Hacettepe University Graduate School of Social Sciences

Department of American Culture and Literature

POSTHUMANISM AND PRECARITY IN THE POST-2008 CRISIS SCIENCE FICTION NOVELS: PAOLO BACIGALUPI'S *THE WINDUP GIRL*, CORY DOCTOROW'S *WALKAWAY*, AND ANNALEE NEWITZ'S *AUTONOMOUS*

Şükran Eda MARANGOZ YEMENİCİ

Master's Thesis

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Şükran Eda MARANGOZ YEMENİCİ tarafından hazırlanan "Posthumanism and Precarity in the Post-2008 Crisis Science Fiction Novels: Paolo Bacigalupi's *The Windup Girl*, Cory Doctorow's *Walkaway*, and Annalee Newitz's *Autonomous*" başlıklı bu çalışma, 19.06.2023 tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak jürimiz tarafından Yüksek Lisans Tezi olarak kabul edilmiştir.

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Şükran Eda MARANGOZ YEMENİCİ

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Şükran Eda MARANGOZ YEMENİCİ

To my family…

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ABSTRACT

MARANGOZ YEMENİCİ, Şükran Eda. *Posthumanism and Precarity in the Post-2008 Crisis Science Fiction Novels: Paolo Bacigalupi's The Windup Girl, Cory Doctorow's Walkaway, and Annalee Newitz's Autonomous*, Master's Thesis, Ankara, 2023.

This thesis analyzes three science fiction (SF) novels Paolo Bacigalupi's *The Windup Girl* (2009), Cory Doctorow's *Walkaway* (2017), and Annalee Newitz's *Autonomous* (2017), through the concept of precarity as a shared vulnerability in light of posthumanism. These SF novels reflect the surging precarity in the aftermath of the Global Financial Crisis (2007-2008) and display how SF responds to precarity conditioned by economic structures and environmental problems with posthumanist elements. In the novels, this imaginative response to the crisis is shaped by the critical examination of the concept of vulnerability as a posthuman condition in post-disaster societies constructed as possible future worlds. As such, the works try to produce a criticism of capitalism by projecting critical dystopias with posthumanist elements which examine how to imagine the future after the collapse of capital and the global ecological systems. In the meantime, by questioning what it means to be human, each novel shows that the shared vulnerability of its characters transforms them into posthumans. This vulnerability manifests in the characters' embodied, embedded, affective and interconnected natures. Hence, this study argues that these critical dystopias not only harbor a quest for alternatives by concentrating on precarity, but they also suggest that potential utopian aspirations may emerge from a posthumanist perspective.

Keywords: Annalee Newitz, *Autonomous,* Cory Doctorow, Paolo Bacigalupi, Precarity, Science Fiction, The Global Financial Crisis, *The Windup Girl*, *Walkaway*

ÖZET

MARANGOZ YEMENİCİ, Şükran Eda. *2008 Krizi Sonrası Bilim Kurgu Eserlerinde Posthümanizm ve Güvencesizlik: Paolo Bacigalupi'nin The Windup Girl, Cory Doctorow'un Walkaway ve Annalee Newitz'in Autonomous Romanları*, Yüksek Lisans Tezi, Ankara, 2023.

Bu tez, Paolo Bacigalupi'nin *The Windup Girl* (2009), Annalee Newitz'in *Autonomous* (2017) ve Cory Doctorow'un *Walkaway* (2017) isimli bilim kurgu romanlarını, yakın dönem posthümanizm teorileri ışığında bir ortak kırılganlık unsuru olarak güvencesizlik kavramı üzerinden incelemektedir. Bu eserler, Küresel Finansal Krizin (2007-2008) ardından artan güvencesizliği yansıtırken öte yandan ekonomik yapılar ve çevre sorunları ile ortaya çıkan bu güvencesizliğin bilim kurgu üzerinde yarattığı etkiyi posthümanist ögeler aracılığıyla gözler önüne sermektedir. Krizin bu etkisi, söz konusu romanlarda yer alan gelecek tasvirlerindeki afet sonrası toplumların posthümanist bir özelliği olan kırılganlık kavramının eleştirel bir şekilde incelenmesiyle ortaya konmaktadır. Bu romanlarda, sermayenin ve küresel ekolojik sistemlerin çöküşünden sonraki olası bir geleceğin nasıl tasvir edileceğini sorgulayan ve posthümanist elementler içeren eleştirel distopyalar tasarlanarak bir kapitalizm eleştirisi ortaya konmaktadır. Bununla birlikte, romanların hepsinde insan olmanın ne anlama geldiği sorgulanarak, karakterlerin ortak kırılganlığının onları nasıl birer posthüman haline getirdiği de gösterilmektedir. Bu kırılganlık, karakterlerin bedenli (*embodied*), gömülü (*embedded*), duygulanımsal (*affective*) ve birbirine bağlı (*interconnected*) doğalarında da görülmektedir. Dolayısıyla bu çalışmada, söz konusu eleştirel distopyaların güvencesizliğe odaklanarak alternatif oluşturma çabası içerisindeyken zamanda posthümanist bakış açısından doğabilecek ütopik elementler arayışında olduğu ileri sürülmektedir.

Anahtar Sözcükler: Annalee Newitz, *Autonomous,* Bilimkurgu, Cory Doctorow, Güvencesizlik, Küresel Finansal Krizi, Paolo Bacigalupi, *The Windup Girl, Walkaway*

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INTRODUCTION

The Global Financial Crisis (also known as the GFC or the 2007-2008 Financial Crisis), which was followed by the Great Recession, not only led to the prominence of economic issues in public discourse and sparked off mass unrest all around the world but also had a profound influence on American literature. The crisis has generated a plethora of texts that map its symptoms, try to elucidate it, and provide remedies. Regardless of mentioning the crisis directly or indirectly, or not even mentioning it at all, various authors tended to produce crisis fiction[1] as a response to changes in economic situations by representing the challenges and tensions of the crisis in narrative form. In doing so, they also give a central place to economic and other similar issues such as inequality, precarity,[2] and indebtedness (Srnicek and Williams 48) in their narratives. Despite seeming like concepts belonging to the field of economics, these notions widely emerge as challenges in mainstream literature, thereby increasing the familiarity of the public with the economic issues. A brief look at these works reveals that, among and more than many others, the issue of precarity has come to the fore. Literary works portray precarity in a variety of ways such as reflecting the hardships of their characters, exploring emotional consequences, representing marginalized groups, and eventually criticizing capitalism.

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[1] Other than crisis fiction, a myriad of sub-genres emerge after the crisis with the titles of post-crisis novels, crunch-lit, crash fiction, post-crash fiction, finance fiction, and contemporary crisis fiction by various key theorists, such as Mirosław Aleksander Miernik, Katy Shaw, Daniel Mattingly, Annie Galvin, Laura Finch, and Emily Horton. They tackled the issues concerning the crisis "by way of representation, critique, and imagining alternatives to the status quo" (Galvin 2).

[2] It is stated that precarity is a term used to describe a state of living related to a variety of recent experiences and affects including temporary employment agreements, impending ecological disasters, state oppression and widespread anxiety (Hogg and Peterson 1). A particularly notable feature of contemporary life is its precarity as the actions of human have significantly altered the natural environment to an extent that the living conditions which have been taken for granted can no longer be considered to remain the same. For this reason, posthumanists often consider these anthropogenic effects as one of the main reasons of theorizing ourselves as posthuman (Jones and Jones 185). In this thesis, precarity refers to the shared vulnerability due to their socio-economic structure and environment.

This economic turn in literature could also be observed in the genre of science fiction (SF). In this respect, SF opens up new imaginative realms to envisage post-disaster societies that deal with the problem of precarity by shedding light on the social repercussions of the crisis. Given that literary responses to the crisis revolve around precarity, this thesis analyzes how SF works have reflected the concept of vulnerability as a posthuman condition by extrapolating economic imaginings which doom the society to social and financial failure. The three novels that this thesis focuses on, Paolo Bacigalupi's *The Windup Girl* (2009), Cory Doctorow's *Walkaway* (2017), and Annalee Newitz's *Autonomous* (2017), depict three different economic systems which create precarity. This precarity is presented as a shared sense of vulnerability because of an intricate network of interdependencies between humans and nonhumans in the face of common issues. This shared vulnerability refers to not only a unity binding all living organisms including nonhumans in a negative sense but also an affirmative bond which positions the subject within a web of relations with multiple others.

As three prominent writers of SF, Paolo Bacigalupi, Cory Doctorow, and Annalee Newitz delve into the impacts of technology on society and how potential futures may arise from the current trajectory by engaging with the themes of economics, climate change, and precarity. In doing so, they explore how biotechnology affects economic systems in the future, with *The Windup Girl* portraying a bioengineered food-controlled economy in a post-oil world, *Walkaway* presenting a post-scarcity society challenged by the commodification of digital consciousness, and *Autonomous* depicting a world dominated by corporate biotech patents and indentured servitude. Respectively, these economic systems are predicated on calories, merit, gift, reputation, patents and the labor of humans and robots. In these novels, biogenetic capitalism promotes the mutual interdependence of all living organisms by shifting from an anthropocentric approach towards an expansive conception of Life as *zoē*.

These three novels, all of which were written after the GFC, project critical dystopias focusing on how to imagine the future after the collapse of capital and the global ecological systems. This study examines how economic issues and ecological catastrophes depicted in these novels lead to bodily vulnerability, highlighting posthuman

characters' embodiment, embeddedness in technology, economic system and environments, their affective relationships, and temporal experiences. These works depict a myriad of characters forced to thrive in precarious conditions while emphasizing how biotechnology blurs the boundaries between human and machine, life and death, as well as the distinctions between the living and the nonliving. In *The Windup Girl*, the New People, megodonts and yellow cards; in *Walkaway*, non-zottas and walkaways; in *Autonomous*, indentured humans and robots, all emphasize that these characters are portrayed as vulnerable bodies brought together with a sense of shared vulnerability and trapped in the perpetual presence of crises. These precarious beings experience environmental, social, political, and economic disasters at an embodied level. Consequently, their embeddedness within their environment and technology not only makes them vulnerable, but also capable of resistance through posthuman embodiment. This vulnerability also shapes their affective and temporal relations. They develop a sense of attachment towards things that are eventually detrimental to their well-being. These attachments engender a constant negative affective state and impede their ability to achieve a fulfilling sense of the present and the future. Yet, this shared sense vulnerability also allows them to form an affirmative bond leading to posthuman community and compassion. This study argues that the literary reaction against the GFC in *The Windup Girl*, *Walkaway*, and *Autonomous* serves as a critique of neoliberal capitalism by narrating the precariousness of its characters in critical dystopias with posthumanist and utopian elements.

SCIENCE FICTION AND ECONOMICS

As many SF works suggest, precarity has far-reaching implications not only as an individual problem but also as a systemic issue of capitalism. Since SF works speak the language of anxieties and hopes, a mixture of economic, political, social, technological, and environmental precarity dominates the genre. The crisis highlighted the fragility of economic systems and the vulnerability of people and led to the emergence of more SF works depicting the effects of precarity and exploring ecological disasters, technological advancements, political systems, and economic structures contributing to feelings of insecurity and uncertainty. It may be suggested that SF has been employing its revisionary

power to theorize new structures against the crises (Buckup). The history of SF tracing the development of imaginary economic systems from utopian communes to techno-capitalist tragedies demonstrates that there is a correlation between SF and economic history. This connection is underscored by contending that fears and hopes brought about with each major social transformation have become a source of inspiration for SF writers (Buckup). In particular, key points in economic history such as industrial revolutions, wars, economic depressions, prosperity, and instability decades led writers to express their fears and hopes through SF.

Yet, the GFC has instilled a new sense of immediacy into the genre by evolving into a compelling symbol for SF authors, almost paralleling the symbolic use of the atomic bomb in the 1950s (Newitz, "The Rise of Dismal"). Newitz contends that "[a]s long as the economy continues to be a source of tremendous anxiety, it's going to fill our fantasies with alien currencies and demonic financial instruments" ("The Rise of Dismal"). Thus, through metaphors and thought experiments, SF aims to solve the problems in the real world. In this respect, these problems arise from two interconnected disasters: the crisis of global ecological disasters and the impending collapse of capitalism (Omelsky 33). In other words, the perpetual cycles of "boom," "recession," and "recovery" that characterize the late-stage capitalism are intertwined with widespread droughts, increasing sea levels, and frequent ecological disasters (33). For this reason, economic precarity is closely linked with ecological precarity. However, before moving onto the impact of the GFC on SF and the discussion of posthumanism and precarity, it is necessary to examine the importance of economics for the world-building process of SF works.

Although economic literary criticism and the convergence of literature and economics have been a neglected area of interest for a period, in SF works, imagining new economic structures and systems has always been an important part of the world-building process. In *Economic Science Fictions* (2018), William Davies argues that although the term economic science fiction sounds somehow oxymoronic, in its economic repercussions, the science fictional imagination is not only fictitious but "the economy" part is also fictional in its constitution (22-25). In this regard, SF offers the best venue to shed light

on the social, political, and economic context of the present and speculate over the economics of the future. Although the speculations over various economic systems differed greatly in utopias and dystopias, economic paradigms associated with utopian and dystopian literature revolved around similar concepts such as the future of money, work, class, labor, production, and consumption.

Particularly, utopian narratives have been significantly associated with the defining characteristics of Thomas More's *Utopia* (1516) such as the abolition of money, private property and nationalization, leisure made possible by automation, and the end of scarcity (Edwards). After *Utopia*, fostering the economic well-being of the nation through adopting a socialistic or communistic character and promoting collectivist ideals and shared property have become the main features of the genre (Hodgson 195). With Francis Bacon's *New Atlantis* (1627), Francis Godwin's *The Man in the Moone; or, A Discourse of A Voyage Thither* (1638), Gabriel Plattes's *A Description of the Famous Kingdome of Macaria* (1641), and Jonathan Swift's *Gulliver's Travels* (1726), the tradition of creating utopia is more centered on journeys of the utopian traveler to an unknown place in which she/he is provided with explanations of the utopian society's social, political, economic and religious organization and regarded as the messenger communicating alternative and better ways of organizing society (Claeys 7).

It is no coincidence that the publication of the first "true" SF work coincides with the period when industrial capitalism started to conquer the world. As the precursor of modern SF, Mary Shelley wrote *Frankenstein, or, The Modern Prometheus* (1818) to describe the horrors of the society caused by the Industrial Revolution with the gruesome monster created by Doctor Victor Frankenstein. Labeled by Brian Aldiss as "the first great myth of the industrial age" (23), the work portrays human creativity in the form of a monstrous alien force exerting mounting power over the person who had created it. After this book, the genre continued exploring alternative narratives and resorted to economic themes using alien currencies, dystopian or utopian financial instruments. Later on, it becomes a metaphor with the term "Frankenstein economy" to compare the actions of the central bankers with the aim of resuscitating the economy to the way Dr. Frankenstein creating its monster by merging the pieces of the corpses (St-Cyr).

Especially under the impact of the theories of progress pervading European thought in the eighteenth century, utopias started to project the ideal society in the future, opposing the static and ahistorical nature of previous utopian literature, which indicates "there is no progress after the ideal society has been established" (Vieira 9-10). Heavy on socio-economic dialogues, they were firmly grounded in cooperative or socialistic ideologies. In the nineteenth century, these ideologies were also approved by Marx and Engel's theories of historical and dialectical materialism, which underscore that the changes in the economic relations between individuals and the transformation of the way that individuals face at work can lead to the achievement of a socialist-communist utopia. The idea of a possible proletarian revolution was firmly rejected even though the need to replace capitalism was acknowledged by many writers in the late nineteenth and early twentieth century (Bould 231-33). To illustrate, Edward Bulwer-Lytton's *The Coming Race* (1871) demonstrates capitalism in Victorian England threatened by Vrils, who are depicted as "proletarian figured," (Bould 231) communalist nonhumans with great telepathic and parapsychological abilities and advanced technology. Similarly, H.G. Wells' 1895 novel, *The Time Machine*, focuses on the division of humanity into two species (the Eloi and the Morlocks) representing the proletariat and bourgeois.

The entanglement of utopia and socialist thought also attained tremendous popularity in the US with Edward Bellamy's *Looking Backward* (1888), which inspired reform movements and Socialist, Progressive, and New Deal politicians (Claeys 94). However, the book envisioned "monopoly capitalism reforming itself into consensual, utilitarian, state capitalism, not socialism" (Bould 231). The popularity of Bellamy's work and many other literary utopias arises from the events and trends of the era, highlighting the economic contrasts such as the financial panic of 1873, the Haymarket riot of 1886, and several other strikes and labor disturbances, including the depression of 1893, unequal distribution of wealth, political corruption, rapid urban sprawl, unrest among women and farmers and new waves of immigration from southeastern Europe (Claeys 94).

Hence, historical circumstances increased the enthusiasm towards the reception of literary utopias in the US; however, the terrors of the twentieth century such as commodification of human life in general, exploitation, debt, repression, ecocide, state violence, and war

led to the emergence of the dystopia as a literary form with the writers such as H. G. Wells (1866-1946), E. M. Forster (1879-1970), Yevgeny Zamyatin (1884-1937), Aldous Huxley (1894-1963), George Orwell (1903-1950), Katherine Burdekin (1896-1963), Ray Bradbury (1920-2012), Philip K. Dick (1928-1982), Ursula K. Le Guin (1929-2018), Anthony Burgess (1917-1993), Margaret Atwood (born 1939), Octavia E. Butler (1947-2006), William Gibson (born 1948), Neal Stephenson (born 1959) (Moylan xi). Many of these authors examined the intersection of technology and economics in their works by portraying societies controlled by corporations.

In addition to these writers, influential magazines such as *Astounding Science Fiction* and *Galaxy Science Fiction*, which featured the works by Isaac Asimov, Arthur C. Clarke, and Robert A. Heinlein, played a significant role in ushering in the Golden Age of American SF in the mid-twentieth century. Social, cultural, and technological changes provided a fertile ground for American SF in terms of exploring various economic systems, social and economic roles in these systems, and the issues of equality, environmental degradation, and resource allocation. As Farah Mendlesohn states, in the twentieth century, the notion of utopia transforms into a form of disaster as a response to the growing sense of precarity and uncertainty awaiting in the future (56). Considering the future as a site of potential disaster, many works such as Karel Capek's *R.U.R.* (1920), Yevgeny Zamyatin's *We* (1920), and Aldous Huxley's *Brave New World* (1932) stand out with their commentary on the perils of living in constant anxiety and insecurity in a highly controlled and regulated society.

In the 1960s and 1970s, an interval of utopian writing emerged, and the idea of postcapitalism was quite prevalent in the SF works, as Bould observes:

> Whereas post-holocaust societies and feminist utopias often display postcapitalism understood in terms of precapitalist subsistence economies, Ursula K. Le Guin's *The Dispossessed* (1974), Kim Stanley Robinson's *Red Mars* (1994) and Mack Reynolds's revisions of Bellamy- *Looking Backward, From the Year 2000* (1973) and *Equality the Year 2000* (1977)- propose noncapitalist economic systems. (231)

As seen above, there has been a proliferation of works that explore alternative economic systems that deviate from the traditional capitalist model. Some works, such as Ursula K.

Le Guin's *The Dispossessed* (1974), present postcapitalism as a feasible and equitable system, while others, such as William Gibson's *Neuromancer* (1984), depict it as a dystopia. Irrespective of whether they are utopian or dystopian in nature, the world-building process of all literary work was immensely affected by "sweeping social changes and their unveiling the promises and threats of modern technology" in the twentieth century (Parrinder xiii). As in *Neuromancer*, to give a sense of the era, many works demonstrated how advanced technology could lead to the collapse of the world economy and the rise of powerful corporations. In the 1980s and 90s, dystopias regained their popularity due to "the capitalist restructuring of the economy, the conservative restoration in politics and the cultural shift to the right" (Moylan xii). The Reagan and Thatcher eras caused this shift by decreasing liberal social expectations and increasing the empowerment of large corporations. In reaction to Reaganomics, there were either some elements of the libertarian right or powerful leftist perspectives in SF works. For example, two leftist utopias, Kim Stanley Robinson's *Pacific Edge* (1990) and *Red Mars* (1992) put not only economics but also ecology at the center of the discussion. Criticizing neoliberal ideals of Reaganomics, these novels portrayed how neoliberal ideas of Reaganomics could lead to the degradation of the environment and social unrest. In this conservative atmosphere, the effects of the rise of the libertarian right could also be observed in a myriad of works such as *Oath of Fealty* (1981) and *Fallen Angels* (1991). Both works depict a future dominated by corporations and the values of the Reagan era.

In the meantime, there was a resurgence of worldwide popular interest in American SF, which caused SF to be labeled as an American product (James 55). The dominance of American SF in the field, which coincides with the cultural supremacy of the US in the aftermath of the Second World War, is reasserted after the Cold War with the widespread cultural influence of American culture in the world arena as the leading global superpower (James 55-56). After this era, the image of the threatening "Evil Empire"[3] also seems to be crumbled. This led to the celebration of liberal democracy, the doctrine of individual

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[3] In his speech to the National Association of Evangelicals, Ronald Reagan referred to the Soviet Union as the "Evil Empire" to stress out oppressive policies of the Soviet government and its contempt for human rights. Highlighting that the Soviet Union presented a threat to the values and ideals of the West such as freedom and democracy, he employed this term to reflect American determination to avert this threat (Reagan).

freedom, and popular sovereignty in American SF. However, the supremacy of American culture and its economic preponderance have been constantly challenged by the economic crises, technological changes, and globalization in the 1990s and afterward, which also affected the notions of individualism and national identity (Geraghty 15). Undoubtfully, SF did not remain immune to these challenges and social and economic changes; on the contrary, SF potentially offered the most vivid examinations of the problems of that time (Roberts 13).

Over time, technological advances in automation and Artificial Intelligence (AI), which have transformed the global economy, also led to the increased prominence of various economic themes in science fiction works. However, the irreversible victory of capitalism over socialism with the collapse of communism in Eastern Europe and the USSR has cast a shadow over the trend of utopias. After this era, American authors' favorite villain, the Soviet Union, was replaced by the globalized corporate state, robots, or artificial intelligence. As Mark Bould states, "capitalists and consumers have been depicted as vampires- in *Cronos* (1992) and *The Lost Boys* (1987)- and consumers and workers as zombies in *Dawn of the Dead* (1978) and K. W. Jeter's *Noir* (1998)" (231). Even though technological developments ushered in a period of economic prosperity in the US in the 1990s, the rapidity of these developments in the employment sector haunted the working class and the middle class. In the meantime, the status of these people was severely affected by globalization and technological developments, and they were placed in a precarious position at work (Standing 4-6).

Traditionally, long-term, stable, and fixed-hour jobs were attributed to the working class while having a status, and a predictable and stable salary was associated with the middle class (Standing 6). However, the new technologically advanced economy produced a whole new set of labor relations, and thus a new class, which is termed as the precariat, adopted more flexible labor relations in every area. Flexibility did not improve their working conditions; on the contrary, it caused the degradation of work, reduced employment security and protection, and lastly, made the worker socially redundant and easily expendable (6). In SF, the representations of the precariats were also quite prevalent. Neal Stephenson's *Snow Crash* (1992) and *The Diamond Age* (1995) are some

examples depicting the precariats as individuals who are forced to have dangerous and exploitative jobs and live in poverty in a constant struggle to seek safety. The depictions of the precariats underscore how stratified societies separated by income inequality and unstable economy pose a risk and threat to future societies.

To sum up, despite the prevalence of ideas which consider the capitalist liberal economy seems to be the only viable economic and political system, SF has continued to provide strong criticisms and new alternatives to the capitalist institutions to make sense of the current changes. Likewise, Steven Shaviro contends that SF allows to reveal what is invisible in economic systems and states:

> One of the great virtues of science fiction in particular is that it works as a kind of focusing device, allowing us to feel the effects of digital technology, or capitalism, or climate change- intimately and viscerally, on a human and personal scale, contained within the boundaries of a finite narrative. (4)

In other words, SF provides the means to move beyond the capitalist realism, envisages more efficient and meaningful alternatives, and questions the concepts such as money, debt, and precarity. In this respect, the GFC plays a big role in showing that there is an urgency to change the mindset preparing the crisis and atone for the loss as a result of capitalist crises by imagining a new system. To have a better grasp of the influence of the GFC on literature, especially SF, it is crucial to examine its consequences along with literary reactions towards it, including non-fiction and fiction works.

THE GLOBAL FINANCIAL CRISIS AND LITERATURE

The Global Financial Crisis, described as the financial system's heart attack, was considered the most destructive economic crisis that capitalist economies have encountered since 1929 (Bresser-Pereira 499). After the 2007-2008 Financial Crisis hit the Western world, various countries including the US were thrown into a state of turmoil.

It started as an economic crisis but was morphed into a social crisis and led to mass unrest and a crisis of the global world order whose long-lasting and devastating consequences

continue reverberating around the world. Moreover, since the 1970s, the growing financial market liberalization has caused a myriad of financial crises; however, the 2007-2008 Financial Crisis led to the most severe economic meltdown and decline in production, employment, and trade in the US. Even though Wall Street recovered from the crisis, the American population continued to be haunted by the long-standing effects of the financial crisis (Schulz 3-4).

Although pervasive in everyday lives, the effects of the crisis were quite challenging to comprehend for ordinary people. As Judith Schulz suggests, The Financial Crisis Inquiry Commission was created by the Obama administration to offer answers to questions related to the crisis (1-2). Yet, the 663-page report prepared by the Commission required a profound knowledge and economic education to comprehend its technical jargon. For this reason, there was a need to explain the crisis and its cultural dimension to all who were affected by the crisis and fiction functioned as a mediator to understand the impacts of the crisis. As Judith Schulz argues, the abstract concepts of "crisis" and "recession" were materialized in tangible effects such as the loss of stability in housing and work, as well as fiscal losses (1-2). Schulz also states that this increased the interest towards the crisis for common people (4). For this reason, the gravity of the meltdown was widely expressed through a myriad of metaphors such as "Armageddon" (Tooze 165), "contagion" (375), "a lethal virus" (83), and "tsunami" (200) in the remarks of economists, politicians, and the descriptions of the crisis in fiction and non-fiction works.

In non-fiction works, the concepts of American Dream and debt are placed under scrutiny.[4] With the advent of non-fiction works about the crisis, an effort to understand finance and represent the crisis came out. In the aftermath of the crisis, the discourse of the "crisis of capitalism" emerged with the arguments of social scientists focusing on the

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[4] Most of the studies examined the collapse of the American Dream and the middle class, whose emergence was closely associated with the development of modern consumer capitalism. See Hedrick Smith's *Who Stole the American Dream?* (2012) and Noam Chomsky's *Requiem for the American Dream* (2017) for a deeper understanding. Also, the idea of debt and indebtedness gained popularity with the excessive household debt and austerity policies. See David Graeber's *Debt: The First 5000 Years* (2011) and Atif Mian and Amir Sufi's *House of Debt* (2014) for further analysis.

capitalist system being in terminal decline (Azmanova 46). To illustrate, Saral Sarkar states in *The Crises of Capitalism: A Different Study of Political Economy* (2014) that because capitalism continues relying on scarcity despite living in the information age, it has finally reached its limits. Similarly, in *PostCapitalism* (2015), Paul Mason suggests that the need to exit capitalism is urgent since it is unable to survive the existential threats of the global debt crisis, climate change, and transforming into an aging population.

