-mind forces into the mental processes.

Additionally, drawing from the main question at the basis of the extended mind theory: "Where does the mind stop and the rest of the world begin?" (Clark and Chalmers, "The Extended Mind" 7), this study concentrates on the boundaries of the mind and cognition. In the light of the theory of the 4EA cognition, it has argued that cognition becomes non-anthropocentric and post-human in that the cognitive processing goes beyond the borders of the mind and is distributed into the body and the environment. The environment plays an active role in the cognitive processes as cognition co-occurs with both the biological and non-biological forces. The incorporation of body and mind in cognitive activities, and their extension into the environment casts doubt on the validity of the binaries between the internal and external, the human and nonhuman, and the present and absent. The integration of the body and environment into the cognitive system, thus, makes it difficult to demarcate the borders of the mind and the conceptualization of the brain as an internal system and not extendable. Considering the fact that existing research on the 4EA cognition is limited to philosophy and cognitive translation studies, the present study contributes to fields of econarratology and posthumanism in terms of eliminating anthropocentric views of cognition and the mind, and covering the recent developments about the subject.

With a focus on the other-than-mind forces that view the boundaries of the human mind as fluid and extendable into the environment, this study has explored the externalist view of cognition in relation to the approaches to narratives, more particularly, to the elucidation of the term storyworld and the cognitive processes in its construction. It problematizes the definition of the term storyworld arguing that its constitutive elements in its structure and construction are not contained within its imaginary realm, and thus it despises the agentic capacity of the nonhuman within and outside its borders. In this regard, it also questions the boundaries of the concept of storyworld. For this purpose, it embraces other fields of inquiry including posthumanism and cognitive neuroscience to redefine the term according to the changes in approaches to narratives as a result of the change in the understanding of the universe and existence. The definition of the concept as "an imagined totality that evolves according to the events in the story" (Ryan, "Texts, Worlds, Stories" 13) excludes the agencies outside the imaginary environments, reducing it to a complete, neatly closed circle. Demarcating the boundaries of the storyworld - where it starts and ends or routes - is difficult since it is not limited to the borders of these imaginary worlds.

Relying on the idea of the "active externalism," (Clark and Chalmers, "The Extended Mind" 8) storyworld is, therefore, defined as an "imagined totality" that evolves according to the dynamic interplay between the forces inside and outside the imaginary environments that play an active role at the foundation and construction of storyworlds. Within the confines of storyworlds, narrative artifacts embedded in narratives and characteristics of these imaginary environments act as active agents through which readers/recipients immerse into storyworlds. The readers/recipients utilize the aspects of these imaginary environments to improve their cognitive/imaginative capacity and to make sense of the (story)worlds that they are not acquainted with. In this regard, they are regarded as aiding devices in imagining unknown minds and bodies. Their autopoietic capacity indicates that they do not act as objects filling the background, but affecting the cognitive/imaginative processes.

Along with its internal aspects and qualities, the boundaries of a storyworld are also determined by the forces outside the storyworld such as spatiotemporal dynamics that influence the writing and reading process. Writers incorporate the realities of the

changing world and real-life catastrophes - whether they be the current environmental crisis afflicting the whole life forms in the planet, pandemics challenging the human hegemony, wars influencing large scales and areas, techno-scientific advancements that bring new insights into the nonhuman worlds - into their creative activities. Barnes and Moore touch upon how they make the aspects of the actual world a part of their creativity. In writing *A History*, the historical documents in Barnes's archives lay bare the amount of the research the writer and his assistant Rebecca John carried out. Barnes's method of making use of the details from the actual world offers the writer to present them from a different perspective, those of the marginalized. Moore explains how the real-life horrors unfolding around the world and science characterize the content of the music, cinema and literature of the time. The technique of incorporating the real-life horrors into the narrative helps Moore, as he himself puts it, to create a different kind of horror which differs from the unfamiliar world of the horror comic books. It also offers a safe zone to experience the real-life horrors without being exposed to any harm, and understand their origins.

As writers' minds extend beyond the borders of their skin and skull out into the broader world and become integrated into the nonhuman world, they become extended agents, a coupling of a biological organism and external resources. At this point, the implied author in narratives, then, appears as an extended self in narratives constituted by the interplay among his/her mind, body, environment and affective states. This is why authors write, as Booth puts it, in "a different air" (71) in each narrative, sometimes projecting the mind of a dog, as Paul Auster does, or using even a breast as a focalizing character or narrator.

The limits of storyworlds do not end where the writer's mind stops extending into the narrative. They are also determined by the way readers/recipients exploit the features of their actual environment and integrate the impacts of the spatiotemporal dynamics into their reading experience. Also, readers/recipients' imaginative process is characterized by their affective states that emerge as a result of the embodied simulation and their empathic engagement with storyworld existents. The allurement and immersive capacity of narratives change over time, and depend on their reference to particular circumstances that cause paradigm shifts. This factor that affects both the writing and

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