On the other hand, a new interest grew towards economic matters because the crisis demonstrated that the new order in the financial sector had significant consequences for the lives of ordinary citizens. This interest, combined with the consequences of the crisis, caused the emergence of new literary genres related to the crisis (Andreasen et al. 358). To illustrate, Daniel Mattingly coined the term "crash fiction"[5] to refer to fiction responding to the effects of the GFC (95-97). Likewise, critic Sathnam Sanghera employed the phrase "crunch-lit" in a review of a financial confessional narrative emerging after the crisis (8); however, the term started to be used in a broader context to define a new genre of fiction representing events before, during and after the crisis (Shaw 7-8). In the same vein, there has been a surge in the number of novels focusing on money and finance by negotiating the crisis and its aftermath within the scope of finance fiction (Andreasen et al. 361-62). Mirosław Aleksander Miernik stresses that since the 1837 crisis, financial turmoil has prompted American writers to question consumer culture and economic matters (4-6). Thus, in the aftermath of GFC, they maintained this tradition of producing literary reactions to economic downturns; however, post-crisis novels specifically focused on topics such as poverty, precariousness, inequality, and indebtedness (181). The deteriorating situation of the working class and the middle class came into prominence in these novels.

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[5] See Mattingly, for further analysis of the impacts of the crash on a white, male, middle and upper class in the novels collected under the title of "Crash Fiction," which reflect the reactions of the white middle class to the crisis in the context of a masculine identity, and a sense of reduced expectations.

Similar to crash fiction, Judith Schulz also employs the term "recession novel" as the subcategory of neoliberal novels and argues that this genre indicates the psychological, cultural, and historical dimensions of the crisis. Also, risk and uncertainty in the context of the foreclosure crisis shape the novels, and disorientation in a changed world sparks the protest spirit in financial thrillers. In this respect, Paul Auster's novel *Sunset Park* (2010) is set during the crisis and shows the insecurities, psychological and economic aspects of the crisis on the relationships of the characters. Jonathan Lethem's *Dissident Gardens* (2013) unfolds a vivid story that portrays three generations of the protest spirit from the 1930s to the Occupy Movement. Another example of this spirit could also be observed in Gary Shteyngart's *Super Sad True Love Story* (2010) through a love story in a near-future dystopian New York on the brink of economic crisis. Moreover, following the crisis, more financial thrillers appeared such as *Meltdown* (2009) by Ben Elton, *The Prince of Risk* by Christopher Reich (2013), *The Banker's Wife* by Cristina Alger (2018), and *Hot Shot* by Sheldon Siegel (2019).

SF books written in the aftermath of the GFC share the discontent of living in a world damaged by economic instability and anthropogenic climate change with a mixture of dystopian worlds revolutionized with utopian ideals. The books written in this period either mostly focus on utopian visions of a postcapitalist world where all the chores have been done by machines by allowing people to have the freedom of relishing a life of leisure or dystopian views of a future society in which most of the population is reduced to precarity under a panoptic authority that monitors every aspect of life (Huws 1-2). New technologies either elevated people to the status of citizen-cyborgs[6] or reduced them to techno-serfs[7] controlled by mega corporations. Although many contemporary writers engage with various political concerns ranging from the economic to the environmental, they are mostly reluctant or unable to critique the status quo, injustice and inequality and

[6] In the book, *Citizen Cyborgs: Why Democratic Societies Must Respond to the Resigned Human of the Future* (2004), James Hughes uses the term "citizen cyborg" to refer to the transformation of human beings into cyborgs with the help of biotechnology. He argues that these physical, cognitive and emotional enhancements require a new type of citizenship (143-45).

[7] Martin Moore argues that the domination of the internet empowered big companies, which are capable of turning people techno-serfs. He explains how US digital media giants play a big role in manipulating people for a range of purposes.

challenge systematic exploitation and envision better futures (1-3). Despite the lack of alternatives, SF novels written after the GFC are attuned to the economic rationalities of their time and carry the need to come up with new terms to describe the new patterns shaped by the impacts of new technologies on the economy and on daily life.

Especially since the GFC, SF has touched more upon how to imagine a post-capitalist, post-scarcity, and post-work society and concentrated on the need to recharacterize economy in the digital era by using new terms. For this reason, the attention on economic structures has become ever more apparent in cultural productions, which also caused the writers to use SF "to think through ongoing crises and chart out possible ways forward" (Vint, *Science Fiction* 140). In the same period, the difference between SF and contemporary reality vanishes, and the growing tendency of searching for alternatives could be observed in SF works as contemplating "strange economics"[8] and engaging with precarious life and its possibility to form new collectivities. To stress the vagueness of the line between reality and SF, Kim Stanley Robinson contends how the Anthropocene era helped SF come to the fore and become the most realistic genre. Considering the reemergence of realist novel in literature in the post-GFC era, he states that the idea of SF as the binary of realism disappeared and on the contrary, now, there is a tendency to use SF to give a feel for the realities of the time ("Science Fiction Is the Realism of Our Time").

As for these realities, critics have gathered around the concept of uncertainty to describe the era. Labeled as "an era of truly dizzying uncertainty" (Lea 4), the twenty-first century is bound to witness massively accelerating technological, sociological, and planetary changes with the GFC, the rise of neoliberal politics, the aftermath of the attacks of 9/11, climate catastrophes, rapid globalization, the increase in migration, mobility and racism (Baumbach and Neumann 3). Each change results in insecurity in the US which affects the novels written in this period. In a precarious environment shaped by these changes, the heightened interest in illustrating a broad spectrum of reactions to economic issues

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[8] *Strange Economics: Economic Speculative Fiction* (2018) is an anthology including a large compile of works which are speculative fictions exploring economic themes and questions.

brought about the desire to look for alternatives. This growing tendency resulted in a rise in new economic imaginings in SF. It reflected this discourse of crisis with the succession of economic and ecological crisis scenarios.

Alongside these movements focusing on financialization, inequality and debt, Marxist criticism has experienced a critical resurgence in the field. Likewise, in "Future Fluctuations," Mark Soderstrom argues that with the participation of many institutions and well-known people, the Neoliberal Thought Collective (NTC) was created to emphasize an economic narrative guiding social, political, and individual lives through various elements of popular culture (106). He also mentions that this initiative is immersed in the tradition of SF by its nature. As stated in *Inventing the Future: Postcapitalism and a World Without Work* (2015), in the twenty-first century, different political and economic systems could be imagined through SF works predicting new worlds where leisure, post-gender dreams of radical feminism, or Soviet-era cosmic communism have prevailed, and the synthetic and diasporic nature of black culture is celebrated (Srnicek and Williams 12-13). These can be considered some of the approaches that SF writers use to identify the mendacity and harm of the capitalist system. Giving some more examples in his article, Soderstorm elucidates three different approaches to classify SF literature such as analyzing neoliberal economic trends, reclaiming the subjectivities of people embedded within predatory capitalism that exploits and erases subjects at the margins, and lastly combining both with a detailed economic analysis, an exploration of marginalized subjectivities, and future visions for new economic alternatives (106-107). In this respect, SF novels written in the twenty-first century project these methods by putting the economics at the core of their universes, either changing or abolishing the core capitalist institutions.

To illustrate, Bruce Sterling's *Tomorrow Now: Envisioning the Next Fifty Years* (2002) concentrates on seven stages of life (infant, student, lover, soldier, justice, pantaloon, and mere oblivion), addressing issues on biotechnology, education, politics, warfare, economics, and death. He questions whether the epoch, experienced with the end of the Cold War and marked by the influx of new technologies and economic growth in the 1990s, will prevail or fail due to a catastrophe. While envisioning the future, Sterling uses

New Economics paradigms with the dissatisfaction of the downsides of global capitalism but shows there is no practical alternative to the current system. Cory Doctorow's *Down and Out in the Magic Kingdom* (2003) and *Walkaway* (2017) are critical accounts of respectively reputation and gig economies in a world damaged by global ecological catastrophes, refugee crises, and wealth disparity. In these works, conventional money seems to be abolished and replaced by a reputation-based system called Whuffie and a gift economy called the walkaway economy. Similarly, scarcity has come to an end; however, precarity remains an issue in both worlds.

Moreover, Vernor Vinge's *Rainbows End* (2006) depicts a future that has been altered drastically with the invasive and pervasive use of the internet, transforming it into a social, economic, and political phenomenon. These changes following the technological singularity are observed from the perspective of the main character who was once a famous poet diagnosed with Alzheimer's. He recovers from the disease and finds himself in a position to adapt to the advances. However, accelerating technology and science may cause the spread of engineered diseases as in Margaret Atwood's *The Year of the Flood* (2009) and Paolo Bacigalupi's *The Windup Girl* (2009). In both works, corporations play a crucial role in politics, and climate change is always at the epicenter of them. Bacigalupi specifically has an ecocritical approach that focuses on the drastic changes led by anthropogenic climate change in economic and social areas and showcases when food is controlled for profit; this creates huge chasms within the society separating the ones whose lives are protected and the others whose lives are expendable. *The Water Knife* (2015) by Paolo Bacigalupi is another example showing the link between corporate greed and climate change. As in the case of *The Windup Girl*, there are economic classes designated based on having access to water supply during drought. They both show the symbiotic relationship that humans have with nature and the necessity to stop having an anthropocentric attitude towards the environment.

Another change observed between SF and real-life economics is the intertwining of digital life and conventional economy. Even though most books focus on the intricate relationship between capitalist crises and climate change, many more display how the digital community is extended beyond cyberspace moving into the physical world. The

traditional currency becomes merely digital, and the economy is intertwined with the digital world turning into something fictitious. To illustrate, Neal Stephenson's *Reamde* (2011) criticizes how gamification has the potential to be used as an exploitative tool extending gaming behaviors into physical reality and creating a video game-based economy. As another example of the entanglement between virtual and reality, Dave Eggers's *The Circle* (2013) portrays how attention and information turn into a form of currency in a world dominated by a social media company called The Circle. In particular, as Edward Castronova mentions in *Wildcat Currencies*, the advent of various cryptocurrencies challenges the definition of money as a general equivalent and has shown more monetary forms will emerge for specific contexts. Considering the recent increases in the value of Bitcoin, in various works such as *Super Sad True Love Story* by Gary Shteyngart (2010) and *Ready Player One* by Ernest Cline (2011), the currency has been digitalized in the economy of these near-future societies deeply intertwined with the social media (Hall 219).

While mentioning the impacts of digital technologies on humans, the boundaries of identity and humanity are also pushed further in SF works. Charles Stross's *Neptune's Brood* (2013) is an example of SF thriller taking place in a universe in which metahumans replaced the extinct human race. Delving into the details of interstellar economy, the book uses the concept of debt as an unbreakable law in an indentured system and from a first-person perspective, depicts the narrator's journey of finding her sister and in the meantime finding out a scandalous financial scam. Another work putting debt at the center of its universe is Annalee Newitz's *Autonomous* (2017). In the novel, individuals, regardless of being humans or robots, are required to work their way out of indentured servitude by paying the cost of their creation to the companies. In this world run by big pharmaceutical companies, patent laws are enforced, and economic zones separate the rich and the poor whose existence is valued in terms of their economic contribution as economic assets.

In spite of the diversity of the economic systems depicted in all these novels, the main components to connect them are being post-disaster societies suffering from capitalist crises and precarity. Issues of speculative economics shape these novels, and the commodified item designates the value system. Incorporating some utopian ideals as

well, these works also provide a perspective on the current economic reality. One of the most vivid examples of this endeavor is John Scalzi's *The Collapsing Empire* (2017), which seems to offer an allegory for the US with its title and depicts the shift in the balance of intergalactic empire built on trade. In addition to this allegory, Christopher Brown's *Tropic of Kansas* (2017) provides an alternate America enriched with dystopian tropes such as authoritarian government, ecological disasters, surveillance, widening income gap and unfettered neoliberal capitalism. Despite its dystopian elements showing what would have happened if the history had taken another course, resistance is at the center of the book. Although it is easier to imagine a dystopian world considering the current challenges related to ecology, economics, and politics, there is also an attempt to tell the possibility of reaching a utopian conclusion with effective resistance. When it comes to imagining a utopian vision, Kim Stanley Robinson's *New York 2140* (2017) and *The Ministry for the Future* (2020) are works depicting the importance of having a cooperative life and collective action for precarious characters against the financial, political and ecological factors forcing them to be vulnerable.

A look into the changes taking place in real life shows that the main reason for this urge to fictionalize the future derives from the technological infrastructure of the century. The new wave of automation, clean energy, and new medical technologies have enabled to have a longer and healthier life, provided more opportunities to experiment with gender and sexual identity and increased the demands of the left for less work, an end to scarcity, economic democracy, and the liberation of humanity (Srnicek and Williams 15-16). However, despite the prospect of having a better future, in these narratives, the workers continue getting more precarious, exhausted, stressed, and frustrated with the breakdown of the global climate, the ongoing fallout from the economic crisis, and the inability of the policymakers to bring drastic changes to the political systems.

Aside from the increasing visibility of the economic themes in SF, the books are also strongly affected by the effects of the crisis, and to some extent, they are unable to imagine beyond the motives and consequences of the recession. Despite that, they carry a sense of hope for social change and the new, as well as a reaction to the constituents of the crisis. Thomas Moylan states that these new texts can be categorized as "critical

dystopias" since they revive utopian hope in dystopian settings. In doing so, they employ "open endings" that challenge any anti-utopian closure associated with dystopias and retain the utopian inclination. Even though dystopias also embrace this openness and progressive possibility through textual ambiguity or resistance, recent works differ from the previous ones in a number of ways. With regard to these differences, Moylan states that rather than being an entirely new genre, recent works demonstrate how progressive possibility intrinsic in dystopias refunction through critical dystopias and represent a creative move combining dystopian traditions as a new intervention. He also differentiates this new trend from the previous ones with the argument that it originated from the outcomes of the sociopolitical conditions of the late 1980s and 1990s (187-189).

Similar to Moylan's views, Raffaella Baccolini points out that critical dystopias endeavor to "maintain a utopian core" while enabling "to deconstruct tradition and reconstruct alternatives" (13). She also explicates recent works as dystopias that "negate static ideals, reserve action, and create a space in which opposition can be articulated and received" (17). Opening up spaces for the dispossessed, denied, or "eccentric" subjects whose subjectivity has yet to be attained, these works particularly focus on exploring methods to change the existing system in such a way that multiplicity and differences are recognized (19). In this respect, SF novels bear this multi-oppositional tone negotiating the existing pessimism of the genre with an open utopian stance.

Hybridity, multiperspectivity, vulnerable characters, harsh critique of the existing economic system, and resistance to closure can be considered as some elements of critical dystopias analyzed in this thesis. Reflecting upon the importance of utopian process, this thesis examines three literary works with ongoing and unfinished aspects of utopia instead of presenting a perfect, closed-off society. Uncertainty and imperfections in the narratives maintain an ambivalent relationship with the idea of utopia itself. Differently from the traditional concept of utopia, these works celebrate a fluid, evolving, and posthumanist utopia questioning the concept of precarity induced by the economic system and ecological crisis. Sherryl Vint states that to oppose the commodification of life, narratives endorse a posthumanist framework of personhood (*Biopolitical Futures* 61). In other words, what seems to be an ending or a catastrophe in critical dystopias becomes a

reinvention instead. This reinvention also presents a change from human embodiment to the posthuman subject with the acknowledgment that the damage has been inflicted in the name of the human (196). Thus, it may seem that a posthumanist utopia requires hybrids embodying the utopian possibilities of posthumanity. In the meantime, it also embraces change, uncertainty, and precarity. To better understand how critical dystopias transform into posthumanist utopias, it is necessary to explicate what posthuman and posthumanism mean.

POSTHUMANISM, TRANSHUMANISM AND PRECARITY

Both posthuman and posthumanism have emerged as popular interdisciplinary terms that encompass various contemporary interpretations and the future trajectories of the world. Given their interdisciplinary nature and misconceptions related to these terms, it seems crucial for the purpose of this thesis to establish clear definitions and boundaries for these concepts. The confusion and misunderstanding often derive from the use of the term posthuman in transhumanist and posthumanist narratives in different ways. Rather than a dichotomy, there is a rhizomatic structure between posthumanism and its "dark twin" (Ağın, *Posthümanizm* 25) transhumanism as both share common ground in terms of existing and evolving through technology, but they are rooted in different philosophical approaches and naturally evolve in those directions (50).

Given the rhizomatic nature of posthumanism, which is inherently nonlinear and interconnected, it is also difficult to trace its theoretical and historical origin in a straightforward manner (Ağın, *Posthuman Ecologies* 3). Yet, Stefan Herbrechter identifies the works of Donna Haraway's *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991), N. Katherine Hayles's *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999), Neil Badmington's *Posthumanism* (2000), Elaine L. Graham's *Representations of the Post/Human* (2002), and Cary Wolfe's *What is Posthumanism?* (2009) as the first academic publications that grapple with the concepts of the posthuman and posthumanism (vii). In addition to these works, Rosi Braidotti's *Transpositions: On Nomadic Ethics* (2006), *The Posthuman* (2013) and *Posthuman Knowledge* (2019), Karen Barad's *Meeting the Universe Halfway:*

Quantum Physics and the Entanglement of Matter and Meaning (2007), Stefan Herbrechter's *Posthumanism: A Critical Analysis* (2013), Pramod K. Nayar's *Posthumanism* (2013), Stacy Alaimo's *Exposed: Environmental Politics and Pleasures in Posthuman Times* (2016), and Francesca Ferrando's *Philosophical Posthumanism* (2019) have also made significant contributions to the field by offering insights from diverse viewpoints and further enriching the discussion around posthumanism. Despite their different perspectives, these works explore the concept of posthumanism by questioning what it means to be human regarding technological, scientific, and cultural changes.

In particular, the accelerating technological developments at the end of the twentieth and at the beginning of the twenty first centuries have blurred the line between human and machine (Herbrechter 26). To shed light on the impact of techno-scientific changes, Donna Haraway develops the concept of cyborg as a metaphor. Defining it as "a hybrid creature, composed of organism and machine" (*Simians* 1), Haraway pinpoints that there are three important boundary breakdowns: between animals and humans, between animal-human (organism) and machine, and between physical and non-physical (151-53). The first breakdown indicates that certain features considered to be unique to humans such as language, cultural and social behavior, tool use and abstract reasoning no longer persuasively separate humans from animals. Instead, it is acknowledged that the division between nature and culture is challenged, and the interconnection between humans and other living beings is recognized and valued (151). The second breakdown challenges the earlier conceptions that viewed machines as inert, devoid of autonomy and mere imitations of human abilities. Haraway states that over time, the increased integration of machines into our lives complicates where the organism ends and the machine starts, and blurs the boundary between "natural and artificial, mind and body, self-organizing and externally designed and many other distinctions" (152). This transgression also shapes affective relations and humans are considered "frighteningly inert" whereas machines are depicted "disturbingly lively" (152). Lastly, as technological developments have made machines portable, ubiquitous, lightweight, and even invisible, the line between physical and non-physical is transgressed. Haraway states that cyborg exists as a liminal character

in a state of quintessence (153). Consequently, in a digitized world, identities are reshaped, further complicating what is real and virtual.

Although Haraway refrains from explicitly employing the concepts of posthuman and posthumanism in her works, her foregrounding ideas about the exploration of what it means to be human serve as a foundation for various posthumanist discussions. Through cyborg embodiment, she examines "what it means to be embodied in high-tech worlds" (*Simians* 173) and refers to a myriad of SF authors including Joanna Russ, Samuel R. Delany, James Tiptree, Jr., Octavia Butler, and Vonda McIntyre as cyborg theorists because of the scope of their works. In addition to rejecting dualisms such as human/nonhuman, organism/machine, living/nonliving, and object/subject, she also states that identities appear to be fractured, contradictory, and strategic by deconstructing hierarchical dualisms and naturalized or gendered identities. She underlines that "[g]ender, race, or class is an achievement forced on us by the terrible historical experience of the contradictory social realities of patriarchy, colonialism, and capitalism" (155). Thus, cyborg represents a figure that challenges "the tradition of racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the productions of culture; the tradition of reproduction of the self from the reflections of the other" (150). Addressing the relation between organism and machine as a border war, she depicts cyborgs as chimeric monsters compounded of machines and organisms, and "illegitimate offspring" that diverge from the oppressive systems in which they are created.

Yet, she states that although the notion of cyborg explains how the realm of technoscience affects our understanding of existence, it does not cover everything. Considering cyborg as "junior siblings in the much bigger, queer family of companion species" (*The Companion* 11), she highlights the need of using a more embracing and heterogenous term that emphasizes "co-habitation, co-evolution, and embodied cross-species sociality" (4). With the term companion species, she draws attention to species interdependence and how humanity evolves alongside other species, inhabits the same environment with them, and therefore should interact with them. By incorporating animals, plants, and microscopic organisms into this category, she states:

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

As seen above, the embodiment of cyborgs and companion species encompasses a wide array of contrasting elements and offers a novel way of understanding the world and interconnection between species. These ideas influence various posthumanist theorists including N. Katherine Hayles, Cary Wolfe, and Rosi Braidotti.

Similar to the concept of cyborg, N. Katherine Hayles also emphasizes the intersection of technology and humans by highlighting the significance of embodiment in comprehending human consciousness and identity. She states that what it means to be human needs a redefinition in the contemporary world of biotechnology and cybernetics. By conceptualizing posthuman, she highlights that it "implies not only a coupling with intelligent machines but a coupling so intense and multifaceted that it is no longer possible to distinguish meaningfully between the biological organism and the informational circuits in which the organism is enmeshed" (35). As an amalgam of "a material-informational entity," the concept of posthuman deconstructs the idea that considers humans as "autonomous beings exercising their will through individual agency and choice" (286). Like Haraway, Hayles criticizes the transhumanist dreams of disembodiment and notes that "the erasure of embodiment is a feature common to both the liberal humanist subject and the cybernetic posthuman" (4). Here, she uses "the cybernetic posthuman" in a transhumanist position, yet in her work, she tends to employ the term posthuman in both posthumanist and transhumanist framework.

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

As noted above, Hayles is concerned about a possible future in which posthumans consider their bodies as mere accessories and desires to have a future where posthumans will wisely apply information technologies as embodied beings. Thus, she emphasizes

the vulnerability of posthumans as they are physically and virtually embedded in and intricately connected with the environment. Thus, both Haraway and Hayles focus on the implications of technoscientific culture, the blurred boundaries between organism and machine, and the need for a redefinition of the human by emphasizing the interconnectedness of bodies, information, environment, and systems.

Similarly, Cary Wolfe also opposes to the anthropocentric views and speciesism in relation to evolutionary, ecological, or technological contexts. He proposes that a more inclusive, ethical, and interconnected approach is needed to reconfigure our understanding of the human based on the complex relationship between humans and nonhuman entities (xvi). In doing so, he applies to animal and disability studies and notes:

> [P]osthumanism names a historical moment in which the decentering of the human by its imbrication in technical, medical, informatic, and economic networks is increasingly impossible to ignore, a historical development that points toward the necessity of new theoretical paradigms (but also thrusts them on us), a new mode of thought that comes after the cultural repressions and fantasies, the philosophical protocols and evasions, of humanism as a historically specific phenomenon. (xv-xvi)

This new mode of thinking acknowledges the complex interplay between humans and their natural, technological, and economic environments. Considering that humans share vulnerability with nonhuman entities, both Wolfe and Haraway centralize the idea of relationality across forms and species in their works. As another theorist who recognizes the relational position of the humans, Rosi Braidotti asserts that "[p]osthuman subjectivity expresses an embodied and embedded and hence partial form of accountability, based on a strong sense of collectivity, relationality and hence community building" (*The Posthuman* 49). Following Haraway's figure of the cyborg, which radically reconfigures humanist subjectivity by "scrambl[ing] the establish codes" (*Transpositions* 101), Braidotti contends that the posthuman does not refer to a technologically enhanced or superior being but "a working hypothesis about the kind of subject we are becoming" in a world shaped by environmental disasters, advanced capitalism, and continuously evolving technologies (*Posthuman Knowledge* 2). For this reason, she posits that posthuman critical theory encompasses a myriad of challenges including the acknowledgment of subjectivity as not being limited to *Anthropos*, the formulation of

vitalist materialism which incorporates nonhuman agents varying from plants and animals to technological artefacts, and the enlargement of the scope of ethical responsibility across the transversal boundaries of post-anthropocentric relations ("Posthuman Critical Theory" 339). For these challenges, Braidotti applies to feminist theory and neo-materialist philosophy with a post-anthropocentric and anti-humanist approach which initiates the discussions over the environment, the changing status of the human, naturalism, and ecological justice. Consequently, she highlights the embodied, embedded, vital-materialist, and immanent nature of posthuman critical theory (340).

Drawing on Rosi Braidotti's definition of the posthuman "as the convergence of posthumanism and post-anthropocentrism" ("A Theoretical Framework" 31), Francesco Ferrando defines posthumanism as a philosophical approach that is presented as post-humanism, post-anthropocentricism, and post-duality[9] by revisioning what it means to be human under the conditions of late capitalism, climate change, technoscience and globalization (54). To elucidate, post-humanism implies the dismantling of the principles of humanism, which considers the human in the singular as innately rational, universal, autonomous, exceptional, and male. By deconstructing the human as one, post-humanism emphasizes the multiplicity and diversity of human(s). Post-anthropocentricism, on the other hand, entails the questioning of human exceptionalism by decentering the human in relation to the nonhuman, recognizing nonhuman agency, and encouraging more inclusive ethics for nonhuman entities. Lastly, post-dualism is grounded in the idea that dualism offers a restrictive use as a means to establish identities based on a fixed notion of the self in binary oppositions such as "mind" versus "body," "us" versus "them," "friend" versus "foe," "male" versus "female" and so on. By questioning the dualistic

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[9] Ferrando purposefully employs a hyphen to separate post from humanism, anthropocentricism, and dualism while explaining posthumanism as a philosophical approach (65). Addressing the use of a hyphen as a powerful tool, she states that hyphen serves as a term of mediation as the prefix "post" is situated within a multiplicity of possibilities and showcases the complex relationship between old and new paradigms. Thus, the use of hyphen indicates the continuities, disruptions and challenges of describing what comes after humanism, anthropocentricism, and dualism. She also states that, because of the prevalence of the term, hyphen may disappear without a significant lost in meaning (65-67).

framework, post-dualism contends that identities are not fixed or binary but fluid, interconnected, and complex (Ferrando 54).

Within a posthumanist discourse, posthuman often symbolizes the conceptual shift beyond humanism, anthropocentricism, and dualism. This approach recognizes technology, environment, and other elements as integral parts of what constitutes human(s) (Ferrando 27). Given that SF as a genre often explores the question of what it means to be human, especially in cyberpunk and biopunk works, this exploration can potentially lead to either a posthumanist or transhumanist perspective. Even though these concepts are frequently confused with each other, transhumanism entails an ontological condition in which humans live with bodies that are modified through chemicals, surgery and technology and depicted in close connection with machines and other organic forms (Nayar 13). Through modifications with technological interventions, transhumanists wish to perfect the human and overcome the human form to reach the posthuman. In the transhumanist context, the concept of posthuman typically signifies the next stage of human evolution, which has not been achieved yet and can only be reached in the future (Ferrando 27).

Whereas posthumanism rejects human exceptionalism and human instrumentalism by treating human as "co-evolving, sharing ecosystems, life processes, genetic material, with animals and other life forms" and viewing technology "not as a mere prosthesis to human identity but as integral to it" (Nayar 19), transhumanism still places the human at the center of the world by considering "the limitations of the human body (biology) as something that might be transcended through technology" (16) and seeks to enhance allegedly innate features of the human (22). Thus, differently from posthumanism, transhumanism mainly hinges on the principles of humanism, aiming to enhance the human further.

Although the traditional understanding of the human in transhumanism and humanism as the center of the world can be traced back to the Enlightenment, the notion of life distinguishing between human and nonhuman stems from the Greek separation between *bios* and *zoē*. Giorgio Agamben states that "The Greeks had no single term to express

what we mean by the word 'life.' They used two words that, although traceable to common etymological root, are semantically and ontologically distinct" (1). *Zoē*, which can also be defined as *bare life* or *homo sacer*, is shared by all living beings including animals, nonhuman entities, and ordinary people, whereas *bios*, related to logos, the Greek word for reason, language and thought, is a term that refers to a specific way of life proper to certain individuals or groups (8). To explain the difference, Agamben also notes:

> The fundamental categorial pair of Western politics is not that of friend/enemy but that of *bare life*/political existence, *zoē*/*bios*, exclusion/inclusion. There is politics because man is the living being who, in language [logos], separates and opposes himself to his own *bare life* and, at the same time, maintains himself in relation to the *bare life* in an inclusive exclusion. (8)

This duality in the posthumanist framework is formulated by various theorists. To illustrate, Ferrando states that the concepts of logos and polis are structural to the Greek term *Anthropos* and for this reason, *bios* are more privileged over *zoē* with an anthropocentric view (110). Similarly, Braidotti notes that "Life is half-animal, nonhuman (*zoē*) and half political and discursive (*bios*). *Zoē* is the poor half of a couple that foregrounds *bios* as the intelligent half; the relationship between them constitutes one of those qualitative distinctions on which Western culture built its discursive empire" (*Transpositions* 37). In other words, *zoē* representing "half-animal, nonhuman," "the poor half," and the shared, biological aspect of life has often been downplayed by Western culture. However, posthumanism deconstructs the hierarchical position of *bios*, *Anthropos* or the human, breaks down the idea that life is considered as an exclusive right of the human and should be treated as sacred, and proposes a "*zoē*-centered egalitarianism," which is a more inclusive approach acknowledging the value of all life forms (*The Posthuman* 60).

Yet, in critical dystopias, this dualistic thinking of *zoē*/*bios* remains by creating a considerably small number of people with the control of capital under the category of *bios* and the right to commodify the lives of *zoē*. Likewise, Braidotti argues that "[*b*]*ios* refers to the life of humans organized in society, while *zoē* refers to life of all living beings. *Bios* is regulated by sovereign powers and rules, whereas *zoē* is unprotected and vulnerable"

(19). Differently from Agamben's interpretation of *zoē* and *bios*, Braidotti stresses that the concept of *zoē* does not merely emerge with vulnerability but also as "a productive and vital force" ("A Theoretical Framework" 3). Moreover, she formulates a threefold notion as "*zoē*/geo/techno assemblage" to describe posthumanist subjectivity. Whereas *zoē* refers to the material and biological aspects of life by encompassing all living entities as a basic and universal life force, geo represents the geological aspects which acknowledge the Earth as a dynamic and active entity influencing and being influenced by all life forms. Lastly, techno signifies technological artefacts integrated into human life and the wider environment (*Posthuman Knowledge* 59).

In *The Windup Girl*, *Walkaway*, and *Autonomous*, this assemblage can be observed with their nonhuman and subhuman characters since they are depicted as vulnerable beings because of their embedded embodiment and interconnected relation with technology, economic systems and the environment. This study argues that the embodied, embedded, hybrid, affective, and interconnected nature of humans causes them to share vulnerability with other nonhuman entities. Their posthuman embodiment and embeddedness with the environment, shaped with ecological disasters, economic systems inducing precarity and biotechnology, make them precarious and form their affective and temporal relations. Yet, as stated by Braidotti, the shared vulnerability can also lead to increased cooperation, empathy, and mutual understanding (*The Posthuman* 69). For this reason, this vulnerability foregrounds an affirmative bond between nonhumans and humans, which leads to utopian elements with their resilience, hybridity, and their desire to look for a better future by showing the posthuman alternative may provide a more compelling image of hope. "In the face of the looming climate catastrophes and biophysical changes of the Anthropocene" (Baumbach and Neumann 2), these novels imagine new posthuman configurations in post-disaster societies. Combining the end of human life with these configurations requires a utopian vision that is enriched with ethical responsibility and attention to the unnoticed and at the same time, a background portraying pessimism, uncertainty, and helplessness (3).

In the wake of the GFC, SF works have played an important role in presenting the dystopian elements of current reality, which are shaped by economic, political, and

ecological crises with the posthuman, which "is not so much a dystopian vision of the future, but a defining trait of our historical context" (*Posthuman Knowledge* 27). Against these crises, they offer innovative examinations that provoke thought about economic issues. By focusing on the convergence of human and nonhuman, their bodily precarity, affective and temporal relations, it is demonstrated how social phenomena frame as "economic" can be evaluated in a wider cultural context. As Emily J. Hogg and Peter Simonsen stated in *Precarity in Contemporary Literature and Culture*, the themes of body, feeling and time arise from the theorization of precarity in literary and cultural works and rather than being separate concepts, they are intrinsically intertwined (15). From a posthumanist perspective, Braidotti argues that with the impact of bio-genetic capitalism, humans and nonhumans generate a shared vulnerability to environmental threats, economic disruptions, or the potential misuse of bio-genetic technologies and states:

> [C]ontemporary bio-genetic capitalism generates a global form of reactive mutual interdependence of all living organisms, including nonhumans. This sort of unity tends to be of the negative kind, as a shared form of vulnerability, that is to say a global sense of interconnection between the human and the nonhuman environment in the face of common threats. The posthuman recomposition of human interaction that I propose is not the same as the reactive bond of vulnerability, but is an affirmative bond that locates the subject in the flow of relations with multiple others. (*The Posthuman* 50)

Environmental crises and economic systems reduce all living species to a degree of vulnerability. This vulnerability becomes an embodied experience by shaping affective attachments and temporality of bodies. Given that posthumanism highlights the importance of embodiment for the construction of the environment and organic systems (Nayar 20), precarity becomes most visible in the embodiment of the characters. In other words, the interconnected and embedded nature of the body implies a shared vulnerability connecting both humans and nonhumans. Impervious to the changes in their surroundings, the bodies constantly engage with the environment, other beings, technology, and the implications of economic systems (21).

To illustrate, whether they are humans or nonhumans, characters perduring in economic, ecological, and political catastrophes may be portrayed as physically vulnerable. In terms

of body, Kit Dobson argues that "the body is intensely vulnerable, but this vulnerable body has so far only been grievable when it is deemed to be human" (262). This bodily vulnerability stems from reducing the bodies to machines devised to reproduce capital and shows how the concept of the human comes into a state of crisis (255). This crisis can be particularly observed with the emergence of hybrid entities. As a symbol of precariousness in a time of environmental vulnerabilities and economic collapse, these hybrids are liminal creatures "imbricated with technoscience and capitalist processes of exploitation" (Nayar 105). By breaking categorical boundaries such as organism/machine, man/woman, and technology/the self, it is posited that posthuman embodiments challenge the traditional understanding of life, gender, and agency in the face of expanding technology and economic systems. In this respect, Rebecca Pohl states that hybrids are used to show the inseparability of changes in technology from the ones in economy, work, and everyday life (35). Thus, bodies are not considered as physical shells but an integral element of identity and how we are materially interconnected with other beings, the environment, and technological entities.

Moreover, being vulnerable as a posthuman condition also requires an affective capacity. Braidotti notes that posthuman subjectivity acknowledges that what defines us as an autonomous capacity is "the autonomy of affect as a virtual force that gets actualized through relational bonds" rather than rationality or mental capabilities (*Posthuman Knowledge* 62). She underlines that because of being relational, embedded, and embodied, the posthuman can affect and be affected (61). This affective capacity is presented through combining opposite emotions.

> The posthuman is not only a mode of critical thought, but also a mood of affective belonging. It introduces a multi-faceted 'affective turn' that combines emotions usually held as opposites: nostalgia with the passion for utopian vision; the politics of life itself with the specter of mass extinction; melancholia with anticipation; mourning for the past with a brutalist passion for the not-yet. (Braidotti and Hlavajova 13).

As seen above, these complex affective states coexist in a contradictory manner. This complexity originates from living in an era characterized by "the critique of anthropocentric apathy and the recognition of the vitality of matter and nonhuman

agency" (Braidotti and Hlavajova 13). These posthumanist perspectives require the exploration of affect with new critical angles. According to Braidotti, as relational beings, posthuman subjects build their connections to their self, others, and the environment (*Posthuman Knowledge* 182). This relationality not only gives them the capacity to affect and to be affected, but this ability is also "de-psychologized, and to be de-linked from individualism in order to match the complexity of our human and non-human relational universe" (182). Similarly, Brian Massumi interprets affect as an impersonal intensity that is differentiated from emotion, which is considered personal and as "a subjective content," and works independently of language or systems of signification (88). In this context, affectivity does not signal human exceptionalism but becomes a feature of posthuman subjectivity by marking a shared vulnerability.

Moreover, temporality becomes an integral element of embodied, embedded and affective posthuman subjectivity. In a posthuman context, temporality involves questioning linear notions of time by exploring more complex, non-linear, or networked conceptions of it. As stated by Ferrando, posthumanism offers a promising perspective for understanding the past, present, and possible futures without technocentric assumptions or linearity. This harmonizes with a vision of the posthuman in which agency is not only attributed to human, ahuman, and nonhuman actors but also to different modes of existence (187).

> Posthumanism does not contemplate a linear notion of time; today, yesterday, and tomorrow are not separated. We, posthumans, cannot think of the future without thinking of the present and of the past—this is why a genealogical approach to the human is relevant. Equally, we cannot think of the past without the future and the present. For instance, only now we can fully see the environmental damage brought by the Industrial Revolution, along with other aspects, such as better living conditions for some of the humans who are currently living in industrialized nations, and so on. (28)

According to Ferrando, there is a constant dialogue between the past, present and future in posthuman imaginary. Similarly, Manuela Rossini and Mike Toggweiler critique the traditional notions of time, progress and innovation, which have been shaped by humanism and technoscience for centuries (5). They argue that these notions have been used to regulate progress and categorize both human and nonhuman life. Yet, "modernist, Eurocentric and industry-driven notions of linear historicity" have been challenged as the

past and the present have always been too intricate and paradoxical to be fully explained by a single and linear narrative (5). Therefore, post-anthropocentric approach inherent in posthumanist discourse takes into account the temporalities of nonhuman entities and their entangled, often conflicted, relations with human time (Rossini and Toggweiler 5). Moreover, precarity describes the affective quality of an unstable present and an unpredictable future with no guarantees. Thus, the present is shaped with a kind of restlessness while the future seems uncertain and almost impossible to predict (Anderson 129). Thus, the affective relations also shape the temporal experiences.

Overall, the post-GFC era led to the reemergence of realist novel showing the life of ordinary people after the crisis, protests, and surmounting precarity level with bankruptcies. However, there is also a need to include the planet in the Anthropocene age into the story. In this respect, SF has long been using the literary convention of world-building and incorporating the details of the planet in a manner that current realities become ever more apparent. Portraying a possible future, SF works become more realistic than any other literature. In particular, the works written after the GFC bring precarity to the fore. Laying the brutality of capitalist crises of climate change, precarity, and inequality, the books extrapolate their trends in the future and impacts on the human, nonhuman, and posthuman. In this respect, Paolo Bacigalupi's *The Windup Girl*, Annalee Newitz's *Autonomous,* and Cory Doctorow's *Walkaway* are selected to display how the concept of precarity is presented in the societies suffering from capitalist crises. These books come to the front with their economic systems and how they portray the materiality of the body, anxiety related to the class, and detachment from the future as factors inducing precarity. Since these books focus on how precarious characters thrive in such perilous conditions, they embrace similar literary conventions such as character-focalization and world-building and demonstrate precarity as an embodied, affective, and temporal concept.

The first chapter focuses on Paolo Bacigalupi's *The Windup Girl* (2009), exploring how a transition from a petroculture-based society to a calorie economy, in conjunction with an environment decimated by ecological disasters, engenders bodily vulnerability in posthumans. This in turn influences their affective experiences and temporal

relationships. Through this critical dystopia underscored by environmental degradation, societal disparity, and political malfeasance, Bacigalupi analyzes how precarity binds humans, sub-humans, posthumans and nonhumans together and makes them vulnerable against nature and the economic system. From this perspective, biotechnology is utilized as a tool to breed novel forms of dominance and exploitation over these entities. This suggests that advances in biotechnology are harnessed to exert power and dominance, thus intensifying their precarious circumstances. By deconstructing the concept of the human, this chapter discusses the posthuman as a shared vulnerability, underpinning its embodied, embedded, affective, and temporal nature.

The second chapter explores Cory Doctorow's *Walkaway* (2017), which depicts a post-work and post-scarcity world damaged by global ecological crises and the problems of economic inequality. By creating a dual structure as the default and walkaway system, Doctorow employs the issue of precarity to describe the embodied and embedded nature of its characters. This chapter focuses on the concept of disembodiment and the shift from meritocracy to reputation and gift economies, and how they form affective and temporal relations from a posthumanist and transhumanist perspective. Whereas this binary economic structure existing in the novel continues creating precarity, the idea of disembodiment seems to be combined with a utopian alternative offering detachment not only from the default system creating inequality and precarity but also from the materiality of the human body with posthumanist alternatives.

Lastly, the final chapter focuses on Annalee Newitz's *Autonomous* (2017), which describes a dystopian future when most of the population is devastated by a series of plagues. It explores the concept of precarity within the context of indentured servitude and a patent regime through the lens of posthumanism. The indentured servitude system creates a bodily vulnerability that constitutes the body as a site of control, transformation, and resistance. This system also blurs the line between a human and a robot, thereby complicating the experiences of emotion. Depicting a technologically advanced society, in which robots and AI impair conventional forms of employment replacing human workforce, evokes feelings of anxiety and fear. Drawing from Rosi Braidotti's definition of the posthuman, the objective of this chapter is to examine the posthuman as a shared

vulnerability, with particular emphasis on its embodied, embedded, affective, and temporal nature. In the novel, time also becomes a device of control, shaping the experiences of characters and categorizing them through limitations. This chapter argues that *Autonomous* offers a critique of the existing socio-economic systems by projecting them into the future and broadening their reach to include nonhuman beings, while also investigating what it means to be human and a cyborg, particularly focusing on the aspects of autonomy, agency and the hybridity between human-animals and machines.

All in all, the widening of income inequalities and precarity related to the GFC affected the future projections in SF narratives. Considering that the crisis hit the Western world and the United States, these effects can be clearly seen in the North American SF literature. The books written in the post-2008 period can be considered examples of the discourse of crisis and depict post-disaster societies shaped by the motives of the GFC but endeavor to form different approaches against these factors. Taking these into consideration, this thesis argues that SF provides significant insights into the GFC by serving as a tool to comprehend the deeper issues associated with the crisis. These books written following the crisis depict post-disaster societies with strange economics in which systems generate a sense of precarity whereas the existing problems remain to be seen. Although seeming quite different, the characters are portrayed in precarious conditions because of their vulnerable bodies, affective experiences, and temporality. At the same time, it is apparent that the genre continues functioning as a mediator between science and society.

CHAPTER 1: BIO-ENGINEERED POSTHUMAN SUBJECTIVITY AND VULNERABILITY IN PAOLO BACIGALUPI'S *THE WINDUP GIRL*

> *You are not a dog*, she reminds herself. *You are not a servant. Service has gotten you abandoned amongst demons in a city of divine beings. If you act like a servant, you will die like a dog.*
> (Bacigalupi, *The Windup Girl* 150)

This chapter focuses on the shift from a petroculture to a calorie economy, and how this shift and an environment ravaged by ecological catastrophes create bodily vulnerability for posthumans, influencing their affective experiences and temporal relations in Paolo Bacigalupi's *The Windup Girl*.[10] By presenting a critical dystopia that foregrounds environmental degradation, social inequality and political corruption, Bacigalupi shares a social commentary on capitalist crises of precarity and climate change. This chapter centralizes the idea of precarity as bodily vulnerability within a bodily economy. It analyzes how precarity functions as a shared sense of vulnerability that binds humans, sub-humans, posthumans and nonhumans together against nature and the prevailing economic system. In this respect, biotechnology is utilized to create new forms of exploitation and control over these entities. This implies that biotechnological advancements are employed to exert power and dominance, further accentuating the precariousness of their situations. By deconstructing the human, this chapter discusses the posthuman as a shared vulnerability by highlighting its embodied, embedded, affective and temporal nature.

Born in Paoina, Colorado in 1972, Paolo Tadini Bacigalupi is an American SF and Fantasy writer with a major in East Asian Studies from Oberlin College. Instead of using the title of SF writer, he prefers to be labelled as "an author of broken futures". In his literary works, he tends to use dystopian places which carry the traces of the consequences of the humanity's decisions ("Can Fiction Make People"). Considered as a relatively new voice in American SF, in a short period, he has achieved growing popularity and

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[10] Hereafter referred to as *TWG*.

widespread interest with his short stories and novels based on real environmental crises and extrapolations into a grotesque future. As a resident of Colorado, he also actively engages with concerns such as pollution, land and water rights and management and in the meantime, he writes for a magazine called *High Country News*, dealing with these issues. Christy Tidwell points out that Bacigalupi's ardent commitment to environmental issues has shaped his fictional approach and caused him to build dystopian worlds coping with environmental crises (95).

As stated in his interview with Allan Vorda, Bacigalupi mentions that both his short stories and novels depict "the worst of humanity, broken worlds, and broken people" ("The Author"). In doing so, they focus on dystopian visions of capitalist exploitation and political, economic, and ecological disasters. To illustrate, his short stories highlight topics such as the politics of food in "The Calorie Man" (2005), water management in "The Tamarisk Hunter" (2006), waste management and de-evolution in "Pump Six" (2008), and the manipulation of bodies, either for longevity, entertainment or durability in "The Fluted Girl" (2003), "Pop Squad" (2006) and "The People of Sand and Slag" (2004). Likewise, his novels *The Windup Girl* (2009), *Ship Breaker* (2010), *The Drowned Cities* (2012), *The Doubt Factory* (2014), *The Water Knife* (2015), and *Tool of War* (2017) can be classified as cli-fi (Climate Fiction) narratives and revolve around similar atmospheres which were shaped by the effects of anthropogenic climate change.

Moreover, he was granted various SF-honors, including four Locus Awards, one Hugo Award, Nebula Award, and Theodore Sturgeon Memorial Award, as well as numerous prestigious awards nominations. In "Bacigalupi's World" (2009), he argues that SF generates myths of the future, and in these myths portraying environmental problems, no happy endings are deserved (Paskus 39). When a happy ending is imagined, it "creates a myth that is unearned," and this gives a sort of relief that "it [the myth] does get solved, when in fact, the battle is not even engaged yet. We have not even begun to face the question of how we are actually going to deal with climate change, let alone species destruction, let alone questions like population growth" (39-40). Thus, as a category of dystopian imaginings, his works can be considered as examples of critical dystopia which convey both the anxieties of a dystopian world and utopian possibilities. In this respect,

his debut novel *The Windup Girl* fits in this category with its complex plot attempting to warn against the failings of petro-capitalism while trying to provide remedies.

Set in Krung Thep, the City of Divine Beings, commonly known as Bangkok, which belongs to the same world as Bacigalupi's acclaimed short stories "The Calorie Man" and "Yellow Card Man," *TWG* presents a dystopian future fraught with problems such as rising water levels, bioengineered plagues, and food shortages. In this world, calorie companies such as AgriGen, PurCal and RedStar control food supply by producing genetically modified crops and sterilizing conventional ones to maintain their monopoly. Since there are no fossil fuels left, energy comes from "kink-springs" wound by megodonts, genetically modified elephants.

The plot portrays the thrives of its characters in this desperate environment challenged by political, economic, and ecological crises by narrating the story from the perspectives of its key characters. Anderson Lake, who runs a "kink-spring" energy technology factory in Thailand while covertly working for AgriGen. The underlying reason for his being a representative in Thailand is to acquire the secrets of Thailand's seed bank with their methods to develop new and secure food resources and monopolize them. This energy company is managed by Anderson's right-hand-man Hock Seng, a Yellow Card and a Chinese-Malaysian refugee who was once a wealthy merchant in Malaysia before fundamentalist Muslim purges causing the collapse of his business and the demise of his clan. This drastic shift in his faith brought about a life verging on constant paranoia of expecting to be massacred by Thais or sent away to Malaysia.

Emiko or the titular "Windup Girl," who is depicted as a genetically engineered by the Japanese as the "New People" to replace the workforce by using them either as assistants and sexual toys or as military personnel. In response to a declining and aging population, the Japanese have created the New People, humanoids endowed with enhanced speed, intelligence, and sensory capabilities. However, these beings exhibit certain defects, such as their distinctive "stutter-stop flash-bulb strange" movements, a pore structure that prevents sweating in the humid climate of Thailand and causes overheating, and an irrepressible compulsion to serve and obey commands, which collectively serve to mark

them as the other. In spite of these defects, Emiko illegally resides there and is forced to work as a prostitute by a man called Raleigh, who constantly bribes the government to have her stay with him. The characters of Jaidee and Kanya, officers in the Thai Environment Ministry's White Shirt division, are assigned with the task of protecting their country from bioterrorist attacks and environmental exploitation. They struggle with the corruptions within the government, which ultimately leads to a coup orchestrated by Akkarat, the Trade Minister of Thailand.

Characterized by its vulnerable characters, multiperspectivity, critique of economic system, hybridity, and resistance to closure, *TWG* is a critical dystopia containing certain cyberpunk and biopunk conventions (Mochocka 67). In terms of multiperspectivity, Bacigalupi uses the perspectives of vulnerable characters that live under extremely precarious conditions. With the help of biotechnology, there are hybrid characters such as Emiko, and megodonts transgressing the boundaries of human/machine, and human/animal. Throughout the book, multiple perspectives are narrated to give insights into a Western corporate figure with Anderson Lake; a genetically engineered other figure with Emiko; internal dynamics of Thailand government with Jaidee and Kanya; and a marginalized, displaced person with Hock Seng. Through these perspectives, Bacigalupi also shares how these characters handle the crises. By extrapolating an economic system in which life, itself becomes a commodity through calories, Bacigalupi criticizes commodification, economic disparities, and corporatocracies prioritizing profits over life. Lastly, whereas the ending with a coup brings a resolution to the political crisis in Thai Kingdom, for the characters Emiko and Hock Seng, there is a glimpse of hope for a new and uncertain beginning in the end.

As regards Bacigalupi's authorial strategies, *The Windup Girl* widely relies on cognitive estrangement and novum. In this respect, the terms cognitive estrangement and novum, coined by Darko Suvin, are interrelated and can be considered some essential tropes of the genre. Defining SF as the "literature of cognitive estrangement" (4), Suvin explains it as "a creative approach tending toward a dynamic transformation rather than toward a standard mirroring of the author's environment', one that is 'not only reflecting of but reflecting on reality'" (10). Eric C. Otto states that Bacigalupi uses cognitive

estrangement and novum to increase the awareness of the reader's ecological perception and highlight the possibility to end the environmental crises (183). The key feature of this term is the device called the novum, which is "a relationship deviating from the author's and implied reader's norm of reality" (64). As a vehicle which is new to the reader, it forces the reader to imagine a new way of understanding the world. In terms of cognitive estrangement, Bacigalupi employs biotechnology which helped to create genetically modified organisms as the basis of the existing economic system. Thus, the inventions of biotechnology such as diseases, genetically modified food, animals, and people become examples of the novum. Moreover, the setting is both familiar and strange at the same time. By using a dystopian Bangkok dealing with environmental problems, and food shortages, the novel tackles with problems intrinsic to contemporary capitalism on multi-faceted levels such as global, national, social, and individual. By painting a vivid and in-depth picture of a potential future, Bacigalupi challenges the reader to think on the moral ramifications of technology advancement and the significance of responsible decision-making in a society that is changing quickly. Moreover, he offers the chance to empathize with characters who are estranged.

In the novel, Bacigalupi imagines a post-peak oil world where fossil fuels are depleted, thereby shifting the mode of production in response to the shortage of petroleum. He employs the term "Expansion" to define the period before the scarcity when petroleum-fueled modes of production, distribution and consumption of commodities dominate the system and "Contraction" for the period emerging after a global agricultural catastrophe as a new global economic model. In the Expansion period, commercial interest in food patenting is promoted by bioengineering. This later causes food wars breaking out between agricultural monopolies which created plagues and pests that eliminated unpatented food to spread the distribution of their disease-resistant products for more profits. However, with the collapse of energy production through petroleum, the Contraction period starts. In his article, Andrew Hageman names this transition from having a global economy and free market with the petroculture driven by fossil fuels to going through acute energy crisis and severe environmental issues as "techno-industrialization periodization" (283). When this new era begins with the scarcity of fossil fuels, manual energy production makes global transport, high-speed communication,

industrial production and computing unlikely to sustain. However, despite the devastating consequences of petroculture, the Expansion is considered "a golden age fueled by petroleum and technology" and the blame is put on "calorie men," "their modified animals," and "patented grains" (Bacigalupi, *The Windup Girl* 201).

> "This is not a question of perspective. Ever since your first missionaries landed on our shores, you have always sought to destroy us. During the old Expansion your kind tried to take every part of us. Chopping off the arms and legs of our country. It was only through our Kings' wisdom and leadership that we avoided your worst. And yet still you weren't done with us. With the Contraction, your worshipped global economy left us starving and over-specialized." He looks pointedly at Anderson. "And then your calorie plagues came. You very nearly took rice from us entirely." (142)

As seen above, this is how the trade minister, Akkarat summarizes how calorie companies destroyed the world and tried to gain power in the Contraction. In this respect, Andrew Hageman argues that "capitalism can be retrofitted into a sustainable economic system with greater profit margins" (284) and the calorie companies view these ecological crises as opportunities for exploitation and growth (290). This ecological capitalism has paradoxes inherent in the system:

> They are spending millions to produce trash that will cost millions more to destroy- a double-edged sword that just keeps cutting. All the sweat, all those calories, all that carbon allotment- all to present a believable cover for Anderson as he unravels the mystery of nightshades and *ngaw*. (Bacigalupi, *The Windup Girl* 11)

As seen above, imagining ecological futures has contradictions and challenges when the capitalist economic system remains in effect. It also demonstrates that when the structures and systems that perpetuate the attitudes causing ecological devastation are intact, having a sustainable economic system coexisting with nature becomes hardly possible (Hageman 284).

The key features of this new system focus on resource scarcity, the technological change on employment and market power. In this post-oil era, the hegemony of energy companies is supplanted by biotech corporations. As a result, megacorporations such as AgriGen, PurCal and RedStar emerge as actors dominating global food production and control. Taking up the position of petro-capitalist institutions in the Expansion period, they

consolidate their power with the acceleration of genetic engineering. Thus, in an endeavor to reclaim the American hegemony lost during the worldwide economic Contraction, they revive the geopolitical dynamics of petro-capitalism with a shift from petroleum to calories. In this calorie economy, calories become the currency and greatest commodity. The collapse of GDP-led economic policies with the Contraction precipitates the emergence of this bodily economy.

This economy is not only ecologically conscious, but also centers on the biological basis of calories. For this reason, calorie economy can be considered as a post-anthropocentric system leading to the transgression of the boundaries between the human and the nonhuman. Yet, the companies which desire to control food production and distribution continue creating the *bios* with sovereign power and reducing the rest of the society to a degree of vulnerability. Likewise, the past is also fraught with the quests of many contenders to control the production and regulation of money and each time, a new currency has demolished the old forms of governance transforming the economic system (Weatherford 264-65). However, *TWG* portrays how possible changes are hindered when the powerholders continue having control over money. In the book, instead of changing the system or the old forms of governance, the previous oil companies transform themselves to have the power to produce and control food; however, their reckless actions in pursuit of generating dependence on their bioengineered products result in recurrent outbreaks of plagues haunting humanity and vegetation, rampant corruption and genetically engineered humans and animals viewed as slaves.

Called as "calorie" companies, these monopolies try to reassert their position of control in response to the scarcity of petroleum and to maintain political corruption and American hegemony. Despite the lack of reference to the US, these companies become indistinguishable from it. Whereas the corporations showcase the domination of Americans over the control of food supply via their bioengineered plagues, pests that destroy unpatented food and genetically modified sterile and disaster-resistant seeds, Thailand constitutes not only the main setting but also one of few nation states which could maintain its independent status with its gene-hacking success, strictly enforces trade

laws and struggles against rising sea levels and uncontrollable mutations against calorie companies.

In this post-oil era, *TWG* not only criticizes petro-capitalism by showcasing its possible outcomes, but it is also shaped by peak oil anxiety. In his article, Sean Donnelly points out that dystopian nature of *TWG* is associated with its presenting a future without oil, which generates eco-precarity and "undermines any notion that the end of oil will end capitalism by pointing towards the lack of imaginable alternative" (161). In the same vein, Imre Szeman argues that "oil and capital are linked inextricably, so much so that the looming demise of the petrochemical economy has come to constitute perhaps the biggest disaster that 'we' collectively face" (807). In the novel, in an attempt to revive the geopolitical dynamics of petro-capitalism, coal is used as an industrial and military resource and biofuels for heating and light. Jonathan Hay argues that this bodily economy is considered to have the potential to be alternative to the destructive neoliberal ideologies; however, it becomes a statement of social upheaval and human suffering ("No Windup" 34).

In such acute scarcity, Thais recognize the significance of having a symbiotic relationship with their planet's ecology after realizing their bodies are the only things they have. This realization also causes them to implement ecologically interventionist policies. In this respect, *TWG* is another example of contemporary SF works that underscores the need of the (post)human to act rapidly enough to achieve a symbiosis with the environment to be able to survive and evade apocalyptic consequences. In this respect, drawing upon Rosi Braidotti's definition of the posthuman, embodied, embedded, affective and temporal nature of the posthuman can be analyzed to indicate the shared vulnerability of its characters.

To criticize the damaged symbiotic relationship between human and nature in Anthropocene, posthumanism considers the human as "a geological force capable of affecting all life on this planet" (Braidotti, *The Posthuman* 5). Thus, the interrelated nature of humans with their environment, nonhuman entities, and economic structure makes their body more vulnerable against the changes. Aleksandra Mochocka argues that

Bacigalupi's works generally address a critical posthuman subjectivity emphasizing the human as a global force, pointing towards the new era called the Anthropocene (65-66). Sherryl Vint argues that on account of avoiding taking responsibility for their actions, humans tend to desire to get detached from their vulnerable bodies and move into cyberspace as disembodied beings (*Bodies of Tomorrow* 132-33).

Likewise, Frederick Buell states that in cyberpunk, nature and human embodiment have ended and new environmental spaces including cyber-space emerge as a result of a "postmaterial" and "postscarcity" economy that "detached itself from the material realm-the world that the old industrial economy had exploited and degraded- and become symbolic" (198). In this new environment, "cyborg bodies replace the old biological ones, and great new possibilities are thereby opened up" (238). Similar to these, Bacigalupi also puts the environmental crisis linked to the capitalist mode of production and distribution at the center of his work and portrays the lives of various characters who suffer from occupational hazard and try to sustain themselves financially in the ruins (Clute). Akin to the genre of cyberpunk, his characters embody marginalized members of society who are dispossessed, underprivileged and ostracized. These characters grapple with the challenges to establish themselves within a hostile and rapidly evolving environment (Mochocka 74).

Yet, Bacigalupi underscores the necessity of humans to take full responsibility for their behaviors and focuses on "differently embodied posthumanism" showing the materiality of human corporeality is inseparable from nature, the socio-economic structure, and their environment. In this respect, the shared vulnerability binding humans, nonhumans, subhumans and posthumans arises from their vulnerable embodiment, embeddedness in calorie economy and environment, affective and temporal experiences.

Like in Bacigalupi's many other works, body is employed as a central image in *TWG* (Mochocka 13), and as a recurrent motif, body modifications appear as a tool for creating the posthuman. The idea of modifying the body has instilled fears into the minds of people for ages; however, with the help of biotechnologies, the "distinctions between what is real and what is virtual, where the body ends and technology begins, what is nature and what

is machine" have become vague (Peterson 3). This vagueness affected the projections of the future in SF works and led to the emergence of biopunk,[11] which "was born into a world that has become science fictional itself" (Schmeink 28). With the realization that "we are not considered fully human" (28), the basic frame of reference indicating what is considered human today is altered dramatically by genetic engineering, globalization, and the Anthropocene condition (70).

In terms of the relationship between body and precarity, the book presents the effects of the hypercapitalist exploitation and commodification of nature and human life revealing the dissolving boundaries between the human, subhuman, posthuman and nonhuman (Schmeink 15). Through this dissolution, the human has become the subhuman, nonhuman and posthuman by losing its exceptional position (75). This loss results in the "decentering of the traditional sovereign, coherent and autonomous human in order to demonstrate how the human is always already evolving with, constituted by and constitutive of multiple forms of life and machines" (Nayar 2). Thus, it can be argued that the book has a posthumanist perspective critiquing the human past and present full of mistakes and injustices and declares that the posthuman is better equipped in post-disaster environments. Although the body of the posthuman beings is also created vulnerable and embedded in the environment and socio-economic structures, they have the potential to prevail in this destructive environment. On the other hand, the human's dependency on other bodies makes it very unlikely for them to find a way to survive. Precariousness of the human in this sense can be elucidated with Judith Butler's understanding of the body and its inevitable vulnerability to exist socially.

Judith Butler argues that precarity characterizes the subject who can be recognizable and grievable and proposes that "precarity seems to focus on condition that threaten life in ways that appear to be outside of one's control" ("Performativity" 1). As an embodied subject, the human exists in a state of precariousness open to the intervention of others and depending their existence on others. This bodily existence entails interconnectedness,

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[11] Defined as the development of cyberpunk of the 1980s and 90s, this sub-genre provides the account of the changing sociological view of liquid modernity in an era when mainstream attention was directed to genetic engineering and biotechnology (Schmeink 28).

dependence and vulnerability. Bacigalupi discloses interconnectedness in terms of the symbiotic relationship between nature and human. Environmental precarity affects the connection with our bodies, and also each other and deepens precariousness of the characters. He criticizes how human-centered ecosystems regard nonhumans as "economic resources, commodities and means of production for human use" (Noske 185). Interconnectedness with nature and being prone to environmental problems such as plagues, rising sea levels, rampant pollution and destruction of the ecosystem challenge the idea to consider nature as "inferior, passive and mindless" (Plumwood 49). In other words, showing how vulnerable the characters are against nature overpowers the need to have a sustainable ecological future to survive. Not only humans but also genetically modified hybrid species are affected by these changes. To explain further, Rosi Braidotti states:

> 'We' are in the process of becoming posthumanist and post-anthropocentric, but not in the way of a Silicon Valley delusion, that this is a homogeneous or linear manner conducive to the composition of a more performative and enhanced pan-humanity. Instead, I emphasize the embodied, embedded, and transversal selves that we are, bonded by ontological relationality. Embodied and embedded because we are deeply steeped in the material world. Transversal because we connect but also differ from each other. And yet we are structurally related to one another, to the human and non-human world that we live in. (*Posthuman Knowledge* 43-44)

This multi-scalar relationality binds all affective, embedded, and embodied beings. In the novel, Emiko, depicted as a genetically modified posthuman, is an embodied being designed to be embedded in the climate of Japan. Thus, in Thailand, she is highly affected with the changes caused by the increasing global temperatures. Her body is dependent to air conditioning and the continuous supply of cold water because of the way it is engineered:

> As soft as skin be, and perhaps more so, because even if her physical movements are all stutter-stop flash-bulb strange, her skin is more than perfect. Even with her augmented vision she barely spies the pores of her flesh. So small. So delicate. So optimal. But made for Nippon and a rich man's climate control, not for here. Here, she is too hot and sweats too little. (Bacigalupi, *The Windup Girl* 35)

Similarly, it is also stated that she is "trapped in this suffocating perfect skin" (35). In this respect, Emma Rees argues that "the skin, then, is the language of the body- that which

keeps us 'in', and which allows us to interact" (4). As a liminal place or a borderland, it either separates one from another or integrates one with the others. According to this, Emiko is not only separated from other humans but also becomes an abject figure to be always apparently different and humiliated. Francesco Ferrando states that "[o]therness defined as the negative opposite of the dominant subject position and inscribed in a hierarchical scale that spells inferiority is challenged by a situated or an immanent method" (xiii). In the category of "others," Emiko's posthuman embodiment is precarious and exposed to all forms of risk. Since she is an illegal resident, her movements and body make her an easy target to spot. However, her body is physically superior to others, and she realizes this after getting control of her body and defending herself against the attacks of the soldiers.

> She plunges into the street, not caring that she shows herself as a windup, not caring that in running she will burn up and die. She runs, determined only to escape the demon behind her. She will not die passive like some pig to slaughter . . . He's astonishingly slow. Amazing that she even feared him. She laughs at the absurdity of this suspended world- (Bacigalupi, *The Windup Girl* 102-3)

This self-realization helps her to stop being obedient and survive when the walls that prevent the ocean waters from breaching the city are deliberately tampered during a conflict. This also changes her relationship with water because the flooded area provides constant flow of water, which allows her to be strong enough to defend herself. As an embedded and embodied being, she co-evolves with the environment and her relationality with water helps her to survive. As Mochocka argues, Emiko's relationship with water is defamiliarized throughout the book in a way that diverges from its generic use (158). To start with, because of the hot and humid climate of Bangkok, her need of water to cool down makes her more precarious. This need is presented as follows: "The heat in her skin is overwhelming. She's dying. Anderson yanks her jacket open, trying to vent her. She's burning up, overheated by her flight and poor genetic design" (Bacigalupi, *The Windup Girl* 104). Thus, overheating is a problem that makes her semi-dependent to others. Even though biological enhancement is considered as the "perfectibility" of the body by transhumanists, Emiko's embodiment shows that genetic modifications encompass strengths and weaknesses.

> "Please," she hesitates, "a cold drink." Raleigh sips his water and watches as more of his girls filter in. "Keeping a windup is damn expensive." Emiko smiles embarrassment, hoping to assuage him. Finally, Raleigh makes a face of irritation. "Fine." He nods to Daeng. A glass of ice water is passed across. Emiko tries not to lunge for it. She holds it to her face and neck, almost gasping with relief. She drinks and presses the glass against herself again, clutching it like a talisman. "Thank you." (158)

In most instances, her desperate need to use water as a cooling agent is fulfilled by the help of others. In this respect, water becomes a nonhuman agent as a constant threat to the city and a constant reminder of the ecological disaster. However, for Emiko, it becomes not only an agent of liberation but also life itself. To highlight the relation between posthuman and nonhuman agents, Braidotti states, "[p]osthuman subjectivity is a transversal alliance that nowadays involves nonhuman agents. This means that the posthuman subject relates at the same time to the Earth – land, water, plants, animals, bacteria – and to technological agents – plastic, wires, cells, codes, algorithms" (*Posthuman Knowledge* 98). As a result of a similar alliance between Emiko and water, it no longer becomes a means of oppression once the walls break and flood the city. On the contrary, this transversality helps her to survive as "[s]he eats well and sleeps easily, and with water all around, she does not so greatly fear the heat that burns within her" (Bacigalupi, *The Windup Girl* 356).

Yet, vulnerability is shared by many other groups in the book. Butler argues that people exposed to injury, violence and displacement are more susceptible to the risk of not being qualified as a subject of recognition ("Performativity" ii). Including nonhumans such as the megodonts; posthumans the windups; subhumans yellow card refugees, these marginalized groups are subject to harm, aggression or forced immigration. For instance, yellow cards are refugees escaping from the racially and religiously motivated genocide in their countries and have come to Thailand only to be subhumans. They are "packed like slaughter chickens into sweltering Expansion towers" (Bacigalupi, *The Windup Girl* 6). They are isolated from the rest of this city living in these liminal places which serve as a transitional and in-between space with the depiction "[o]verhead, the towers of Bangkok's old Expansion loom, robed in vines and mold, windows long ago blown out, great bones picked clean. Without air conditioning or elevators to make them habitable, they stand and blister in the sun" (8).

Located on the edge of Bangkok, these towers are neither fully integrated to nor excluded from the city. They symbolize the marginalization and exclusion of the yellow cards. As refugees, they are also in a transition between their previous precarious lives and the new ones in which they are not embraced.

> Now the white shirts own every inch of the city, and their favorite target is yellow cards. They like to test their batons on yellow card skulls, like to teach them lessons. If the Dung Lord didn't have so much influence, Hock Seng is sure that the ones in the towers would already be slaughtered. The Environment Ministry sees yellow cards the same way it sees the other invasive species and plagues it manages. Given a choice, the white shirts would slaughter every yellow card Chinese and then make a khrab of apology for their overenthusiasm to the Child Queen. (212)

Since they are seen as disposable and ungrievable lives, they face violence and abuse in every aspect of their lives and are depicted as the ones "starving in the street" (16) and denied access to work. In addition to the existing plagues, there are also other causes of vulnerability for them because "the towers have their own diseases, poverty is its own killer" (172). Thus, it can be argued that their body with other humans "is reduced to weight and calories- no more than a commodity available in superfluous amount" (Schmeink 82), which makes their identity and status be in flux.

Moreover, Butler's idea concerning not being qualified as a subject of recognition complicates the position of the posthuman beings as well. Even though they are depicted as unbeatable even against the most severe conditions threatening the lives of the humans, these posthuman beings' constant exposure to violence portrays them more precarious and anxious. They do not depend on any other beings to survive, or their existence is not connected to others, which is also shown when Emiko survives by herself, after the breakdown of the walls. For this reason, Emiko's struggle becomes an issue of recognition in Butler's sense. This struggle begins with the realization of the necessity to have full control over her own body.

> "My body is not mine," she told him, her voice flat when he asked about the performances. "The men who designed me, they make me do things I cannot control. As if their hands are inside me. Like a puppet, yes?" "They made me obedient, in all ways." (Bacigalupi, *The Windup Girl* 174)

As a sentient creature, Emiko has a mechanical body which is used to control and manipulate her and limits her autonomy whereas her human-like mind has emotions which cause her to resist against the orders of her human masters. This shows how mind and body are interconnected and influence each other.

> She stifles the urge to clean up the rice, to make things neat for Anderson-sama when he returns. Instead, she makes herself stare at the mess and recognize that she is no longer a slave. If he wishes rice cleaned off the floor there are others to do his dirty work. She is something else. Something different. (239)

Refusing to clean up the mess becomes a climactic moment showing her shift from being "servile as a dog" (176) to "something different." For Bacigalupi's world, Schmeink suggests that unstable social, ecological and economic conditions bring the human to the brink of a radical transformation. Therefore, the human becomes a concept of the past not being able to apprehend the necessity of having an interconnected life on earth and as a "better option" to survive, the posthuman takes the charge (117). In this sense, *TWG* not only projects a conflict between the human and posthuman, but it also proves the superiority of the posthuman as being better equipped for the changing conditions and uncertainties of the future. Describing the battle between these two species, Schmeink states:

> The human suppresses posthuman technology through the mechanics of consumer society and relentlessly hunts genetically altered creatures without mercy. But the representation of suffering and torture in the posthuman is exactly what connects the reader to its subjective position and thus allows for the conceptual space of posthumanity to take hold. (116)

As stated above, there is a constant endeavor to establish domination of the human over the posthuman by way of inhumane exploitation methods. In this power struggle, under the category of the human, there are racialized groups who are trying to dominate food politics and susceptible to any food modification because of the use of food as an economic weapon. In this respect, although the human body is reduced to just weight and calories, their exploitative greed and need to generate energy and food to survive lead to producing posthuman beings. The prospect of employing artificial laborers becomes a practical solution to aversion towards jobs considered dangerous, unskilled, and

undesirable. In her article, Juliane Straetz underscores that the effects of social, cultural and economic factors on the value and meaning of labor are often associated with the concepts of body, identity and the sense of selfhood (3). She argues that Emiko not only symbolizes laboring bodies but also the working conditions that causes us to feel lifeless, restricted and devalued in global capitalist societies (4). In addition to windups created with the aim of "constructing perfect laborers" (Straetz 4), for energy concerns, megodonts are also created by calorie companies as "elephant-driven animals" to greater labor. They are depicted as monsters that are inactivated and disarmed from their own natural body parts for the sake of security precautions.

These genetically modifies creatures are depicted as follows: "The beast's four tusks have been sawn off for safety, but it is still a monster, fifteen feet at the shoulder, ten tons of muscle and rage, balanced on its hind legs. It pulls against the chains that bind it to the winding spindle. Its trunk lifts, exposing a cavernous maw" (18). Highlighting their bodily capacity providing the necessary power to transport and produce goods, it shows that they are still nothing but a monster. In this sense, there is a line between the natural and unnatural, and it is pointed out that these unnatural creatures do not intrude with the natural order. On the contrary, they "barely resembled the elephants that had once provided their template DNA" (Bacigalupi, *Pump Six and Other Stories* 102). In this respect, megodonts are also another example of reversed novum, which means that they seem similar to elephants that is known by the reader but are depicted as precarious laborers with their unions and protests. Although they are mistreated in the factories where they work to produce energy, the labor of megodont is precious and irreplaceable and even their bodies are source of calories:

> Even the Dung Lord must bow before the Megodont Union. Without the labor of the megodonts, one must resort to the joules of men. Not a powerful bargaining position.
> . ."I want to replace the mahout," he says. "All of them." Hock Seng sucks air through his teeth. "It is impossible. The Megodont Union controls all of the city's power contracts. It is a government mandate. The white shirts award the power monopoly. There is nothing we can do about the unions." (Bacigalupi, *The Windup Girl* 15-28)

As seen above, all the megodonts belong to the Megodont Union, which is considered quite valuable because the close relationship between the unions and government offers

them a special status. In a world where everything is so vulnerable and precarious, the first action that Anderson desires to take is to replace all the workers. Although the system which uses megodonts to produce energy allows people to live in the Contraction, post-petroleum era, their worth is undermined because of their contract and antagonism between government and companies. Despite being powerful, the Megodont Union is unable to improve the working conditions of these creatures. They are manipulated and murdered without any second thoughts, and their flesh becomes a food supply for those living in the slums and animals.

> They've cut open the megodont's belly. Intestines gush out. Offal gatherers—the Dung Lord's people, all—wade into the mass and begin shoveling it into handcarts, a lucky source of calories. With such a clean source, the offal will likely go to feed the pigs of the Dung Lord's perimeter farms, or stock the yellow card food lines feeding the Malayan Chinese refugees who live in the sweltering old Expansion towers under the Dung Lord's protection. Whatever pigs and yellow cards won't eat will be dumped into the methane composters of the city. (Bacigalupi, *The Windup Girl* 23)

As seen above, when the megodonts die, they become a source of food and "untold calories" (22). The moments of dismembering their bodies are also explained in a grotesque way:

> Bones protrude from the corpse like coral rising from an ocean of deep red meat. Blood runs from the animal, rivers of it, rushing toward the storm drains and Bangkok's coal-driven flood-control pumps. Hock Seng watches sourly as blood flows past. The beast held gallons of it. (22)

This graphic portrayal of the animal's death also indicates the shared materiality and embodied dimension of all life forms. Hock Seng is detached from the observation of the scene and focuses on the materiality of blood. Against all the mistreatments, the only method they resort to is to protest. Their union handlers call out to the beasts to motivate them to greater labor; however, in spite of their enormous size and strength, they are still quite vulnerable to harm and disposable in the eyes of those who control them. In the end, during the revolution, megodonts play their part by slashing through the crowds and killing people.

> The storm is gathering. The megodonts must do the battle. It is their fate. The power sharing of the last coup could never last. The beasts must clash and one will establish final dominance. Hock Seng murmurs a prayer to his ancestors that he will come out of this maelstrom alive. (272)

Thus, in the end, megodonts participate into the revolution and fulfill their fate to build dominance. Their bodies become a site of resistance during the battle. Similarly, Emiko's body also turns into a site of resistance. From being a source of power to control them, she evolves into a symbol of resistance by fighting against power structures and forces of exploitation and reclaiming her own body and life.

In their article, Judith Butler states that "although the body depends on the language to be known, the body also exceeds every possible linguistic effort of capture" ("How Can I Deny" 4). In some instances, feelings become so intense that they surpass the limitations of language, causing meaning and structure collapse (Rees 5). In *TWG*, this collapse can be observed with the absence of the voice of the characters from the first-person point of view. In particular, the megodonts, yellow cards and Emiko suffer from violence, abuse, humiliation and molestation. These acts of violence are depicted in such a detailed and grotesque way that the reader tends to build an emphatic bond with the characters. Bacigalupi employs multiperspectivity to share the stories and experiences of these characters; however, the omniscient narrator depicts their feelings. The characters are unable to share their experiences with their own words in this world where they are ostracized, and language is broken down.

In terms of its affective dimension, the book focuses on affective responses of the megodonts, yellow card refugees and the windups against the acts of violence. The dystopian setting that perpetuates suffering and exploitation causes a sense of anxiety and fear not only for these characters but also for the reader. To show the affectability of humans and nonhumans, Rosi Braidotti states that "[w]e are relational beings, defined by the capacity to affect and be affected. Posthuman subjectivity starts with the acknowledgement that what defines us as an autonomous capacity is not rationality, nor our cerebral faculty alone, but rather the autonomy of affect as a virtual force that gets actualized through relational bonds" (*Posthuman Knowledge* 98). Thus, being embodied

implies interconnectedness and the ability to affect and to be affect by others (Ahern 4). To indicate the affectability of both humans and nonhumans, *TWG* provides the affective responses of its characters against violence and cruelty. Their pain and vulnerability in fact demonstrates "the deeply affective and relational nature of all living entities" (Braidotti, *Posthuman Knowledge* 342).

As regards the megodonts, they are depicted as "the living heart of the factory's drive system" (Bacigalupi, *The Windup Girl* 9), and the sole purpose of the genehacked animals is "to inhale calories and do terrible labors without complaint" ("Pump Six" 102). However, as opposed to the generippers' ultimate goal to create these creatures, they mostly stand out in the story with their shrieks, groans and cruelty against them.

> Anderson has a number of words for people who try to raise a subject and then somehow fail, but he's interrupted by a scream from the megodont downstairs. The noise is loud enough to make the windows shake. Anderson pauses, listening for a follow-up cry. That's the Number Four power spindle," he says. "The mahout is incompetent." (Bacigalupi, *The Windup Girl* 15)

Their screams and groans indicating the suffering that they feel from the mistreatment are mentioned in the background of the story so mundanely that these inhumane conditions and their being in constant pain and terror are normalized. When "a megodont screams protest, it is lashed into silence" (11). As nonhumans, they are unable to speak and marginalized as a group. "The sound of a mistreated animal" (13) becomes only a shriek. Even though they represent an important part of this economic system by producing the energy to cool down the factories they work, they face severe exploitation at work. As a narrative element, expressing their constant suffering in the background produces an anxious reading experience for the reader.

With regard to Emiko, her mechanic body and subservient character become a site of exploitation and resistance. Her humane reactions against maltreatment shows her resistance against dehumanizing practices by underscoring the idea that all forms of life including humans and nonhumans possess inherent value and the capacity for emotion and resilience. She deals with a wide range of emotions including disgust, anger, and frustration. In order to underscore the shared vulnerability with an objective stance,

Bacigalupi applies omniscient narration while conveying her innermost thoughts and feelings.

> [A customer] He stares intently, as if he is examining an insect under a magnifying glass: fascinated, and yet repulsed. She has the urge to snap at him, to try to force him to look at her, to see her instead of simply evaluating her as a piece of genetic trash. But instead, she bows and knocks her head against the teak stage in subservience while Kannika speaks in Thai and tells them Emiko's life story. That she was once a rich Japanese plaything. That she is theirs now: a toy for them to play with, to break even. (*The Windup Girl* 36)

As seen above, "snapping" becomes an intuition for her as a result of the accumulation of various affects. It is expected of her to be obedient; however, her inner voice displays contradictions that she has. Lauren Berlant argues that intuition presents subjectivity and functions as a type of archive of the affects showing the methods of managing "the ongoing present" (17). However, she is not ready yet to follow her intuitions.

> [Emiko] She has the uncomfortable feeling of being taken apart, cell by cell. Not so much that he undresses her with his gaze—this she experiences every day: the feel of men's eyes darting across her skin, clasping at her body, hungering and despising her—instead his study is clinically detached. If there is hunger there, he hides it well. (Bacigalupi, *The Windup Girl* 39)

As seen above, Emiko is aware of this dual response of desire and despising that she elicits in men. This dualism reflects the mind/body dichotomy since she is physically desired because of her engineered beauty, but she is also mentally or morally despised due to her artificial and objectified status. In another instance, she describes this gaze as molesting. These feelings contradict with the way that she is created and the purpose of her existence.

> [Emiko] She welcomes the guarded gaze after her own feelings of shame. If she's lucky, perhaps this gaijin will slaughter her and be done with it. At least then she can rest. She waits, expecting him to strike her. No one tolerates impudence from New People. Mizumisensei made sure that Emiko never showed a trace of rebellion. She taught Emiko to obey, to kowtow, to bend before the desires of her superiors, and to be proud of her place. (44)

This omniscient narration technique is prevalent throughout the novel and details the feelings as well as hidden motivations of the characters. To explain the difference between the narrative voice and the narrative perspective, Jonathan Culler states that the question "who sees?" is distinct from that of "who speaks?" (182). This means that the perspective of the narrative can influence the reader's interpretation of the characters and events, while the narrative voice brings forth the emotional and cognitive aspects of the narrative. The narration in Bacigalupi's work employs a multiperspective approach, favoring the perspectives of individual characters as seen from a godlike standpoint. This not only enhances the reader's understanding of their world and actions but also fosters an empathetic connection between the reader and the characters.

> "There are for you, only. Don't show them to Raleigh. I'll settle with him before I leave." She supposes she should feel grateful, but she instead feels used. As used by this man with his questions and his words as those others, the hypocritical Grahamites and the Environment Ministry's white shirts, who wish to transgress with her biological oddity, who all slaver for the pleasure of intercourse with an unclean creature. She holds the bills between her fingers. Her training tells her to be polite, but his self-satisfies largesse irritates her. (Bacigalupi, *The Windup Girl* 44)

As seen above, Emiko does not fit in this world dominated by hypocritical grahamites, calorie men and bribetaker government personnel. It is repeated that "people in Japan might value a windup," and now, she is trash (151). She has a strong connection with the place in which she lives. "In Japan, she was a wonder. Here, she is nothing but a windup" (37). However, over time, the revolution breaks out in Thailand and Emiko's having control over body coincides with this. Once the city changes and becomes uninhabitable because of the flood, she becomes more visible as one of few survivors. This process is depicted as follows: "The days pass. She becomes comfortable entirely in her world of water and scavenge. She is so comfortable, in fact, that when the *gaijin* and the girl find her, scrubbing her laundry from atop a second-floor apartment rail, they surprise her utterly" (337). This quote shows her resilience and capacity to adapt to this new environment as a relational and embodied being.

At the end of the novel, she meets this man who is one of the generippers working in the creation process of the New People. After their encounter, the narrator focalizes the dialogue as an observer and instead of her inner thoughts, the narration conveys this

moment of "meeting her God" to the reader through her words. In this encounter, she questions her defects which make her not a human but a windup.

As a response, the generipper says, "[y]ou cannot be changed, but your children—in genetic terms, if not physical ones—they can be made fertile, a part of the natural world" (339). This meeting turns dystopian elements related to her existence to a utopian potential. As opposed to the dystopian status quo, the story provides its protagonists with the option of an alternative, maintaining utopian possibilities with the idea of a new expansion after the huge contraction. In this respect, Bacigalupi proclaims a posthuman world with an open ending in a potentially different form. The idea that Emiko's children can be made "a part of the natural world" blurs the boundaries between natural and artificial by attributing reproduction and the continuation of life to posthumans as well. This ending indicates that the narrative envisions a future where posthumans live in greater symbiosis with the nature, which may manifest as a utopia.

Moreover, the acts of violence and the characters' sufferings serve to build an emphatic relationship between the reader and non/post or subhuman characters over their precarity. It can be seen that at the beginning of the story, violence against the windup Emiko is so prevalent that it becomes very natural to harm her. As victims of politically induced precarity, the windups, megodonts and yellow cards in Thailand suffer from the failing social and economic networks even more dramatically than other groups. These certain populations use their body to produce profit and labor; however, their presence in public spaces is either criminalized or stigmatized.

In Bacigalupi's world, because of the vulnerability of the human body and the bodily economy, all humans face the risk of disease. However, despite being a severely marginalized group, no windup or megodont are at the risk of this danger. Their labor and body are still exploited, and their lives are depicted ungrievable. As stated by Butler, vulnerable populations are often neither protected by the law or police, nor are they likely to possess a secure home or job (*Frames of War* 26). Considering this shared vulnerability among windups, megodonts and yellow card refugees, it seems that they are depicted as companion species or a *zoē*/geo/techno assemblage. Putting forward the pain they feel in

an extreme way, the book underscores the lack of empathy which causes to see their lives ungrievable. More radically, the distinction between their appearance in a private and public place shows that not every life is conceived worth preserving in an institutional level. Butler defines an ungrievable life as the one that cannot be mourned because it has never been lived, and it has never been counted as a life at all. The division of the globe in grievable and ungrievable lives can be seen from the perspective of those who wage war in order to defend the lives of certain communities, and to defend them against the lives of others even if it means taking those latter lives. Not grieving the pain they feel, readers also become a part of the system that exploits their vulnerability. Butler argues that anger and rage felt in the face of injustices by precarious individuals fuel social movements. In return, these affective sources cause them to demand justice (*Frames of War* 38).

In *TWG*, bio-genetic capitalism commodifies life itself and creates precarity as a form of marginalization or exclusion as biotechnology is used to produce the other as a laborer for profit. Thus, precarity becomes a shared vulnerability by emerging as an affective state that unites nonhumans, subhumans, and posthumans in a shared struggle against both ecological catastrophes and the socio-economic structures of this exploitative system. In addition, pain, nostalgia, and disgust are also used as affects to display their precariousness and vulnerable nature. There is an emphatic connection between body, vulnerability and torture. To explain, the body becomes a site of vulnerability, torture, and abuse. However, the plot revolves around the shift in the perception towards the body of the posthuman beings and their empowerment, thus turning it into a tool of resistance. At the beginning of the novel, there are clear differences between the humans with privilege such as American calorie men and the subhumans who are refugees having fled from the genocide in their hometown and entitled as yellow cards. Differently from Americans in Thailand, these refugees are mostly isolated from the society being trapped in the skyscrapers which have been deserted and left behind since the end of the era of Contraction. Moreover, they are depicted as traumatized beings who have witnessed the destruction of their families and have been living in constant terror, fear, and paranoia since then.

Hock Seng is one of these yellow cards who suffer from the loss of his family and nation, and he constantly questions his fate by stating, "[h]ow is it that I sinned to earn this bitter fate? Saw my clan whittled by red machetes? Saw my businesses burned and my clipper ships sunk? He closes his eyes, forcing memories away. Regret is suffering" (Bacigalupi, *The Windup Girl* 66). As a strategy to deal with this trauma, Hock Seng accepts the fact that he is destined to suffer. Since he continues living in this environment of injustices and violence, flashbacks of the scenes of violence become a part of his life.

> Hock Seng shudders at the sight, remembering his own people similarly disassembled, other bloodlettings, other factory wreckage. Good warehouses destroyed. Good people lost. It's all so reminiscent of when the Green Headbands came with their machetes and his warehouses burned. Jute and tamarind and kink-springs all going up in fire and smoke. Slick machetes gleaming in the blaze. He turns his eyes away, forcing down memories. Forces himself to breathe. (22)

The presence of these memories in his mind also causes him to develop paranoias. As a reminder, he reassures himself by saying, "if they wanted to kill you, they could wait for any number of better times" (141). Moreover, he has no trust for banks and puts all his money in his house while living in the slums; for this reason, he experiences constant paranoia by thinking, "[i]t's foolish to keep so much money here. What if the slum burns? What if the WeatherAll catches fire from some fool's candle overturned? What if the mobs come and attempt to trap him inside?" (65). This passage presents Hock Seng's anxiety over the potential loss of his wealth due to uncontrollable factors such as fire or mob violence, which is a reminiscent of his previous experiences. Even though bodily economy creates a shared vulnerability for all, it seems that refugees feel more precarious than others.

Moreover, precariousness affects the relationship between the past, present, and future in *TWG*. In the book, a third-person omniscient narrator focalizes events through a particular character focusing on the present. Instead of focusing on the evolution of the protagonist, Bacigalupi combines different perspectives of different vulnerable members of groups. These can encompass the use of flashbacks, nonlinear narratives, and other techniques that manipulate time to create meaning. In terms of the relationship with time, the factors

which cause precarity such as plagues, forced immigration, and cruelty at work affect how the characters perceive the past, present and future.

Lauren Berlant contends that understanding the contemporary moment depends on perceiving the present affectively (4). Thus, the book mostly focuses on the affective reactions of the characters against precarity and vulnerability. In an environment shaped with plagues, the solution can only become temporary by turning the present in a state of crisis. In Bacigalupi's world, plagues and diseases create a precarious environment since the precautions against them only ensure interim safety and temporal state of order. These plagues and diseases are the result of evil ideas of the calorie companies. They represent how science could damage the world when it is used for profit and power. When science is regarded as evil, metaphysics enters the scene as a solution to the damages of the science. To illustrate, glinting amulets and seals are thought to be talismanic and help people feel secure in this dangerous place because of the protection offered by the amulets of the martyr Phra Seub against the agricultural plagues of the calorie companies.

> She points at the Environment Ministry certificates laid on the cobbles beside her, underlining the dates of inspection with a finger. "Latest variation," she says. "Top grade." Anderson studies the glinting seals. Most likely, she bribed the white shirts for stamps rather than going through the full inspection process that would have guaranteed immunity to eighth generation blister rust along with resistance to cibiscosis 111.mt7 and mt8. The cynical part of him supposes that it hardly matters. (Bacigalupi, *The Windup Girl* 4-5)

In an effort to find comfort in this dishonesty, everybody is aware of the fact that when a plague breaks out, none of these talismanic objects or certificates of the Environment Ministry with a label of "latest variation" can save them. In this place ravaged by plagues and full of talismanic solutions against them, the diseases spread and mutate so quickly that people are getting more and more precarious each season. Berlant highlights that "the present moment increasingly imposes itself on consciousness as a moment in extended crisis, with one happening piling on another" (7).

> Nothing is certain- that is the first lesson. The yang guizi foreign devils learned this in the contraction and their loss of oil sent them scuttling back to their home shores. He himself finally learned it's in Malacca. Nothing is certain, nothing is secure. A rich man becomes a poor man. A noisy Chinese clan, fat and happy during Spring

> Festival, fed well on pork strips, nasi goreng and Hainan-style chicken becomes a single emaciated yellow card. Nothing is eternal. To Buddhist understand this much, at least. (Bacigalupi, *The Windup Girl* 65)

As seen above, precarity and uncertainties form the present of crisis. In this respect, their suffering describes the historical present. Living in a state of crisis and precarity also affects their relationship with the past and future. In terms of the past, the characters such as Hock Seng and Emiko experience a sense of nostalgia for security and a place that they can be recognized. For this reason, either by a sensory feeling or a reminder of an event, they have flashbacks.

> Look! She is almost human! Gendo-sama used to say that she was more than human. He used to stroke her back hair after they had made love and say that he thought it a pity New People were not more respected, and really it was too bad the movements would never be smooth. But still, did she not have perfect eyesight and perfect skin and disease- and cancer-resistant genes, and who was she to complain? (34)

Emiko yearns for the days in Japan because she was an esteemed worker created by the Japanese out of necessity. In the moments of sexual abuse, she tends to have flashbacks like this for a time that she was more valued. However, in Bangkok, she is stigmatized as a displaced person forced live in precarity. As another uprooted person, Hock Seng also suffer from the lack of the sense of belonging:

> Still, he misses that place where he and his family were alien and yet had forged a life. He misses the marble-floored holes and red lacquer pillars of his ancestral home, ringing with the calls of his children and grandchildren and servants. He misses Hainan chicken and laksa asam and good sweets kopi and roti canai. He misses his clipper fleet and the cruise (Isn't it true that he hired even the brown people for his crews? Even had them as captains?) who sailed his Mishimoto clippers to the far side of the world, sailing even as far as Europe, carrying tea strains resistant to genehack weevil and returning with expensive cognacs that had not been seen since the days of the Expansion. And in the evenings, he returned to his wives and ate well and worried only that a son was not diligent or that a daughter would find a good husband. (67)

Differently from Emiko's perception of the past, he has a more romanticized view which overpowers his masculinist position. Whereas Emiko pines for taking back her respect and individual identity rather than being a "windup," Hock Seng yearns for a time when he has servants, wives and expensive cognac. Another difference is that when Emiko

faces abuse, her inner thoughts and emotions intuitively tend to resist against the people or actions that harm her.

> If she thinks logically, she knows that no New Person can be any worse than the client last night, who fucked her and then spat on her before he left. Surely, to lie with a smooth-skinned New Person could not be worse. What would it be like, to serve no one? Would she dare? It makes her dizzy, almost giddy to think of it. (147)

Although sexual abuse becomes her reality in the present, she always has a fantasy of being united with other New People in a place that they can have free will. This attachment to attain this fantasy helps Emiko to transform the negative or reactive affects in the present into affirmative ones. Braidotti explains this transformation as a generative force of posthuman subjectivity, and states that the posthuman condition may appear to be "catastrophe-prone," yet the posthuman convergence reconsiders these negative affects by focusing on the positive potential (*Posthuman Knowledge* 12). For Emiko, her attachment to the idea that it is possible to run away from Bangkok and find a haven with other windups leads to mood swings.

> Raleigh hasn't mentioned them to you? Windup enclaves in the high mountains? Escapees from the coal war? Released ones?" At her blank expression he goes on. "There are whole villages up there, living off the jungles. It's poor country, genehacked half to death, out beyond Chiang Rai and across the Mekong, but the windups there don't have any patrons and they don't have any owners. The coal war's still running, but if you hate your niche so much, it's an alternative to Raleigh." He slides the door aside and slips out, leaving Emiko alone with a pounding heart and a sudden urge to live. (Bacigalupi, *The Windup Girl* 45)

This idea gives her the hope that she needs to resist violence and precarity. Although she learns that a fundamental Islamist group called the Green Headbands are also sailing to search for refugees and kill them (69), this hope becomes an aspiration for her in the process of enduring the physical and emotional violence. These "windup enclaves" seems to affirm the vitality of life as they demonstrate Emiko's urge to live. On the contrary, they also suggest a deep dissatisfaction or unease with her current circumstances.

> To the north, the distance is lost in the orange haze of dung burn and humidity, but somewhere out there, if the pale scarred farang is to be believed, windups dwell. Somewhere beyond the armies that war for shares of coal and jade and opium, her

own lost tribe awaits her. She was never Japanese; she was only ever a windup. And now her true clan awaits her, if only she can find a way. (97-98)

As seen above, she considers this journey as an opportunity to build her own identity and finally find a home with a sense of belonging while living in an impasse. She yearns for the day this dream comes true. In an optimistic manner, "each night she returns home, exhausted from the abuse that Kannika metes out, and falls into dreams of a place where New People dwell in safety, without patrons or masters" (145). However, her optimistic attachment to this dream will not make it possible, yet these contradictory alternations of emotions create her posthuman subjectivity. As stated by Braidotti, all affective states including vulnerability, excitement and exhaustion demonstrate the affective capacity and the relational nature of the posthuman subjectivity (*Posthuman Knowledge* 217).

Unlike Emiko, Hock Seng is attached to his past and for him, the good life can be defined as "resurrection for himself and his clan" (32). His optimistic attachment lies in going back to his past and gaining financial security and stability. This causes him to become paranoid and always have an escape route saying, "yellow cards always prepare for the worst" (173). Carrying the trauma of losing his family and everything in Malaya, he is given a second chance to leave Bangkok before everything becomes too late. As a vulnerable character, he finds soothing for his paranoias because this escape will not be alone, and he will have the chance to compensate for his sins and also the loss of his daughter. "If he is very lucky there will be enough time. Hock Seng prays that he will be lucky. Prays that there will be enough time to collect Mai and still make the dirigible. If he were smart, he would simply run. Instead, he prays for luck" (Bacigalupi, *The Windup Girl* 335). Mai, a Thai girl working in the agricultural company, becomes his hope to build a secure future together. After Hock Seng finds out that there will be revolution in Bangkok, he takes Mai replacing her daughter and sets out for the unknown feeling content to have a daughter again. Finally, although Emiko's good life fantasy does not come true, at the end, Gibbson, who is one of the generipper working at AgriGen, promises her to help to build a new civilization that will be run by the windups. With this promise, Bacigalupi ends the book with an ambiguous ending. In this sense, having a sense of utopia that posthumans dominate becomes the only way to prevail in this dystopian world.

In conclusion, *TWG* is a critical dystopia deconstructing the human and emphasizing the shared vulnerability of its characters. Depicted as a calorie resource, both humans and bioengineered creatures are a part of the system with their precarious bodies. In this respect, body becomes a symbol for how technology transforms work and labor in addition to being a site for resistance and connection. This bodily vulnerability arises from the embeddedness of body with the environment and economic system. The book firmly categorizes society, recognizing only certain humans as *bios* - with sovereign power and considered grievable. The rest, consisting of refugees labeled as yellow cards and bioengineered entities such as megodonts and the New People, are reduced to *zoē* - viewed ungrievable and disposable. Such a difference shapes their affective responses with the normalization of their dehumanization and oppression. For this reason, the use of multiple perspectives of these characters turns this into an anxious reading. Their affective experiences also shape their temporality by changing their perception of the past, the present and the future.

CHAPTER 2: DISEMBODIED POSTHUMAN SUBJECTIVITY AND VULNERABILITY IN CORY DOCTOROW'S *WALKAWAY*

"The difference between utopia and dystopia isn't how well everything runs. It's about what happens when everything fails." (Doctorow "Disasters")

This chapter focuses on the shift from meritocracy to a post-scarcity walkaway economy, and how this change creates vulnerability by shaping affective experiences and temporal relations in Cory Doctorow's *Walkaway* (2017). By envisioning a post-scarcity future where individuals wrestle with the societal implications of advanced technology, the book delves into the theme of dis/embodiment in relation to transhumanist and posthumanist ideas. With the recognition of the ongoing present as a time of crisis and precarity, *Walkaway* offers an optimistic posthuman utopia based on "a strong sense collectivity, relationality and hence community building" (Braidotti, *The Posthuman* 49). Doctorow creates an evolving utopia that transitions from the walkaway movement into a posthuman future. In doing so, he employs the speculative technology of mind-uploading to portray disembodiment as a solution to thrive in this time of crisis. While this technology seems to circumvent bodily limitations, the novel highlights the potential drawbacks that accompany disembodied consciousness and acknowledges the necessity of a posthuman embodiment. By comparing the economic systems, this chapter analyzes how a post-scarcity world shapes the posthuman's bodily, affective, and temporal experiences.

Born in 1971 in Canada, Cory Doctorow is a Canadian-British-American journalist, an advocate of liberalized copyright law, and a prolific author/co-author of various SF books, graphic novels, short story collections and non-fiction. A considerable number of his SF works were nominated for major awards. His novels *Down and Out in the Magic Kingdom* (2003), *Little Brother* Book Series (2008-2020), *Pirate Cinema* (2012) and *Walkaway* (2017) are some of his well-known awarded works standing out with themes such as digital rights, civil liberties, alternative social structures and economic systems. In an interview with Scott Douglas Jacobsen, Doctorow mentions that his diverse cultural

background has some influence on the development of several fictions. Although he was born and raised in Canada and respectively moved to Central America, the UK and the US, his roots can be traced back to Eastern Europe. He states that he "always had a sense that rhetoric about illegal immigrants or migration more generally was about his family" (Jacobsen 155). However, compared to his background, his ideas about how technology and the internet are transforming society and the economy in twenty first century have a greater influence on his SF books.

Either fictional or journalistic, his works explore the implications of current information technologies on society and individuals. In this respect, he can be considered one of the most significant cyberpunk authors of the twenty first century, who employs "the tropes of cyberpunk for immediate and political interventions" (Milburn 378). In his works, he endorses a socialist approach to the upcoming economic systems which entails prioritizing people over profit, ensuring equal access to resources and promoting a post-scarcity economic paradigm. His utopian vision of a post-scarcity economy envisions a future where digital technologies transform the economy and strongly criticizes contemporary trends in global surveillance capitalism. His novel *Walkaway* exemplifies this vision by presenting a sprawling narrative that explores the potential of 3D printing for bringing about a post-scarcity and in turn, a transhuman future. He posits that in this post-scarcity economic model, every individual is entitled to have free and high-quality access to information, food and shelter, and to delve into human inquiry without any cost, limitations and barrier. Incorporating cyberpunk elements such as decentralized networks, transhumanism, cyberspace, and political and social commentary, Doctorow becomes an influential figure of cyberpunk literary tradition.

As a "copyfighter," he is an ardent supporter of the universal access to all human knowledge, and also opposes to play-to-play databases and social networking sites like Facebook that monetize personal information for profit. Resembling these sites to a "surveillance system," he considers these practices of monetization unethical. This critical approach for intellectual property can be also observed in his works that "explore the places where cultural value is measured by access to information, where property is traded for forms of common ownership, where networks are both the catalyst for, and the

object of, social intervention, and where the human becomes an indefinable category"
(Leonard 9). By criticizing that the availability of information determines the value of
culture in his books, he addresses a myriad of contemporary social, political, and
economic issues such as inequality, privacy, precarity, surveillance, and intellectual
property rights. In doing so, he applies an informative approach and explains complex
technical concepts with relatable characters and engaging storytelling. *Walkaway* is one
of his SF novels that encompasses the key aspects of his writing styles.

Set in Canada during a temporally ambiguous period, the story unfolds in a world where
a substantial number of people live in the default society controlled by a very wealthy
elite, often referred to as "zottas" or "zottarich." Even though this society possesses
advanced technology capable of enabling a post-scarcity environment, it remains
characterized by extreme income disparity, pervasive surveillance, and a deteriorating
climate. These conditions, coupled with the control exerted by the elite group who possess
the capital, force non-zottas to live in an artificially imposed scarcity. For this reason,
rather than conforming to the default system, some people opt to "walk away" to build
their own self-sustaining communities in abandoned areas, embracing a post-scarcity
economy.

The story revolves around a group of individuals who feel dissatisfied with the oppressive
default system and decide to walk away to create a new and communal life. To explore
better living conditions, the characters of the book, Natalie (Iceweasel), Seth, and Hubert
Etcetera leave Toronto and become walkaways. In one of these communities, walkaways
develop a mind-uploading technology, which allows individuals to exist digitally after
their physical deaths. This development incites conflict with the default society, as the
zottas perceive this technology as something they should control, monopolize, and
regulate. However, in the end, this technology becomes accessible to all with the
preference of obtaining a body.

Like *TWG*, *Walkaway* is also characterized by its vulnerable characters,
multiperspectivity, critique of economic system, hybridity, and resistance to closure.
However, in addition to the default system, the existence of walkaway communities

increases utopian elements in the novel. Similar to Bacigalupi, Doctorow also uses multiperspectivity and highlights that against bigger problems that no individual can handle by themselves, there is a need for collective action. This collective action requires no heroes or heroines but multiple perspectives to show the necessity of cooperation and mutual aid while building a new way of life to mitigate precarity or ameliorate conditions creating precarity. As an element of critical dystopias, Doctorow uses non-zottas as vulnerable characters reduced to *bare life*. They either live in the default system under precarious conditions or prefer to walk away to another uncertainty. This binary system creates hybridity in the book and with the help of technology, uploading consciousness creates characters blurring the boundaries between human/machine. In this respect, the character called Dis or Disjointed is an example to this hybridity. Moreover, Doctorow uses multiperspectivity to share the experience of being a walkaway through the perspectives of multiple people including Natalie, Seth, and Hubert. By using different economic system including meritocracy, and post-scarcity economies such as gift economy and reputation economy, the book critically compares these systems from the perspectives of its characters. Although the novel presents being in the pursuit of an evolving utopia through the attempts of walkaway movement and disembodiment, the ending shows that utopian elements lie in the posthuman embodiment.

According to William Davies, in the aftermath of the GFC, "the production of new economic science fictions becomes an urgent political imperative" (xiii), and he states that economic science fiction works of capitalism cannot be simply confronted; they need to be contested by alternative economic science fiction narratives that challenge capitalism's existing control over possible realities (xiii). In his respect, he emphasizes the necessity to create new economic ideas or perspectives and propose different and compelling alternatives with the aim of shifting who holds power, in other words hegemony (xiv). Considering this necessity, *Walkaway* provides a myriad of compelling ideas that challenge the realities of capitalism by comparing alternative systems.

To this end, the book offers two ways of living: in the default system and in the walkaway system. The default system is described as a more repressive version of current society where a few affluent families called zottas or zottarich possess a considerable control over

political and economic realms. The challenges described in the default system are very relatable for the reader because in the book, the greater part of population wrestle with hardships in particular, labor exploitation, insecure jobs and unsafe accommodations by having meager hope for a brighter future. Despite living in a post-scarcity and post-employment world, hyper-rich zottas establish artificial scarcity whereas all the needs ranging from food to shelter can be fulfilled owing to advances in 3D printing technology and computing. Nonetheless, money is deemed important in the default system to survive. Because of the portrayal of a post-employment world, there are very few jobs left and people still need money for their purchases in the default system. However, the monetary value in a post-scarcity world is quite questionable:

> "What the fuck do we need money for? So long as you keep on pretending that money is anything, but a consensus hallucination induced by the ruling elites to convince you to let them hoard the best stuff, you're never going to make a difference. Steve, the problem isn't that people spend their money the wrong way, or that the wrong people have money. The problem is *money*. Money only works if there isn't enough to go around-- if you are convinced scarce things are fairly allocated . . . therefore the current terrible allocation is the best solution to a hard problem." (Doctorow, *Walkaway* 37)

As seen above, although money itself is a construct that is maintained by some privileged families, it is still valued. However, its existence is problematic because it inherently relies upon scarcity, which causes affluent people to create artificial scarcity in a post-scarcity world. Artificial scarcity exacerbates the disparity between the rich and poor and causes the unsatisfied and disenfranchised to walk away from the default system. For this reason, the relationship with money strictly divides the society into different groups: walkaways, zottarich and non-zottas or commmons. It is mentioned that zottarich isolate themselves in a way that they do not even consider themselves belonging to the species of walkaways and commons (71).

With a transhumanist perspective, considering themselves as an advanced form of human with the sovereign power, "[t]he zottas are trying to secede from humanity. They don't see their destiny as tied to ours. They think that they can politically, economically, and epidemiologically isolate themselves, take to high ground above the rising seas, breed their offspring by Harrier jets" (53). As Pramod K. Nayar points out, transhumanists view

the existing human forms as an intermediate stage preceding the advent of advanced human form with enhanced bodied and intelligence (14). Zottas perceive themselves as being in the last phase of this stage, positioning themselves closer to the transhumanist image of posthuman compared to the rest of the society. As stated by transhumanist Natasha Vita-More, according to the posthuman vision projected by transhumanists, "we are not posthuman yet. We were humans; some of us can be currently defined as transhuman—for instance, by merging more and more with technology, and by approaching the human as an open project that can be redesigned" (Vita-More). By using life-enhancement technologies, zottas have already become transhuman and view only themselves entitled to be enhanced technologically while the rest is considered as devalued and disposable bodies.

In this strictly categorized meritocratic society, walkaways are regarded as homeless people eating garbage (Doctorow, *Walkaway* 42) whereas the act of walking away is viewed as "some kind of prince-and-pauper thing" (41), which means the exchange of places by people from different social classes for a short period. These rigid categories are created based on the deceptive idea that zottas worth more than the rest. It is stated that owing to life extension technology, some zottas even "worth more than most countries" (52) whereas the walkaway philosophy rejects the hierarchical merit-based society. However, the economic position of the walkaways is described as the default's surplus.

> "Honestly, I don't think this is my thing. We left default because I wanted to be part of something where I was more than an inconvenient surplus labor unit. I know I can work here and there's plenty to do, but it feels contrived. The other day, I totally fucked up some linen processing, ruined 30 sheets. The system just assigned someone else to make new ones and push the blown-out ones through the feedstock processor. The whole thing fails so safe that it doesn't really matter what I do. If I worked my brains out or did nothing, it would be the same, as far as the system is concerned. I know it's fucked up and egocentric, but I want to know that I, personally, am important to the world. If I left tomorrow, nothing around here would change." (77)

In this quote, Etcetera, a newcomer to the walkaway lifestyle, shares her dissatisfaction with the work system within the community by lamenting that they are not personally significant for the work environment. In fact, they are criticized for being "special

snowflakes" (78), which is a term used to describe individuals who consider themselves unique and irreplaceable. From a posthumanist perspective, Nadia's observations on work in walkaway settlements is a critique of how individuals perceive their value and significance in a post-scarcity society. According to Nadia's depiction, this walkaway community operates on posthumanist principles as labor is neither a necessity nor a measure of value. These posthuman principles are delineated by Pramod K. Nayar as follows:

> . . . . critical posthumanism seeks to move beyond the traditional humanist ways of thinking about the autonomous, self-willed individual agent in order to treat the human itself as an assemblage, co-evolving with other forms of life, enmeshed with the environment and technology. It rejects the view of the human as exceptional, separate from other life forms and usually dominant/dominating over these other forms. . .By focusing less on ability and agency and emphasizing shared vulnerability, posthumanism calls for a radical rethink of species uniqueness and boundedness of the human. (13)

As seen above, similar to posthumanism, walkaway philosophy also contests the idea of the human as exceptional, and unique. Nadia's experiences demonstrate the challenge of transitioning from a capitalist system, in which worth is often measured by productivity, to a post-scarcity society that problematize the notions of individualism, labor and individual value. With the argument that individuals have not made a profound difference throughout history, walkaways challenge human exceptionality and indispensability. They also state that instead of individual contributions, collective action matters most.

> "There have been one hundred billion humans on the planet over the years, and statistically, most of them didn't make a difference. The anthropocene is about collective action, not individuals. That's why climate change is such a clusterfuck. In default, they say that it's down to individual choice and responsibility, but reality is that you can't personally shop your way out of climate change." (Doctorow, *Walkaway* 78)

Highlighting the importance of collective action, Natalie also states that thriving in a post-disaster world requires the acceptance of the fact that they are replaceable. To survive as a community, it is necessary to build a system that cannot be compromised by individual failures undermining the system. It is also mentioned that individuals are nothing more than surplus, in other words an excess or disposable beings, in the default and the lack of

collective action there makes it unlikely to make a difference (79). To explain it further, in his dissertation, Raphael Kabo states that three distinct modes of surplus can be used to describe the walkaways: as surplus populations, surplus material waste and queer surplus.

To begin with, since the walkaways' way of living challenges traditional economic and social systems, they are considered surplus populations. It is noted that "Default has no use for us [non-zottas] except as a competition for other non-zottas. . . .We are surplus to default's requirements" (215). As considered disposable and expendable, the walkaways rebel against the system that only values them as a means of competition for other non-zottas. This rebellion is an act of redefining their worth and purpose. To this end, they head to "an endless surplus of sacrifice zone, superfund sites, no-man's lands and dead cities" that the default has produced. In these places, they use surplus material waste produced by capitalism to create a life of "fully automated luxury communism."[12] To build and sustain their communities, they utilize and repurpose waste by developing technologies that depend on the abundant resources that the default society has abandoned. Embedded in this environment, these people try to develop a lifestyle interconnected with the ecological system and others. In doing so, these ruined landscapes provide resourcefulness that enable them to thrive outside the urban spaces.

> The multi-story housing interleaved greenhouses and hydroponic market gardens with homes, capturing human waste for fertilizer and wastewater for irrigation, capturing human CO2 and giving back oxygen. They were practically space-colonies, inhabited by some of the poorest people in the world, who adapted and improved systems so many other poor people had improved over the disasters the human race had weathered. The hexayurt suburbs acted as a kind of transition-zone between default and the new kind of permanent walkaway settlement, places where people came and went, if they decided that Akron wasn't for them. (Doctorow, *Walkaway* 308)

This quote indicates some innovative and sustainable approaches used to create an environmentally conscious and self-sustaining system. The hexayurt suburbs serve as an intermediary place between the default society and the walkaway communities and offer

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[12] *Fully Automated Communism* is the name of the book written by Aaron Bastini suggesting that technology has the potential to create a post-scarcity economy with a vision of hope.

a sense of freedom as a liminal place to explore the walkaway life and decide whether to walk away or not. In addition to these approaches to transform surplus waste of capitalism into a habitable place, there are a myriad of technologies that define walkaway communities such as "the *onsen* baths, waste-recycling breweries, 3D medicine, clothing, and food printers, drones, zeppelins, and spatially distributed, high-bandwidth wireless networks" (Kabo 251). These tools increase the mobility of the walkaways and help them to prevent any attacks in their newfound settlements.

Lastly, Kabo highlights the concept of queer surplus, stemming from Jose Esteban Muñoz's queer utopianism and Ernst Bloch's cultural surplus. Drawing on these concepts, Kabo suggests that *Walkaway* provides a future-oriented source of hope by opposing to the heteronormative structures of the default society and embraces queer surplus with "refu-luxury" aesthetics.

> We'd built rammed- earth houses on the escarpment, two dozen of them. Real refu-luxury: power, water, fresh hydroponics and soft beds. Took about three hours a day each to keep the whole place running. Spent the rest of the time re-creating a Greek open-air school, teaching each other music and physics and realtime poetry. It was sweet. I helped build a pottery and we were building weird wheels that did smart adaptive eccentric spinning in response to your hands and mass, so that it was impossible to throw a non-viable pot. (Doctorow, *Walkaway* 59)

Concerning queer surplus, the quote shows that a few hours of work daily help the walkaways to meet their basic needs and maintain an eco-friendly way of living. This means that they have ample leisure time to spend on various activities ranging from music to poetry as reminiscent of an ancient Greek open-air school. The portrayal of a self-sufficient, creative, diverse and harmonious community with ornaments such as "cargo hooks, sensor packages, and gay illustrations of androgynous space-people dancing against a backdrop of cosmic pocket-litter: ringed saturnesques and glittering nebulae" (152) promises a more inclusive and equitable future for queer individuals with queer aesthetics embodying a sense of surplus that disrupts the constraints of heteronormativity and conformity demanded by capitalism. By using the duality between the zottas, who are white, heterosexual, upper class men, and the walkaways, including various queer characters such as Natalie, Gretyl, Nadie and Seth, Doctorow celebrates diversity and

fluidity among surplus populations in modified wastelands and embraces the potential for a utopia that assures a communal and queer society beyond capitalist realism (Kabo 254).

In fact, the walkaway philosophy opposes to being a surplus population in the default and entails a journey to find their being "useless" and "useful" are not the properties of people instead of things people do. This philosophy not only defies the concept of value related to money, economic contributions or status in the default system but also seeks to challenge the humanist idea that personal worth is defined by the inherent value of human beings. Within the default society, individuals are often defined by their insecurities and fears of failure. The sense of security is a luxury only afforded to those at the top.

> "This world, if you aren't a success, you're a failure. If you're not on top, you're on the bottom. If you're in between, you're hanging on by your fingernails, hoping you can get a better grip before your strength gives out. Everyone holding on is too scared to let go. Everyone on the bottom is too worn down to try. The people on the top? They're the ones who depend on things staying the way they are." (Doctorow, *Walkaway* 17)

As seen above, the binary thinking in this competitive society categorizes people as either successful or unsuccessful. Those caught "in between" are depicted as being entrenched in a perpetual state of precarity as they strive to maintain their status, all the while fearing that they may slide into failure. This fear traps them in their position and perpetuates the existing societal divisions. With regards to this fear to take risks to challenge the status quo, Lauren Berlant argues that living in an impasse produces impassivity by underscoring the idea that "the present is the impasse" (4-5). Against this impassivity, walking away is suggested as a solution. Although the primary reason for leaving the default is to create a better society, their alternative society visions do not tend to be alike. In fact, the book provides two different alternative economic systems: reputation economy and gift economy. Whereas in his debut novel, *Down and Out in the Magic Kingdom*, Doctorow explores the intricacies of the reputation economy, in *Walkaway*, the gift economy asserts its superiority over the reputation economy. In a community built on cooperation and trust, it is no surprise to see that the gift economy operates in a leaderless society on the principle of providing goods and services with no expectation of any payment or compensation. In a dialogue between Etcetera and Seth, it is stated, "We

[the walkaways] don't do barter. This is gifts, the gift economy. Everything freely given, nothing sought in return" (Doctorow, *Walkaway* 15). Community bonds shape the value in a gift economy. A reciprocal trust relationship guarantees the operation of the system. Instead of competing to obtain scarce foods, they walk away from competitive market-driven laws and technological infrastructure into an open-source inspired, and collaborative economy. In this regard, it hinges on posthumanist principles as it "favors co-evolution, symbiosis, feedback and responses as determining conditions rather than autonomy, competition and self-contained isolation of the human" (Nayar 20).

> "How often do you get a gift around the same time as you're giving one of these away? Who doesn't show up with something to leave behind when they take something?" "Of course. It's hard to get people out of the scarcity quid-pro-quo habit. But we know they don't have to bring anything." (Doctorow, *Walkaway* 15)

As the paragraph states, a scarcity mindset also brings the notion of quid-pro-quo embedded in the capitalist system. This notion is based on the belief that resources are scarce and giving something away requires reciprocity. The transition to the gift economy portrays the focus on abundance, interdependence and a sense of community.

> The gift economy was not supposed to be a karmic ledger with your good deeds down one column and the ways you'd benefited from others down the other. The point of walkaways was living for abundance, and in abundance, why worry if you were putting in as much as you took out? But freeloaders were freeloaders, and there was no shortage of assholes who'd take all the best stuff or ruin things through thoughtlessness. (49)

What the author highlights here is the potential pitfalls of practicing a gift economy. Since no track of who receives what is kept in the gift economy, it makes the system vulnerable to freeloaders who may want to exploit it. Although the main focus is to promote abundance, its sustainability and effectiveness raise important questions. While the gift economy disregards scarcity and competition belonging to capitalist system, in some walkaway settlements, they implement reputation economy that "keeps track of everyone else's taking and giving" (70).

With regards to the reputation economy, Doctorow first delves into the concept in *Down and Out in the Magic Kingdom* by introducing the virtual currency based on reputation called *Whuffie*. He argues that as a currency presented in a meritocratic system, Whuffie is flawed because it is open to exploitation of manipulative individuals and unable to serve effectively as a unit of account, medium of exchange, or store of value. *Walkaway*'s reputation economy is not immune to these problems either. In this post-scarcity society, technologies allow people to live in the abundance of resources. As a result, instead of money, they use reputation scores which display the amount of contribution to the society by way of offering their skills, knowledge and labor. Yet, this system also includes the problems of money since both induce precarity and inequality based on their accumulation and distribution. Similar to the concept of "merit," reputation cannot be measured objectively. Despite that, both keeping scores and using leaderboards are considered "satisfying" by some.

> In a gift economy, you gave without keeping score, because keeping score implied an expectation of reward. If you're doing something for reward, it's an investment, not a gift.
>
> In theory, Limpopo agreed. In practice, it was so easy to keep score, the leaderboard was so satisfying that she couldn't help herself. (Doctorow, *Walkaway* 44)

As seen above, the reputation economy greatly diverges from the gift economy. These two distinct systems develop different approaches towards community contributions. In a reputation economy, status and authority are gained through the recognition of their work, often by gamifying processes and installing leaderboards. This system emphasizes competition, striving for high-quality work, and earning a higher reputation within the community. In contrast, the gift economy is at odds with keeping scores, and selecting leaders. Instead, it promotes mutual support, collaboration and cooperation by prioritizing community contributions over personal achievements.

These differences between the gift, default and reputation economies are explained in detail from the perspective of first-generation walkaways. Bussière states that "not all those who walk away are able to fully separate their thinking from the capitalist system they were once a part of" (7), which encourages the reader to reflect on societal structures

along with the characters. As they "struggle to abandon the hierarchies that they were raised with" (7), the readers also feel estranged. Thus, in addition to leaderless utopian societies with gift economy, they also build walkaway settlements with reputation economy in which they still compete for acknowledgment. This twisted utopia invites "game-playing and stats-fiddling, even unhealthy stuff like working stupid hours to beat everyone," and this leads to having "a crew of unhappy people doing substandard work" (Doctorow, *Walkaway* 83). Comparing the differences between walkaway and default societies, the reader is expected to question the assumptions and values of the default system. This process of cognitive estrangement allows the reader to criticize the contemporary capitalism. When the characters transition from the default capitalist system to the alternative walkaway communities, their ingrained beliefs and habits are also challenged. Their adaptation process creates a sense of estrangement not only for the characters but also the readers since it is difficult to imagine a system apart from capitalism. To criticize the gift economy, it is stated that "Out here, you want people to magically not take too much but also not earn the right to take more by working harder and also to work because it's a gift but not because they expect anything in return?" (69)

By way of questions to walkaways that revolve around the practices outside the principles of capitalism, alternative perspectives on work and contribution are presented through the lens of cognitive estrangement. The default system becomes an allegory of the catastrophic and deleterious present and the desire to walk away resembles to the inclination to write Thoreauvian memoirs about societal malaise and the skills required to go off-grid in the age of pervasive surveillance and information. Although the story mainly tells the clash between the defaults and walkaways, as the allegory of now, the reader is viewed as a non-zotta continue living in the default. These non-zottas suffer from "the tragedy of the commons" (39), which refers to the idea that public assets tend to be exploited for personal interests; therefore, the solution is considered to allow zottas to manage them in order to make sure they are in good hands. This solution makes these people constitute the one percent of the whole population with their money and properties. The rest struggle with not being able to find a job and having huge debts, thus they are given no option other than to walk away.

To illustrate, one of the walkaways called Jimmy is asked the cause of his walking away and he states that "it was debt at first" (Doctorow, *Walkaway* 266), and explains how taking a course for his career costs a considerable amount of money that neither his parents nor he is able to pay. As the other reason, he states that achieving to have a good career as a result of getting huge loans becomes nothing more than slavery and continues, "I wasn't the only one who noticed, but there was such a huge-ass, all-consuming sense that anyone who didn't buy a ticket to the lottery was going to end up as dog-food" (267). Thus, "prospects of a rich and fulfilled life" (42) are extremely low if the person is not a zotta. Meritocracy in the default refers to a system where individuals are rewarded and considered successful on the basis of their abilities and achievements. Such a system also suggests that being wealthy is earned through hard work and talent while lazy or unsuccessful people deserve to be poor.

As one of the zottas, Natalie's father, Jacob is the ultimate supporter of meritocracy. Natalie says, "He wants to be the one percent of the one percent because of his inherent virtue, not because the system is rigged. His whole identity rests on the idea that the system is legit and that he earned his position into it fair and square and everyone else is a whiner" (Doctorow, *Walkaway* 36). It can be argued that being rich and a zotta shapes his identity. The traces of the same meritocratic mentality can be observed for the ones who continue living in the default. Even when they protested, "people still thought the answer to their problems was to get a job, and anyone who didn't get a job was broken or lazy, or if you were a bleeding heart, someone failed by the society" (129). Despite the lack of jobs for all, having a job continues to be a success marker. Seth states that "It's the ultimate self-deception. Like they're going to be able to change anything with a paycheck. If a paycheck could change your life, do you think they'd let you have one?" (23). By critiquing the capitalist system and the illusion of personal agency it perpetuates, the novel shows how the majority is manipulated by giving them a false sense of power through earning wage. Therefore, it becomes more difficult to see the real problem. Likewise, it is argued that "capital can set all its subjects in competition with each other" (Dyer-Witheford 15) whereby it is ensured that there will be no risings against the oppressor. However, Kristen Bussière underscores that this starts to change after the GFC with the help of information technology. In the aftermath of the crisis, capitalism has

emerged as a common enemy, uniting various social movements whereas digital world helps people to communicate and cooperate.

Moreover, as a social commentary, the importance of teamwork and collaboration is highlighted for walkaways. Instead of confronting capitalism straightforwardly, walkaways prefer to walk away from capitalism as a response to the surging precarity in the default. They also develop their values, economic system and understanding of success. Moving out of the default capitalism, they are provided two alternative economic systems: the reputation economy and the gift economy. Although both systems are adopted in the walkaway settlements, the superiority of the gift economy is acknowledged in the novel.

> "How often do you get a gift around the same time as you're giving one of these away? Who doesn't show up with something to leave behind when they take something?" "Of course. It's hard to get people out of the scarcity quid-pro-quo habit. But we know they don't have to bring anything." (Doctorow, *Walkaway* 15)

By means of technology, they can surpass artificial scarcity and this transformation into abundance creates their utopias. This environment of abundance and post-scarcity helps them to foster new ideas leading to technological advances that make them immortal. In terms of immortality, Robert Troschitz suggests:

> Walkaway utopia is not a country, state, or city but a virtual network. Utopia is, in the literal meaning of the word, "not a place." Accordingly, to become fully utopian themselves, the walkaways aim to leave behind the last thing that binds them to a place: the human body. To surmount the limitations that the corporeality of the human body poses, they upload simulations of the human mind on their networks in order to turn bodyless and therefore "immortal being[s] of pure thought and feeling" (259).

As Troschitz argues, the aspiration to abandon the corporeal aspect of identities leads them to be immortal through uploading the simulation of their minds into some networks. In other words, the ability to transcend corporeality and "walk away" from one's body into a virtual realm could render walking away in the physical world unnecessary. This highlights a major shift in the understanding of the body and requires the analysis of how

disembodiment influences the embodied, embedded, affective and temporal nature of the posthuman.

In terms of the intersection between body and precarity, *Walkaway* shares similar concerns of *TWG* with regards to the vulnerability of body against violence, disease, and environmental issues. Depicting a world that is ravaged by environmental disasters and economic issues, Doctorow centers bodily precarity highlighting its embedded embodiment in the environment and socio-economic structure by considering "body-ectomy as a pro-survival method" (Doctorow, *Walkaway* 197).

> "Now we've got a deal for humanity that's better than anything before: lose the body. Walk away from it. Become an immortal being of pure thought and feeling, able to travel the universe at light speed, unkillable, consciously deciding how you want to live your life and making it stick, by fine-tuning your parameters so you're the version of yourself that does the right thing, that knows and honors itself." (195)

As stated by Judith Butler, "the body implies mortality, vulnerability, and agency" (*Precarious Life* 26), and *Walkaway* addresses the concept of disembodiment as a solution to its vulnerability and mortality by touching upon two ways: physically moving away from the system that puts bodies at risk and separating the mind from the body through transferring it to a digital network. Disembodiment serves as a device to explore bodily precarity.

Disembodiment, referring to the separation of mind from body, has been a recurring theme in many SF works that question its implications for identity, affective relations, and temporality. Although the origins of this philosophy can be traced back to the ideas of Plato and Descartes, it is widely explored through SF works that envision new promises for human existence beyond the limitations of the body. Cyberpunk stands out as a movement (1980-90) that employs disembodiment as one of its central themes with the tropes of cyborgs, cybernetic systems, and cyberspace (Vint, *Bodies of Tomorrow* 23).

As a sub-genre, it represents a shift in SF, where humans and technology take on a prominent role in the narrative foreground. This shift indicates how the centrality of

humans is replaced by technology. Even though the popularity of cyberpunk as a sub-genre might have faded, its literary conventions associated with technologies including virtual reality, advanced computing, cyberspace, and artificial intelligence are more pertinent than ever (103). *Walkaway* is one of these works which utilizes the tropes of cyberpunk and puts the repression of the material body to the center of the narrative. Kirsten Bussière states that moving beyond the realms of William Gibson's cyberspace, Doctorow portrays digital communities in which digital copies of the minds are transferred to allow them to exist in a disembodied state through building a symbiotic post-digital relationship between humans and machines (5). To clarify, in *Neuromancer*, cyberspace is depicted as "the consensual hallucination" where disembodied consciousness of cyberspace cowboys is presented, and it offers a virtual option promising a way to escape from the constraints of "the prison of [their] own flesh" (Gibson 12). Similarly, *Walkaway* depicts a process called "deadheading" whereby it is possible to create a digital copy of a person's consciousness to move beyond the confines of the body.

Whereas ecological, economic and political issues shape the post-disaster society depicted in the novel, Doctorow prefers his characters to move into cyberspace through mind-uploading rather than dealing with these problems. In this respect, it differs from Bacigalupi's approach in *TWG*, which highlights both the liberatory potential and limitations of posthuman embodiment by focusing on the necessity of taking responsibility for the people's actions and behaviors (Tidwell 98). Likewise, Sherryl Vint states, "Material reality provides an ethical ground for our decisions while the abstractions of cyberspace allow us to detach our actions from their social context and thereby obscure their connection to ethical consequences" (*Bodies of Tomorrow* 132-33). By emphasizing the importance of embodiment to understand the ethical dimensions of our actions, this quote can be viewed as a critique of the disembodied cognition from a posthumanist perspective.

In this respect, *Walkaway* can be criticized with its ethical ground. Walking away from the default system to build their own community in abandoned places may be considered an escapist method. By rejecting the default society characterized by income inequality

and ecological destruction, the walkaways leave the default to seek a more equitable, sustainable way of living in symbiosis with nature and technology. As Pramod K. Nayar states, "Critical posthumanism sees the human as a congeries, whose origins are multispecies and whose very survival is founded on symbiotic relations with numerous forms of life on earth" (20). This demonstrates how posthumanism contests human-centered ideologies and instead, emphasizes human interconnectedness with the broader world. From another perspective, leaving the default system to build their own turns into a non-violent method of resistance:

> "The zottas want to control who gets to adopt which technologies, but they don't want to bear the expense of locking up all walkaways in giant prisons or figuring out how to feed us into wood chippers without making a spectacle, so here we are on the world's edge, finding our own uses for things. There's more people than ever who don't have any love for the way things are. Every one of them would happily jettison everything they think of as normal for the chance to do something weird that might be better." (Doctorow, *Walkaway* 129)

In the pursuit of alternative ways of living and using technology, there is an increasing number of people who reject the current system and simply walk away. As a reaction to the zottas who try to control the access to technology, one of the main reasons of walking away is to explore the possibilities to empower every citizen by creating a more equitable and just society. To this end, people who feel dissatisfied with the status quo move to the "world's edge" which gives them the chance to experiment with new ways of living. For this reason, *Walkaway* significantly deviates from the conventions of utopia, in which "seclusion is the precondition for the existence and survival of the utopian society" (Troschitz 388). In the book, utopia is built upon the remnants and abandoned places of the capitalist default and designed to be open to the outsiders. In other words, the utopian society that is desired to be built by the walkaways is literally embedded within the abandoned ruins of the capitalist default. Instead of establishing an entirely new environment, the walkaways prefer to repurpose and reuse these wasted areas of the capitalist system. The embodied embeddedness of the walkaways emphasizes that by repurposing seemingly discarded spaces into utopian possibilities, they also cultivate potential for their own transformation and renewal.

In this process of transformation, the newcomer walkaways leave everything behind for a fresh start. For these newcomers, they say that "you don't money or ID here. Food and water, we got. Clean underwear and wearables, easy. We'll back you get you back on the grid, you can recover your backups" (Doctorow, *Walkaway* 66). In walkaway settlements, there is no need for money or an identity because once you walk away, you become a walkaway who can walk back any time. For this reason, they are given the right to change their names to get rid of their identity in the default. Since "everything [is] everywhere" (68), being a walkaway means leaving materials and materiality behind. This "open access policy" turns walkaways into nomads who can establish their post-scarcity communities easily. Against the idea that technology must be controlled by oligarchs, the walkaway philosophy represents the spirit of entrepreneurship by offering a type of utopia located in the digital and decentralized network. However, these easily accessible places are also under the attacks of neighboring defaulters.

> They [zotta*s*] could crush us tomorrow if they chose, but they don't, because when they game out their situations, they're better-served by some of us 'solving' ourselves by removing ourselves from the political process, especially since we're the people who, by and large, would be the biggest pain in the ass if we stayed – (Doctorow, *Walkaway* 53)

The concept of "walking away from the default" does not necessarily mean to physically abandon the society, but rather acknowledging that in zottaworld, individuals are viewed as problems to be solved instead of citizens. This could be observed in the discourse of politicians referring to people as "taxpayers" rather than "citizens." The state is considered as a business, and in this enterprise, citizenship becomes a "loyalty program that rewards individuals for their custom with things like roads and healthcare" (53). However, zottas as the sovereign power, create the rules of the political system that allows them to receive the majority of money whereas their tax amount is estimated by themselves.

> That's what walkaway is -- not walking out on 'society,' but acknowledging that in zottaworld, we're problems to be solved, not citizens. That's why you never hear politicians talking about 'citizens,' it's all 'taxpayers,' as though the salient fact of your relationship to the state is how much you pay. (53)

When the word "taxpayers" is used instead of citizens, it is highlighted that all individuals including the state itself is indebted to zottas. For this reason, any help to the vulnerable and disadvantaged groups is considered charity rather than their rights as citizens. Non-zottas and walkaways are depicted as subjects deprived of the rights of citizenship. According to Agamben, *homo sacer*, *bare life* or *zoē* refers to life as bare survival and exposed to death. This vulnerable form of existence can be regulated, manipulated, and even terminated by *bios* without it being legally considered as a crime. He also notes that the sovereign has the power to "decide on the state of exception" (11), during which the law is suspended, and individuals can be reduced to mere *bare life* (83). The state of exception has been normalized in modern societies, blurring the lines between legality and illegality, and between the rights of citizens and the power of the sovereign (64).

With regards to *bios*/ *zoē* power relations, zottas represent *bios* with the sovereign power who maintains their control over the default through economic power, political influence, and surveillance whereas walkaway societies exist outside the default capitalist system, establishing a new space where individuals liberate themselves from the oppressive structures. Before walking away, non-zottas are depicted as the ones who "can be most easily rounded up and institutionalized. That's why they can't run away. It's monstrous, but we're talking about monstrous things" (Doctorow, *Walkaway* 54). However, when they take the initiative to walk away, zottas welcome their decisions to get rid of them since they constitute the majority in the default society. Thus, their walking away serves zottas as well and their utopia "indirectly secures the stability of its dystopian counterpart" (Troschitz 389) in the default. Moreover, the act of walking away and building their own communities in environmentally ravaged areas allow them to create an affirmative bond based on cooperation. However, previously considered as a safe valve to eliminate dissidents from the default by zottas, the concept of walking away undergoes a transformation through the use of simulations of the human mind (389).

As Troschitz states, "only when the walkaways manage to run a simulation of the human brain are they perceived as a danger and are attacked by default's military forces" (390), and these attacks make the limitations and shortcomings of walking away as a strategy more evident. Walkaway settlements reject the sovereign power in the default and similar

to Agamben's state of exception, the distinction between what is viewed legal, or illegal is blurred in these places. Susceptible to the actions of *bios*, walkaways challenge this shared form of vulnerability by developing new technologies of mind-uploading. They resist against the dehumanizing precarity of technology-driven capitalism. In walkaway communities, they rebuild affirmative ethics by reworking the negative bond of vulnerability. Differently from the negative bond of the shared vulnerability, Rosi Braidotti argues that it is also possible to create affirmative ethics after being engaged with vulnerability, pain, violence and suffering (*Posthuman Knowledge* 210).

As Natalie (Iceweasel) states, "there would be no reason not to walk into an oppressor's machine-gun fire" (Doctorow, *Walkaway* 130) after death has been overcome. Yet, having this power causes conflicts attracting the attention of zottas to the walkaway settlement with the desire to control the technology of immortality. Troschitz argues that walkaways who built this technology in Walkaway University and who are willing to defend it in Akron, which is "a permanent walkaway city, something you couldn't walk away from" (313) suffer from the attacks of zottas. As "immortal beings of pure thought and feeling" (195), the walkaways effectively elude the sovereign's ability to control and manipulate their physical existence.

In addition, creating a digital network to upload consciousness and moving beyond the materiality of the body could be also viewed as a way to avoid taking responsibilities. To illustrate, Sherryl Vint states that imagining a post-embodied future implies transcending the limits of materiality and to an extent, disregarding its ethical and social implications (*Bodies of Tomorrow* 8). Despite these controversial ideas, *Walkaway* illustrates the necessity of taking responsibility for the environmental destruction wrought by capitalism. Although it offers disembodiment a solution to mortality, it also highlights the importance of embodiment for a utopia in the end. In fact, Doctorow's utopia focuses more on communal structure of walkaways and how this structure fosters the environment that helps them to conquer death. In the novel, disembodied cyberspace turns into a place where body and mind are divided to become immortal. This idea of disembodied cyberspace may seem to be a part of the legacy of Cartesian dualism, which equates self and identity with merely the abstract realm ignoring the relevance of embodiment (Vint,

Bodies of Tomorrow 11). In cyberpunk fiction, this dualism is also employed with the refusal of the body as mere meat and the celebration of the freedoms arising from disembodiment and disembodied subjectivity in cyberspace. Various critics also emphasize how virtual realms help to have a greater sense of freedom and empowerment without physical and societal limitations. As Scott Bukatman states, "[c]yberspace is a celebration of spirit, as the embodied consciousness leaps and dances with unparalleled freedom. It is a realm in which the mind is freed from bodily limitations, a place for the return of *the omnipotence of thoughts*" (208-9). In other words, in addition to freeing oneself from the confines of body, the digital realm also transforms them into "omnipresent transhuman oracles," who is immortal, simulated and dead in a sense. To illustrate, the character called Disjointed, known as Dis, is the first person whose consciousness is transferred to a digital network.

> A person, a woman, Dis, whom you spoke to and who spoke to you. I know from intelligence about a woman whose real name was Rebekkah Baştürk, killed in a strike on a walkaway research facility near Kapuskasing, subsequently the first person to be successfully simulated in software, under her pseudonym 'Disjointed,' which is shortened to 'Dis.' (Doctorow, *Walkaway* 277)

As a bombing casualty, Disjointed is a complex character that reflects the implications of disembodiment by embodying the concept of the cyborg. Considering that "our bodies, ourselves; bodies are maps of power and identity" (Haraway, *Simians* 180), Donna Haraway uses the term cyborg to explain this hybridity of machine and organism and defines it as a creature of fiction and social reality, and a matter committed to irony through its nature which is "oppositional, utopian, and completely without innocence" (149-151). In addition to the transgression of boundary between animal and human, the distinction between organism and machine also dissolves. With the advent of the cyborg, representation and reproduction are respectively replaced by simulation and replication (152-52). Dis becomes an example of cyborg by breaking down distinctions and challenging traditional concepts of identity.

> "Your [Dis's] brain got incinerated, this sim is all that's left. Back it up, freeze it as it is now, then take an axe to a copy, brute-force it into a mode where it stays metastable even if that means straying outside of what is considered to be 'you.' You've just explained that the only 'you' that can wake in the sim is one that's okay

> with being rebooted periodically. How's that different from booting a version that's okay with being whittled down to a robotically cool version of itself?" (Doctorow, *Walkaway* 105)

This paragraph shows how Rebekkah's brain is destroyed, and a digital copy of her mind is simulated as a sim, Disjointed. It is also highlighted that it is necessary for a sim to be rebooted periodically even though this means a deviation from the characteristics of the original person. The boundary between identity and technology is quite blurry. Dis is also aware of that her existence as a cyborg which combines the powers of human with the abilities of the machine has a more advantageous position.

> "I'm not being an asshole. I just don't understand how a meat-person can contemplate what I've become without a smidge of existential angst. It's not natural." Iceweasel couldn't help laughing. It was the nervous exhaustion, not to mention the wonderment, and it bent her double. To her amazement, the bot laughed, too. The weirdest thing about the synthetic laugh was how natural it sounded. More natural than speech. (105)

As seen above, it is still claimed that "the body is 'natural,' something that we are born with, that 'comes' with certain abilities and features" (Vint, *Bodies of Tomorrow* 18); however, Dis's synthetic laugh which sounds "more natural than speech" puts her in a liminal position between the world of machines and humans; the natural and unnatural. Similarly, Haraway argues that "a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities" (154). Yet, in the book, this joint kinship is depicted through mind-uploading process which is so traumatizing for an individual that an intermediate trance state is needed to prepare the person for the new environment.

As stated by Francesca Ferrando, the mind-uploading technology is one of the speculative technologies that transhumanists wish to have to become posthuman.

> According to Transhumanism, some may become posthuman; for instance, in the close future, the speculative technology of mind uploading may manifest in hybrid co-emergences of human consciousness and machinic assemblages which could not be considered "human" anymore—humans, for instance, have (and are) biological bodies; still, they would be intrinsically related to the human species, since the

phenomenological genealogy of their own consciousness would have had originated out of embodied human experiences. (28)

From a transhumanist perspective, Disjointed is no longer a human but a posthuman as she does not have a body anymore; however, her embodied human experiences still help her to relate to the humans. On the other hand, the experiences of Disjointed's disembodiment convey a sense of both liberation and oppression. It is stated that "Dis was making breakthroughs in upload and simulation. Being liberated from the vagaries of the flesh and being able to adjust her mind's parameters so she stayed in an optimal working state turned Dis into a powerhouse researcher" (Doctorow, *Walkaway* 109). Thus, her embeddedness in the digital network helps her to become "a powerhouse researcher" and become a useful element of the application of upload and simulation technology. As the first example of disembodied consciousness, Dis has transcended the limitations and "vagaries" of body and can concentrate merely on her work without having any troubles related to the materiality of body. This helps her to achieve an optimal working state, thereby becoming a productive researcher (109). Even though Dis lives in the virtual realm, as a posthuman, it is still an embedded and affective being, which also affects her temporal experiences. In *Parables for the Virtual* (2002), Brian Massumi states:

> A word [Parable] for the "real but abstract" incorporeality of the body is the virtuality. The extent to which the virtual is exhausted by "potential," or how far into the virtual an energeticism can go, is a last problem worth mentioning. For only "an insensible body is a truly continuous body": there's the rub. There's the ultimate paradox of the dynamic unity of movement and sensation: the unity is purely virtual. For the virtual to fully achieve itself, it must recede from being apace with its becoming. (21)

According to Massumi, the notion "virtual" refers to the incorporeal, intangible, and abstract aspects of the body that are real but not physically present. This concept questions the conventional understanding of the body as a purely physical entity. Dis can be an example for Massumi's description of "a truly continuous body" since it is seamlessly connected and constantly evolving.

> You know we got Dis's sim running by simulating her imperfectly? Her busted, unstable sim contributed to the stable version. From here on in, there's going to be

more eminent, legendary scientists who've devoted their lives to this running as sims, able to run multiple copies of themselves, to back up different versions of themselves and recover from those backups if they try failed experiments, able to think everything they used to be able to think with their meat-brains and also to think things they never could have thought. (Doctorow, *Walkaway* 300)

As seen above, Dis's imperfect simulation with her unstable and evolving state in the virtual realm contributes to the development of a more stable version. This process highlights the fluid nature of the virtual and its potential for continuous change. Moreover, the virtual is not restricted with the constraints of the physical body, which allows for unique and transcendent experiences and illustrates the potential for cognitive exploration in the virtual space. However, the lack of a physical body also brings a new dimension of affect and sensation for Dis.

The cursor blinked. Iceweasel was convinced this was for dramatic effect. Dis could scan the logs of all their conversations in an eye- blink, but when something emotionally freighted happened, there was a blinking delay. Iceweasel thought it was Dis's lack of a body's expressive range. She found herself interpreting the blinks -- this one is a raised eyebrow, that one was a genuine shock, the third was a sarcastic oh-noes face. There were pictures of Dis's human face in all these expressions and more -- stern and lined, with dancing blue eyes; thick, mobile eyebrows and a hatchet-blade nose -- but when Iceweasel thought of Dis's face, she thought of that cursor, blink, blink, blink. (Doctorow, *Walkaway* 109)

This passage highlights how Dis challenges traditional notions of affect with her way of expression emotions that no longer relies on physical stimuli. Instead, she uses the patterns of blinking to communicate her emotions. Disjointed's disembodied existence embodies the potential for change by interacting with the world in unimaginable ways.

Furthermore, the virtual world offers a space for the characters to transcend their corporeal selves and when Disjointed first experiences disembodiment, she describes it as something "exactly like dying, but I know I'll be back" (104). This liberation from the constraints of mortality without fear demonstrates the sense of freedom that disembodiment offers. However, these liberating aspects of disembodiment may also reveal the potential for oppression.

> "It's scary, Gretyl. I'm dead. I'm inside a box. When I wasn't like this, I could play word-games about whether this was death, but Gretyl, I'm dead. It's weird. Back when I was alive, I thought the problem with being a sim -- in a sim? Am I a sim or in a sim? Shit. I thought the problem would be the conviction that you were alive. Now I see it's the opposite. I know I'm dead. I still feel like me, but not alive me. Why didn't I ever talk to Dis about this? Fuck, fuck, fuck. I'm dead, Gretyl." (295)

In this paragraph, Etcetera has been uploaded as a sim and this experience causes him to confront his mortality while questioning the nature of personal identity and selfhood. The lack of connection between the disembodied consciousness and material reality evokes a sense of anxiety and uncertainty. Without a physical body, he grapples with the concept of self and what defines them.

> "That does sound plausible. I can't prove that I'm working with you, not your dad. Sims can't be sure that they aren't being torqued by the simulator, and that makes them incapable of knowing we're being manipulated. We're heads in jars. But how do you know you're not a sim? We scanned those mercs in the tunnels without their knowledge." (Doctorow, *Walkaway* 180)

As seen above, another problem of disembodiment is to be vulnerable to manipulation and control by external forces. As a virtual entity, sims may not be able to understand if they are being manipulated by their simulator, which would make them incapable of knowing if they are being controlled or manipulated in some way. It is also mentioned that Dis has been brainwashed "to be fine with being a simulation" "within her constrained envelope" (105). Thus, it can be argued that the paradoxical nature of disembodiment can be observed through Disjointed's experiences. Whereas liberation from the confines of the physical materiality opens up new potentials, it also poses problems concerning identity and control over one's existence. By exploring the duality of mind and body, Doctorow reflects on the repercussions of surpassing corporeal boundaries and the potential implications of a disembodied future.

As it pertains to affective experiences that shape the narrative of *Walkaway*, it is evident that the dual system as the default and walkaway provides different emotional landscapes. A complicated interplay of fear, hope, greed and anxiety shape the characters' decisions. Whereas in the default, the feelings of dissatisfaction and insecurity propel non-zottas to

head to the desolate places to seek alternative ways of living, in the walkaway settlements, these feelings are replaced with hope and cooperation.

> "It's fear." "They're [non-zottas] right to be afraid. This world, if you aren't a success, you're a failure. If you're not on top, you're on the bottom. If you're in between, you're hanging on by your fingernails, hoping you can get a better grip before your strength gives out. Everyone holding on is too scared to let go. Everyone on the bottom is too worn down to try. The people on the top? They're the ones who depend on things staying the way they are." "So what do you call your philosophy then? Post-fear?" (Doctorow, *Walkaway* 17)

As seen above, Natalie underscores that the reason why the default capitalist system continues to exist is less a result of commitment to free market principles, and more due to the instilled fear of failure among non-zottas. In the default system, non-zottas live dominated by fear, concerning their financial status and employment. While living in a system that undervalues them if they fail, the ultimate solution to fight against this fear is shown as walking away.

> She [Natalie] was brimming with life, sorrow, and whatever he'd [Hubert] felt when he realized that the whispered conversations about money and jobs that all the grown-ups had all the time were the outward reflection of deep, unending terror. A fear that gnawed at every grown person. A primordial terror of the tiger outside the cave. (42)

As seen above, the post-employment environment in the default forces non-zottas to have a precarious life devoid of the chance to become successful and achieve financial stability. For this reason, the fear of financial instability propels them to walk away in the pursuit of stability. Non-zottas in the default are attached to the fantasy of the good life, which refers to become as successful and wealthy as zottas. This desire is an optimistic endeavor, but the affect attached to it is either fear or anxiety. It means having immense power and wealth may seem to offer stability, success, and happiness. For non-zottas living in the default, the pursuit of wealth is the primary focus, but acquiring it is not an option for all. Thus, Natalie states:

> "Real zottas like my dad works as many hours as any beggar. Being a zotta means worrying you're not zotta grafting away to make your pile of gold bigger than those other assholes' piles. I bet my old man hasn't had eight hours of sleep in a row in ten

years. If it wasn't for medical technology, that fucker'd be dead of ten heart attacks and 20 strokes." (Doctorow, *Walkaway* 309)

With respect to this, despite being seemingly a marker of success, being a zotta valuing attachment to wealth and power does not promise a more fulfilling and meaningful life. Thus, Natalie states that the driving force behind human actions and behaviors should not be fear. In fact, values such as collaboration, compassion and freedom should be prioritized in an ideal post-fear philosophy. To describe the role of fear in affective economies, Sara Ahmed notes:

> Fear responds to that which is approaching rather than already here. It is the futurity of fear, which makes it possible that the object of fear, rather than arriving, might pass us by. But the passing by the object of fear does not mean the overcoming of fear: rather, the possibility of the loss of the object that approaches makes what is fearsome all the more fearsome. (125)

Either in the default or walkaway societies, non-zottas face the fearsome unknown while only people at the top have the luxury to be secure. In the novel, fear emerges as a response to changes in binary oppositions that conventionally demarcate individuals' place in the hierarchy. The source of fear and vulnerability confines individuals in the default society by attaching them to the possibility of becoming successful one day.

> Treading water in default thinking you might become a zotta is playing a lotto you can't win, and whose winners -- the zottas -- get to keep winning at your expense because you keep playing. Hope's what we're doing. Performing hope, treading water in open ocean with no rescue in sight. (216)

According to this paragraph, it is evident that "just calling for hope is clearly not enough to enact any kind of structural shift in a world where terror, shame, hopelessness, and paranoia seem the core components of any affective map" (Grattan 17). Imagining an alternative to the present creates the utopian pulse and the hope for something better. However, the same source of fear also becomes a potential to help them walk away and reshape a society in more equitable ways. To explain this contradictory situation further, Guy Standing contends that "the precariatised mind is fed by fear and is motivated by fear" (35) and living with anxiety leads to their passivity. By further developing this idea, Lauren Berlant argues that surging insecurity shapes the experiences of the majority of

the population. They are categorized as an affective class since established inequalities with hierarchies and oppression remain as a problem with increasing instability (195). As far as this is concerned, the default is considered as "the bottom of the sea and walkaway is a floating stick" that non-zottas can clutch. It is underlined that non-zottas are treated as "marginal costs" and "surplus to the default's requirements" whereas zottas are convinced that it is human nature to exploit the situation to accumulate wealth and power, even at the expense of others' well-being.

> [T]he tragedy of human existence is our world is run by people who are really good at kidding themselves, like your father. Your dad manages to kid himself that he's rich and powerful because he's the cream and has risen to the top. But he's not stupid. He knows he's kidding himself. So underneath that top layer of bullshit is another, more aware belief system: the belief that everyone else would kid themselves the same way he does, if they had the chance. (Doctorow, *Walkaway* 39)

As seen above, by blaming the human nature for creating its own greedy and selfish rich groups, the affective economies of fear are rationalized in the cultural context that values competition and individualism. Likewise, Sara Ahmed states that the affective economy of fear is such a pervasive force that "slides across signs and between bodies" and temporarily sticks to certain individuals or objects turning them as "objects of fear" (127).

> "It [the zottas' belief] starts with the idea that it's human nature to kid yourself and take the last cookie, so if he doesn't, someone else will, so he had better be the most lavishly self-deluded of all, the most prolific taker of cookies, lest someone more horrible, immoral and greedy than he gets there first and eats all the cookies, takes the plate, and charges rent to drink the milk." (39)

Approving Sara Ahmed's argument, zottas' fear of losing "the last cookie" to someone else triggers them to accumulate power and wealth disproportionately. This justification with "the human nature" perpetuates the cycle of fear, causing social inequality, and the suppression of walkaway movement.

Other than fear, the feeling of embarrassment is highlighted for different contexts. To start with, it is associated as a feeling with having a lot of money as a result of not caring for others. From the perspective of non-zottas, this disproportionate distribution of wealth is the source of embarrassment alone. Natalie states, "Dad's made the transition to old

rich," Natalie said. "He isn't embarrassed by money. Not like my grandparents were. He knows he's practically a member of a different species and can't see why he should hide it" (Doctorow, *Walkaway* 27).

This indifference towards others becomes the backbone of meritocracy. Bussière states that "meritocracy means some people deserve to be poor in the same way that some people deserve to be rich – making it easy for people to rationalize the fact that their comfort is predicated on the suffering of others" (7). Thus, being an advocate of meritocracy changes their affective relationship with money. On the other hand, in some walkaway settlements, they carry out experiments concerning the relation between productivity and affect. Their studies demonstrate that "the most successful strategy" to enhance productivity acknowledges human fallibility and when they are blamed for their mistakes in front of their colleagues, this exponentially increases the number of mistakes. In other words, they conclude that the feeling of embarrassment at work in front of peers causes a rise in the quantity of errors. For this reason, there is an endeavor to create a strong system which minimizes human intervention.

Although some walkaways are based on reputation economy which may bear similarities to monetary systems, they still reject the inherent values of the capitalist system including the importance given to the materiality and money. For this reason, a sense of discomfort is attributed to the topics of money and especially its unequal distribution.

> "In theory, we're selfish assholes who want more than our neighbors, can't be happy with a lot if someone else has a lot more. In theory, someone will walk into this place when no one's around and take everything. In theory, it's bullshit. This stuff only works in *practice*. In theory, it's a mess." (Doctorow, *Walkaway* 51)

As seen above, opposing to the belief that humans are inherently selfish, competitive, and driven by the desire for material wealth and social status, the walkaways challenge this theoretical assumption by building societies upholding values such as cooperation, trust, and mutual support. For this reason, they are known for walkaway sophistication and politeness. Highlighting their politeness, Limpopo notes how worried she felt not to offend anyone by being rude when she first walked away (90). Moreover, Sean Austin

Grattan also emphasizes the significance of affect in utopian texts. He proposes that "affect is the capacity to act, and attending to how utopian texts- or the utopian in texts- move people, organize affects, and energize action is a central component of utopian reading" (2-3). To illustrate, *Walkaway* comes into prominence with its utopian elements providing a vision that evokes hope, connection and empathy as a contrast with disappointment, fear and frustration. Similarly, Lyman Tower Sargent describes utopia as "tragedy or farce, but it can also be read . . . as a tale of hope, hope engendered, hope deferred, and hope renewed. This is a story of the men and women who dreamed of a better life for all of us and of those who tried to create that better life" (1). However, Sargent also posits that the crisis of present contradicts with utopian potential and utopian literature portrays the allegory of this struggle to envision a future that drastically repudiates the existing suffering.

When suffering is more present and intense than ever, utopianism is more desperately needed. As Grattan argues, in a period when capitalist realism still dominates the totalizing discourse, "the contemporary utopia is marked by ambivalence and incompleteness" (5). In *Walkaway*, this ambivalence and incompleteness can be observed with its open ending that celebrates both embodiment and disembodiment with the choice of being immortal either with body or in a virtual network. The novel's utopian vision portrayed with the walkaway movement creates this ambivalence by presenting a radical departure from the status quo to the fearsome unknown. Scavenging badlands to pursue an alternative social structure not only increases the vulnerability of the societies against external threats but also puts uncertainty into the center of the novel. In the walkaways' utopia, they acknowledge that "not everyone is a nice person in the world" (65) and various crimes continue to be committed.

> Limpopo remembered when this would have pissed her off and allowed herself to be proud that she wasn't angry. She wished she could also avoid pride, but everyone's a work in progress. "I'm sorry this happened. I'll help you get set again. Getting ripped off happens to everyone who goes walkaway. It's a rite of passage. Owning something that isn't fungible means that you've got to make sure someone else doesn't take it. Once you let go of that, everything gets easier." (Doctorow, *Walkaway* 67)

As seen above, Limpopo points out her emotional growth by highlighting the relation between material possessions and the emotional attachment to them. The act of relinquishing non-fungible possessions has an affective dimension since it is related to the feelings of relief and being freed from the burden of possessing and protecting them. According to the walkaway philosophy, possessions require protection. Being a walkaway means leaving materials, materiality and emotional attachments behind because "everything [is] everywhere," (68). The theft serves as a reminder that even in a society based on cooperation and mutual aid, there will always be those seeking to take advantage. However, Limpopo is pleased with her emotional shift, which is observed after holding onto the values of the walkaway communities prioritizing generosity and internal motivation. The walkaway's stress on these values may represent an optimistic vision of a more harmonious and egalitarian society. Yet, having problems inside the communities and being vulnerable to threats not only evoke negative emotions but also give walkaways the generative force to move and rebuild their communities. Instead of defending the system they built in their settlements, they prefer to leave everything behind in the face of each threat. Being always on the move is not only the greatest hindrance to their flourishing but also shows how they implement affirmative ethics.

> There had been -- every site working on upload had been hit in some way, a series of escalating attacks. Some were open military strikes, undertaken under rubrics ranging from harboring fugitives -- a favorite when default clobbers walkaway -- to standbys like terrorism and intellectual property violations, terms whose marvelous flexibility made them the go-to excuse for anything. (106)

As mentioned above, their pursuit of a utopian existence, free from the constraints of body and the oppressive default society, is incessantly encountered with resistance in the form of military strikes and other forms of violence. Aimed at of maintaining their power and control, zottas endeavor to justify their attacks. Although the pursuit of a better life is an "object of desire" as "a cluster of promises we want someone or something to make to us and make possible for us" (Berlant 23), zottas' constant attacks lead the walkaways to more suffering and struggle. To illustrate, the character called Limpopo, who is the first walkaway the reader confronts and becomes "the personification of utopia and the walkaway philosophy" (Troschitz 390) later declares that "walking away isn't victory, it's just not losing" (329). Her imprisonment by zottas causes her to question the

walkaway philosophy. However, even in the face of disappointment and aggression, the characters persist in pursuing their utopian vision. This persistence despite adversity can be viewed as the tenacity of hope, yet it also reveals the cruelty inherent within the cycle of optimism and disillusionment.

Moreover, the portrayal of digital immortality with mind-upload technology creates its own affective relations. Opposing to the restrictive and aggressive environment of the default, the walkaways build their communities in an intellectually stimulating environment with the studies of Walkaway University. The affective experiences in the walkaway communities dramatically differ from the ones in the default and being immortal leads to new vulnerabilities with the attacks and manipulations of the default.

> "'The thing I really don't get is why you're okay with being rebooted – isn't that dying?' Everyone was still looking. 'Of course. It's exactly like dying, but I know I'll be back. There's selective pressure at boot-time. Think of it -- when we're booting a sim like me, it starts off primitive, and we can lookahead at low compute-cost to figure out parameters for each successive step to full consciousness.'" (Doctorow, *Walkaway* 104)

The quest for immortality through mind-uploading raises concerns about personal identity and the potential loss of the self as the characters wrestle with the idea of dying and being reborn as digital entities. The desire for immortality serves as both a source of hope and a cause for suffering, as the characters face the existential dilemmas that come with the loss of their corporeal existence.

> This guy is enduring unimaginable pain because of his superstitious belief that he can spend his way out of death. The fact that this guy believes it doesn't have any connection with its reality. Maybe this guy will spend a hundred years trapped in infinite hell. Zottas are just as good at self-delusion as anyone. Better – they're convinced they got to where they are because they're evolutionary sports who deserve to be exalted above baseline humans, so they're primed to believe anything they feel must be true. (53)

As noted above, the character is depicted as enduring immense pain because of being attached to the desire to be immortal as this attachment is unattainable. Therefore, clinging to this fantasy ultimately causes immense pain by impeding their well-being. Berlant states that "under capitalism, money is power and if one has only surplus amount

of it, sovereignty is infinite and yet weight that cannot be borne" (42). Possessing a surplus amount of wealth, the zottas are considered as superior to others in society, and their financial resources grant them a vast amount of influence and control. This excess of power and resources heightens their vulnerability since it fosters a sense of entitlement and self-delusion, leading them to be convinced of their exceptionalism. The zottas' attachment to their assumed superiority causes them to cling to fantasies that harm them by disregarding the relational nature of *bios* and *zoē*.

To sum up, the concept of precarity pervades the aspirations in *Walkaway* with the transformation of negative emotions derived from affective relations and attachments into affirmative ones. For walkaways, their quest for building a better nation exemplifies how they transform the precarious conditions in the default system in an affirmative manner. In walkaway settlements, the way they build affective relations over cooperation and collaboration allows them to challenge the boundary between life and death. In this posthuman framework, affects are considered as transversal forces which are analyzed with their influence on the subject and the world. Thus, changing negative situations and emotions into affirmative modes through the goal of building a better nation helps them to embrace a posthuman subjectivity.

As *Walkaway* examines the complexities of affective experiences and attachments, it also navigates the intricate dynamics of temporality. By sharing the tension between past, present, and future, it explores multiple dimensions of temporality and places immortality at the center by exploring the relationship of the development of consciousness uploading technology to time. In its post-scarcity world, time remains a scarce resource and the pursuit of immortality becomes the goal to live in absolute abundance. Because of their approach to time, the duality of the default and walkaway societies embodies the perpetual struggle between tradition and progress, reflecting the human desire to both cling to the familiar past and embrace the potential of an uncertain future.

Whereas the default epitomizes the past with its established power structures and social inequalities, the walkaway represents the utopian potential for a more equitable and just future by focusing on collaboration, innovation, entrepreneurship and open access

knowledge dissemination. The perception of time drastically changes in the default and walkaway societies.

> This was what she loved about being a walkaway. She'd seduced and been seduced in default, but there'd always been a sense of time slipping away. We'd better stop this romantic stuff, get fucking because there's a meeting, a job, a protest, a meal to cook or a chore. Even at the B&B, it was hard to escape that feeling. But now she reveled in its absence, infinite time. She recalled Etcetera's unwillingness to commit to a routine in the B&B, his inability to naturally fall into a role or job. It meant that he was hers for as long as they wanted. (Doctorow, *Walkaway* 74)

As seen above, in the default society, a constant sense of urgency results from the idea that time is a limited commodity. After walking away, the characters experience a new perception of freedom in relation to time. This newfound sense resists routines and predetermined roles that constitute the constraints of time. Being disposed of any scarcity-driven approaches to time, walkaways develop a cyclical perception of time, which ignores tradition and progress and provides the freedom of a restart. For non-zottas, precarity produces temporal anxieties and an inability to look forward in time whereas zottas desire to have the control over time by "keeping immortality to themselves" (107).

> "They're [zottas] scared. They keep raising salaries, doesn't matter. Offering benefits, doesn't matter. Stock, doesn't matter. A friend swears some zotta was trying to marry him into the family, just to keep him from defecting. These fuckers are willing to sell their kids for immortality. No matter what we do, they'll eventually find enough lab-coats to deliver it. Science may be resistant to power, but it's not immune. It's a race: either the walkaways release immortality to the world, or the zottas install themselves as permanent god-emperors." (108)

This quote highlights that, to maintain their entrenched power structure and existing social hierarchies of the default, zottas want to control immortality technology. As a result of rapid technological advancement, the possibility of achieving immortality changes the way both the walkaways and zottas view time, life and power dynamics. Bryan Yazell argues that "reclaiming time is elsewhere an important component to producing precariat solidarity" (189), and in *Walkaway*, this act of reclaiming encompasses not only freeing oneself from the obligations of the capitalist default but also from the enduring power structure that persists over time. With regards to this, walking away is a way of the reclamation of time since it also means walking away from work, relationships and social

norms that impose temporal constraints. In walkaway settlements, they can have control over their time and build their networks in contrast to the precarious conditions of the default system.

> The gift economy was not supposed to be a karmic ledger with your good deeds down one column and the ways you'd benefited from others down the other. The point of walkaways was living for abundance, and in abundance, why worry if you were putting in as much as you took out? (Doctorow, *Walkway* 49)

As this passage indicates, the gift economy offers temporal flexibility and freedom without asking for reciprocity, and helps walkaways enjoy the present rather than being in a constant effort of justifying their value by working under strict schedules. Thus, they redefine the concepts of success, work and productivity. Concerning this new definition of work and progress, the gift economy focuses on the ongoing cycle of giving and receiving by emphasizing the interconnectedness and community spirit. With the idea that "Everything freely given, nothing sought in return" (15), the prevalent temporal narrative which associates productivity and progress with personal achievement and material gain is challenged.

> Asking someone if you can pitch in is telling them that they're in charge and deferring to their authority. Both are verboten. If you want to work, do something. If it's not helpful, maybe I'll undo it later, or talk it over with you, or let it slide. It's passive aggressive, but that's walkaways. It's not like there's any hurry. (50)

As this quote demonstrates, time is rearranged as a more fluid concept and productivity is reconceptualized accordingly. Rather than adopting the goal and progress oriented linear perspective of time in the default, the new definition of work and progress in the walkaway society involves a more collaborative approach. Moreover, against the dominant temporal narrative in the default which prioritizes productivity and the accumulation of wealth, walkaways incite resistance and offer an alternative vision of how time may be used and valued. This perception of time is mainly shaped with the desire to transcend the limitations of time and mortality. This desire also dominates the lives of zottas who are willing to take any risks to live longer and become immortal.

Similar to *TWG*, *Walkaway* also declares the necessity for a posthuman utopia that seeks to move beyond the limitations of materiality and linear time. Owing to "deadheading" technology, temporal constraints of the body are defied through reboots and scans. Being scanned regularly creates a sense of temporariness.

> "But now I'm *dead*, I feel this urgent need to talk to them. I don't have a message from beyond the grave. I want to hear their voices..." The infographics were inscrutable. He was thinking hard. Things were spiking so much that she worried he was in a race condition and they'd have to restart him, but then: "This feels...*temporary*. Like I could be erased any moment. Like I've been given another day of life, to clear up my business, before I'm gone. Before I go away forever, I want to talk to my parents." (296)

As seen above, after Etcetera being uploaded, the feeling of being "erased any moment" and temporariness redefine his understanding and experience of time. With regards to this, immortality as a sim entails being nonlinear.

> "Because I'm nonlinear, that's why," the voice said. Iceweasel supposed that in addition to the phased-array optics on the surface, the Disjointed bot could access an array of mics, meaning she could tune into any conversation in the room. Iceweasel had thrown parties in Toronto where her big wall was fed off of some other rich kid's party, and had been able to pick out every conversation individually just by pointing. The bot she was talking to through the screen could do the same. (Doctorow, *Walkaway* 103)

This passage shows that nonlinearity as a concept becomes one of the features of being a bot since it allows to have access to multiple streams of information simultaneously. This capability also helps them to access and process a considerable amount of information in a non-sequential way. Thus, after Dis being simulated, she becomes an indispensable element of the walkaway community and upload project.

> "Now take Dis. She was indispensable. We couldn't bring her back without her! We're in different fields, but I follow hers closely. There likely isn't anyone else in the world who can do what she does. She is literally one of a kind. I'm not one of a kind – I'm good, but at the end of the day, I'm an applied mathematician with pretenses to pure math." (155)

Considering the irreplaceable position of Dis for uploads, it may be argued that Doctorow's posthuman utopia welcomes the temporary, the flexible and the

entrepreneurial. Although disembodiment is considered as the solution, at the end of the novel, from the perspective of Natalie, the reader also learns that it becomes possible to regenerate minds with bodies. Waking up after being deadheaded for a long time because of cancer, Natalie feels shocked to see Etcetera, whom she thought to be long dead, looking young and healthy. Etcetera reveal that in the aftermath of a process that enables the transfer of brain scans into the newly regenerated bodies with the growth of new organs, both of their bodies are rejuvenated. He also mentions the existing with or without physical bodies is provided as a choice for the person. In her new body, her sensory feelings dominate the ending of the novel, and she describes this feeling "like being born again. Her skin tingled. It felt amazing" (379). Thus, it can be argued that although transcending the material realm through disembodiment is viewed as a utopian ideal, the ending of the novel declares a return to embodied subjectivity that has been transformed with technology and genetical redesign.

In conclusion, the novel *Walkaway* offers a posthumanist utopia that ends precarity through technology, genetics and its economic system. By examining the consequences of meritocracy and the transition to a gift and reputation economy, the novel reveals that the solution lies in getting rid of the constraints of the body, its movement and transformation. Through the portrayal of the "walkaway" movement, this ongoing and evolving process fosters innovative strategies of being free. However, the act of walking away also generates attachment to a utopian ideal. As having a detachment from the past and future, walkaways continue living precariously with the fear of a possible attack. To fight against precarity, Doctorow shows the solution in leaving the materiality behind. Questioning the duality between mind and body, he delves into the concept of disembodiment by highlighting liberating and oppressive ways of bodily precarity. Against bodily precarity in the default system, immortality is shown as an element to achieve freedom and question identity by challenging the traditional markers of time. However, for the defaults, the pursuit of immortality creates affective attachments and transforms the perception of time. Taking these into consideration, Doctorow envisions an evolving utopia, rather than a static post-scarcity place, driven by an entrepreneurial spirit, a strong sense of community and collaboration, and an open access to opportunities.

CHAPTER 3: INDENTURED POSTHUMAN SUBJECTIVITY AND VULNERABILITY IN ANNALEE NEWITZ'S *AUTONOMOUS*

This chapter focuses on how indentured servitude and patent regime in Annalee Newitz's[13] *Autonomous* create precarity with the lens of posthumanism. Drawing upon Rosi Braidotti's definition of the posthuman, the aim of this chapter is to discuss the posthuman as a shared vulnerability by highlighting its embodied, embedded, affective and temporal nature. This chapter asserts that *Autonomous* critiques prevailing socio-economic systems by extrapolating them into the future and expanding them to encompass nonhuman beings, while also probing what it means to be a human and a cyborg, particularly in terms of autonomy, agency and hybridity between human-animals and machines.

As an American author, journalist, and editor, Annalee Newitz is renowned for their contributions in the field of technology and SF by shedding light upon cyberpunk themes. Born in 1969 in California, Newitz has always been interested in pursuing a writing career and states in an interview with Elise Dumpleton that they "have been a science journalist for over 15 years and started writing science fiction about 10 years ago when [they] were the editor-in-chief of io9." They also argue that "fiction also creates a safe sandbox where we can play with possibilities that scare or enrage us in the real world" and they explain their main reason of writing as a form of resistance (Philpott). With the aim of "eas[ing] someone's pain or help them stand up to a fascist," their works foster a more inclusive approach by tackling issues of precarity, gender, sexuality, and the plight of marginalized groups (Philpott).

Criticizing contemporary gender norms and capitalism, they have authored various short stories, non-fiction books such as *Pretend We're Dead: Capitalist Monsters in American*

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[13] Annalee Newitz uses the pronouns they/them.

Pop Culture[14] (2015) and three novels *Autonomous* (2017), *The Future of Another Timeline* (2019) and *The Terraformers* (2023). Whereas *Pretend We're Dead* presents the destructive consequences of capitalism on the environment, individual and society through monstrous manifestations in popular culture, the novels explore themes such as gender politics, biotechnology, artificial intelligence and alternate histories and systems. Mostly, their writing focuses on cyberpunk premises including the threats presented by climate change, the effects of technology on the planet's habitability, the supremacy of neoliberal corporate culture, the relationship with virtual technologies and environmental destruction (Pearson 133). To illustrate, their debut novel, *Autonomous*, which was nominated for various awards such as the Nebula Award and Locus Award and received the Lambda Award for the best novel category in 2018, touches upon the detrimental effects of capitalism on individuals' relationship with work with a critical eye.

Set in 2144 in a world ravaged by disease and climate change and divided into vast economic zones, *Autonomous* portrays a future where information is commodified, and ownership extends to all entities including humans and robots with an indenture system. In this world, patent laws and corporations have enormous power, creating a society that is dramatically unequal and transforming the labor and bodies of humans and robots into commodities with this system. Patents are tightly regulated and upheld by organizations like the International Property Coalition (IPC), particularly when they relate to pharmaceuticals and biotechnology. This leads to a world where necessary medications and therapies can be exorbitantly expensive, giving rise to figures like Jack (Judith) Chen, who becomes a pirate to offer less expensive options to the general public. The story alternates between two plotlines: one revolves around Jack and her journey to rectify her

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[14] Upon completing their Ph.D. studies in English and American Studies in UC Berkeley, their dissertation was published by Duke University Press under this title.

mistake causing deaths with her drug and the other follows the robot Paladin's[15] journey with her/his partner Eliasz to track down the pirate responsible for this deadly drug.

The first narrative focuses on Jack (Judith) Chen, a pharmaceutical pirate using a technique called "reverse engineering" to provide affordable access to medicine for economically disadvantaged populations. However, her last batch of a productivity drug inadvertently wreaks destruction since it causes a lethal work-addiction in users. This addictive drug called Zacuity makes its users relentlessly pursue the activity that they are currently engaged in without any rest, sleep, or nourishment, leading to the deaths of many. The plot revolves around Jack's endeavors to find a solution while questioning her life and career, and military agent Eliasz and his indentured robot Paladin's assigned task to hunt down Jack.

The second plotline centers on Paladin, a military robot who works with a human agent, Eliasz, to find the source of the deadly Zacuity. As Paladin works with Eliasz, the robot starts questioning her/his identity and autonomy, developing a complex relationship with Eliasz. Throughout their journey, Paladin gains a sense of self-awareness and begins questioning her/his gender, which is not predetermined in robots, and grapples with some romantic feelings for Eliasz. The two narratives eventually converge as Paladin and Eliasz approach Jack. By this time, Jack formulates a cure for this plague and in the process of reversing the effects of the drug, she learns the real culprit is the pharmaceutical company Zaxy. In spite of Eliasz's task to apprehend Jack, he finally helps her to distribute the cure. After realizing that the company is responsible for producing the drug with the knowledge of its adverse effects, Jack embarks on a mission to expose that Zaxy do not abide by the IPC regulations by stating:

> "It's possible that something genuinely good could come out of this. Zaxy broke the
> law. When the public knows, it could lead to real changes." . . . "This isn't just about

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[15] At the beginning of the novel, Paladin is addressed by the pronouns he/him, despite the assertion that robots are not assigned a gender. However, it later comes to light that that the prior owner of Paladin's brain was a woman, which prompts a shift to the use of the pronouns she/her for Paladin. To avoid potential ambiguity and any confusion, this thesis utilizes both sets of pronouns, she/he or her/his, in each mention of Paladin.

> my life, Mali. This could destroy one of the most corrupt pharma corps in the world. We might never have this chance again." (Newitz, *Autonomous* 78)

As seen above, in order to dismantle this unjust system dominated by a pharmaceutical company prioritizing profit over the well-being of the public, Jack devotes herself to make a big difference in the world. Her personal journey guided with this goal is narrated in a non-linear fashion through leaps in time. In addition to Jack's journey, Paladin's story ends with her/his attaining an autonomy key to become autonomous, which can be described as the conclusion of her/his self-discovery throughout the novel. This change in her/his self-awareness allows her/him to make more conscious decisions and escape the Earth to enjoy this new phase of their lives and continue their romantic relationship on Mars. Paladin's journey to self-discovery also helps readers question the implications of technology and the fluidity of identity. Given that the indentured humans and robots are not more than a commodity until they attain their autonomy key, Newitz also questions the concepts of agency, autonomy, and identity while criticizing issues associated with intellectual property and access to healthcare.

In terms of Newitz's literary style, Hanna-Riikka Roine and Esko Suoranta argue that while delving into the repercussions of digital technologies, Newitz employs literary conventions such as character-focalization and mind-reading of fictional characters (298). By doing so, they integrate the environmental aspects of digital technologies into the plot, narrative and worldbuilding process, thereby showing how such technologies can transform the choices and intentions of individuals to an extent. According to Roine and Suoranta, in *Autonomous*, a nonhuman character depicted as an indentured humanoid military robot called Paladin is focalized to show the effects of environmental digital technologies (299). Throughout the novel, Paladin explores human behavior, sexuality, and autonomy as she/he works alongside her/his partner Eliasz to investigate drug patent pirates, eventually engaging in a romantic relationship with Eliasz. As a humanoid robot, she/he has a technologically augmented cognition that enables her/him to access to all kinds of information as a narrative tool (307).

As another literary device, Newitz also uses intertextuality with the allusion to the film *Blade Runner* (1982) to explore the blurred line between human and robot and evoke

ethical and psychological discussions about autonomy and identity. Whereas in *Blade Runner*, artificially intelligent beings called replicants struggle for equal rights and long lifespans, in *Autonomous*, robots such as Paladin strive for acquiring autonomy. In both works, there is questioning of identity for these bioengineered creatures through the discussion of their memories. In *Blade Runner*, replicants question the effect of created memories on their identities. On the other hand, in *Autonomous*, robots with a human brain are unable to have access to the memories of it until they become autonomous. Paladin discovers the gender identity of the previous host of the brain only after being autonomous. This reforms the relationship between Paladin and Eliasz when they learn the previous host was a woman. Also, the endings of both works share similarities as they involve characters who are depicted as one human (Rick Deckard and Eliasz) and one robot (Rachel and Paladin) falling in love and departing from their dystopian environments for an uncertain future.

As for the elements of critical dystopia, *Autonomous* also shares common features with *TWG* and *Walkaway*. As in other works, multiperspectivity is applied by using the perspectives of two characters: Paladin and Jack. For both characters, there is no closure in the ending since Paladin goes to Mars with Eliasz to seek a better life and Jack has finally made a big difference by finding the cure for the work addiction and reveals that the real culprit is Zaxy by publishing an article. In terms of vulnerable characters, *Autonomous* portrays humans and bots whose lives are precarious due to corporate capitalism that restrict their freedom to live and work. By criticizing the consequences of unchecked capitalism which may lead to the commodification of all life forms, the book combines dystopian elements with utopian potentials. This hybridity is also mirrored in the portrayal of the characters as posthumans crossing the boundaries between human and machine, as well as life and death.

As a consequence of late-stage capitalism, *Autonomous* envisions the replacement of national borders with economic zones which strictly enforce patent and property laws. In this world, property rights supersede human rights turning robots into human-equivalent indentured beings. Entitled to "Human Rights Indenture Laws," either a robot or a human need to earn their autonomy in this system reinventing slavery in the future.

> Once bots gained human rights, a wave of legislation swept through many governments and economic coalitions that later became known as the Human Rights Indenture Laws. They established the rights of indentured robots, and, after a decade of court battles, established the rights of humans to become indentured, too. After all, if human-equivalent beings could be indentured, why not humans themselves? In the Zone, however, there were no laws that allowed humans to be born indentured like bots. (Newitz, *Autonomous* 224)

This legalized form of slavery with tradable and purchasable indenture contracts can be considered post-anthropocentric since it decenters the human by reducing both robots and humans to commodities. As Rosi Braidotti states, the bio-technological aspect of advanced capitalism is rooted in the economy of "life as surplus,"[16] which considers the living matter as a form of capital. In this economy, the exceptionalism of *Anthropos* is superseded, which leads to a form of post-anthropocentrism that erroneously unifies all species under the market's demands and threatens the sustainability of our entire planet (*Posthuman Knowledge* 198). The novel also reflects the theme of commodification of life by portraying the dualistic system of *bios* (creditors) versus *zoē* (debtors) that creates precarity. Maurizio Lazzarato states that "the creditor-debtor relationship is a product of power relations between owners (of capital) and non-owners (of capital)" (8) and according to this idea, indentured humans and robots become live capitals of this economic system and economic value is extracted from humans and robots alike. With the advent of robots as workforce, Newitz states that labor goes through devaluation and in *Autonomous*, they correlate the return of indentured servitude with this devaluation ("Policy Is Just Hard Science Fiction").

In their interview with Sarah Villeneuve, Newitz also contends that "in this universe, the policymakers who are framing these laws [Human Rights Indenture Laws] don't present those laws as 'humans are now slaves.' They say, 'this is the right to be indentured'" ("Policy Is Just Hard Science Fiction"). Portraying being indentured as a form of freedom, Newitz states that "maybe it is better to be indentured" for vulnerable populations. They argue that widespread poverty or a considerable increase in the number of climate

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[16] This refers to Melinda Cooper's book, *Life as Surplus Biotechnology and Capitalism in the Neoliberal Era* (2008) and touches upon to how the interaction of biotechnology and capitalism has generated a paradigm in which life itself is viewed as a surplus, and a resource to be exploited economically, ultimately endangering biodiversity and the ecological balance of the planet.

refugees may lead to the resurgence of practices such as indentured servitude as a viable option. To put it differently, these vulnerable groups living in desperate conditions might be more susceptible to exploitation by the ones taking advantage of their vulnerability. Considering the relation between slavery and global capitalism, Newitz argues that "just because you make laws against them [slavery and indentured servitude] doesn't mean that they go away, and it doesn't mean that they can't come back" ("Policy Is Just Hard Science Fiction"). Generating a "debtor-creditor" relationship between corporations or individuals as owners and the indentured, the book presents how power imbalance and economic inequality can create an exploitative relationship limiting control of indentured beings over their lives.

In this economic system relying on indentured workers, private contracts replace human rights. Through this replacement, the human is not only decentered with a post-anthropocentric approach, but in the meantime, the anthropocentric paradigm is preserved by providing the benefits of this system to only certain humans who constitute the sovereign power (Ferrando 123). Rosi Braidotti uses the concept of the "perverse" form of post-anthropocentrism to describe advanced capitalism by referring to the commodification and extraction of value from all forms of life. Without privileging human life over other forms, advanced capitalism seeks to exploit all available resources, either human or nonhuman, to generate profit (*The Posthuman* 7). She notes that "The global economy is post-anthropocentric in that it ultimately unifies all species under the imperative of the market and its excesses threaten the sustainability of our planet as a whole" (63). Considering "the genetic code of living matter is the main capital," Braidotti also highlights with the help of biotechnologies, the global economy exploits the essence of life itself by turning genetic codes into a form of capital to be traded, modified, and owned (7).

Likewise, in *Autonomous*, this perverse post-anthropocentricism can be observed with the system in which humans and robots have been owned and forced into a form of indentured servitude for a supposedly ten-year period in order to attain autonomy. However, this ten-year rule may be disregarded by the owners. "Paladin had heard enough around the factory to know that the [African] Federation interpreted the law fairly liberally. He might

be waiting to receive his autonomy key for twenty years. More likely, he would die before ever getting it" (Newitz, *Autonomous* 35). Paladin's pessimistic views demonstrate the challenges of the indentured robots in this system built to keep them subjugated and dependent on corporations. These owners have the total control over their labor, future, and life in general. Humans differ from robots since they do not have a manufacturer and "do not require the same financial investment to reproduce as robots, and therefore they are only indentured as adults, by choice" (168). However, for humans the rights, once granted for all such as the right to work, move elsewhere and go to school, are enforced by those wealthy enough to afford them (166).

This dualism between the rich and the poor can be also viewed in the healthcare system. Due to the patent system, pharmaceutical corporations have the power to monopolize the production and distribution of medicines by holding their patents and restrict their accessibility by increasing the prices. This also gives them the right to decide upon whose lives are worth to save or improve.

> "We live in a world where everyone can live for over a century without disease and without pain!" . . . "But the keys to this good life are held in the greedy hands of a few corps, whose patent terms last longer than a human life. If they won't open access to medicine, we're going to smash it open! The time has come to fight this system that calls health a privilege!" (Newitz, *Autonomous* 85)

As seen above, these pharmaceutical corporations can cure almost any disease with patented drugs that are strictly policed by International Property Coalition (IPC). Moreover, in free trade zones, individuals must buy a franchise in order to work, have a property and pursue education. Wendy Gay Pearson states that to acquire the human rights and freedoms which are tied to the concept of citizenship, it is necessary to possess a substantial amount of wealth to buy enfranchisement (134). After paying the entry and annual fees, they become entitled to have access to free healthcare, education, internet, and emergency services (Carroll). Such a system creates huge disparities between the rich and the poor and despite living in a post-plague world where almost all diseases can be cured, the poor indentured ones are destined to be vulnerable.

> Krish compared the patent system to the indenture system, which Jack thought was kind of a stretch. But she had to admit that the patent system did seem to be at the root of a lot of social problems. Only people with money could benefit from new medicine. Therefore, only the haves could remain physically healthy, while the have-nots couldn't keep their minds sharp enough to work the good jobs, and didn't generally live beyond a hundred. Plus, the cycle was passed down unfairly through families. The people who couldn't afford patented meds were likely to have sickly, short-lived children who became indentured and never got out. Jack could see Krish's point about how a lot of basic problems could be fixed if only patent licensing were reformed. (Newitz, *Autonomous* 56)

As seen above, the sovereign power is governed by *pharmocracy*[17] and the have-nots can be considered as zoe unable to access to medication due to the patent system. Excluded from the benefits of pharmaceutical technology and advancements, they are reduced to have a precarious existence with scare opportunities for education, employment, and health. The state of exclusion becomes intergenerational through the transfer of a life of indentured labor to offspring. Pharmaceutical companies intensify their corporate hegemony. As Laura Horn states, "the future is dominated by mega-corporations, determining every facet of production, consumption and social interaction" (41). In *Autonomous*, Big Pharma, Zaxy constitutes the corporate dystopia and against the expensive patents of medicine, resistance comes from the acts of piracy and biohacking.

As a drug pirate, Jack (formerly Judith) Chen is a biochemistry PhD student who reverse-engineers patented drugs to provide affordable versions to the public. By using such a character, Newitz contends that piracy can be considered "not as the criminal theft of property but as a principled rejection of the transformation of the world into private property, drawing attention to the law's historical and ongoing role in securing property rights as paramount over other features of democracy" (Vint, *Biopolitical Futures* 164). As a reference to the pirate Jack, the novel begins with lyrics from the song "The Last Saskatchewan Pirate" by Canadian musical comedy trio The Arrogant Worms. In an interview, Coleman states that this seems to be "an overture for the whole story," and

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[17] This term is coined by Kaushik Sunder Rajan and refers to "the global regime of hegemony of the multinational pharmaceutical industry" (6).

Newitz acknowledges that they resemble the pirate "Tractor Jack," who steals hay and fertilizer due to the economic downturn, to Jack.

> But times were hard, and though I tried, the money wasn't there
> And bankers came and took my land, and told me "fair is fair."
>
> I looked for every kind of job, the answer always no
> "Hire you now?" they'd always laugh. "We just let twenty go!"
> The government they promised me a measly little sum
> But I've got too much pride to end up just another bum.
>
> Then I thought, who gives a damn if all the jobs are gone,
> I'm gonna be a pirate on the river Saskatchewan. (Newitz, *Autonomous* 6)

These lyrics can be viewed as a critique of economic hardships, indicating turbulent times and the origin of Judith's pirate nickname. Similar to the ballad, economic conditions and power dynamics create pervasive precarity in the novel as well. This shared vulnerability arises from the patent and indenture systems turning both humans and robots into precarious beings and limiting their access to medicines or maintenance and updates. Due to the exploitative patent and indenture systems, the indentured workers, either humans or robots, and the poor without a franchise are stripped of their rights related to healthcare, freedom of movement and work, and subjected to the exploitation in an oppressive system that makes their future uncertain and present precarious. In this exploitative system, indentured workers, either humans or robots, exist as *zoē* transformed by biogenetic capitalism into a commodity for profit and trade since they are legally compelled to be owned for a specified period and have limited legal rights as mere commodities.

> Over a century ago, scientists first began to argue that the patent system and scientific data should be opened up. Back then, it was popular for conservatives to claim that putting geneng into the hands of the public would result in mega- viruses or total species collapse. Open data would be the gateway to a runaway synthetic biology apocalypse. But now we know there has been no one great disaster— only the slow-motion disaster of capitalism converting every living thing and idea into property. (Newitz, *Autonomous* 279)

As seen above, capitalism's relentless urge to commodify every living and nonliving thing turns into a dystopia that makes both humans and nonhumans precarious. Although the real threat lies in creating the division of *bios* and *zoē* by limiting the access to patents

to some, they considered democratizing scientific data would be a problem. However, as Rosi Braidotti states, bio-genetic capitalism fosters a mutual interdependence among all living beings, encompassing nonhuman entities as well. This type of dependency tends to manifest negatively, as a shared vulnerability, forming a universal sense of interconnectedness between human and nonhuman environments against shared threats (*The Posthuman* 50). This shared vulnerability, as underscored in other chapters as well, stems from the multi-scalar relationality including the posthuman's embodied, embedded, affective and traversal nature (*Posthuman Knowledge* 96).

In *Autonomous*, Newitz presents the image of posthuman as a precarious character through the lens of embodiment, embeddedness, affect, and temporality. Through this image, the novel deconstructs the human by envisioning a future where the lines between humans, artificial intelligence, and biotechnology are transgressed, and challenging the traditional understandings of gender, identity, autonomy, and agency. As in *TWG* and *Walkaway*, *Autonomous* also provides characters who are not "good old Man/Homo/*Anthropos*- the human" (Braidotti, *The Posthuman* 41) but a more complex-embodied and embedded, non-unitary, and affective traversal subjects (167). This hybridity can be observed with the biorobot Paladin and the pirate Jack who appear as liminal characters situated between polarities. Their shared vulnerability as posthuman characters can be analyzed in terms of their embodied, embedded, affective and temporal nature.

In terms of identity, agency and autonomy, the novel develops a critical approach questioning what it means to be human and explaining the role of gender and technology plays to address this inquiry. The concepts of agency, autonomy, rationality and authority have long been correlated with the human. Rosi Braidotti argues that as a concept, "the human has never been a neutral or inclusive" but rather serves as a tool to exclude and discriminate the other as a category comprising Westernized white men ("What Is Necessary"). Similarly, Nayar states that humanism considers the human as the center of the world, male, universal and singular. However, with the views of critical humanist and posthumanist thinkers, the human's autonomous rationality, agency, and the myth of its being the center of the universe are questioned (Nayar 22). In particular, by challenging

the human as universal and sovereign, cyborg theories emerge with the technoscience studies.

According to Donna Haraway, the cyborg appears as a liminal creature with the breakdown of categorical boundaries such as mind/body, human/machine and man/woman (152). The embodiment of both characters is shaped with this hybridity and their embeddedness within a world where bodies are sites of control, modification, and resistance. The character Paladin is an indentured robot embodying the image of a cyborg breaking down the categories of organism/machine and man/woman. Donna Haraway states that "[o]ur bodies, ourselves; bodies are maps of power and identity. Cyborgs are no exception" (180); therefore, as a cyborg and indentured worker, Paladin's body is embedded in the socio-economic structure of this indenture system. This form of embodiment, deeply embedded within the system, prioritizes capitalist profits over freedoms and sets the conditions for Paladin's existence. Despite having a physical body, Paladin experiences sensory inputs more differently than humans:

> He [Paladin] felt the wound explode across his whole torso, followed by a prickling sear of unraveled molecular bonds along the burned fringes of his stump. Out of this pain bloomed a memory of booting up his operating system, each program calling the next out of nothing. He wanted to go back into that nothing. Anything to escape this scalding horror, which seemed to pour through his body and beyond it. Paladin's sensorium still included his severed arm, which was broadcasting its status to the bot with a short-range signal. He'd have to kill his perimeter network to make the arm go silent. But without a perimeter he was practically defenseless, so he was stuck feeling a torment that echoed between the inside and outside of his body. (Newitz, *Autonomous* 20)

As seen above, Paladin is presented materially vulnerable despite its entanglement with technology. Her/his arm is torn apart during a training mission that was supposed to be noncombat. Although the hybridity of Paladin's body challenges the traditional notion of embodiment, the way she/he experiences physical sensations such as pain is quite similar to the human pain. The narrator describes this experience as "the first true agony of his life" (15), shows what it means to have a body and experience the world through it. This also shows the distributed and embodied nature of consciousness. In this respect, Nayar states:

> [T]he body begins to be treated less as a bounded identity than as a network or assemblage, evolving with technology and then environment, where identity emerges as a consequence of the layered flows of information across multiple routes and channels, and of course subject to social pressures and power relations. This view of the body as an assemblage with non-human and machine, and embodied but distributed subjectivity, is at the core of posthumanist thought. (90)

As indicated above, Paladin's body is not just "a bounded identity" with a physical body but an assemblage having access to a shared network of information and experiences. For this reason, her/his distributed consciousness extends beyond her/his physical body by building connection with the severed arm. Despite having this complex network, Paladin is valorized as she/he possesses a brain, which has a very limited functionality. Braidotti emphasizes the need to acknowledge "the embodiment of the brain and the embrainment of the body" (*The Posthuman* 86). However, in the book, humans are unable to do away with the mind/body dualism and attribute more meaning to Paladin's brain.

> "I [Eliasz] mean, where are you from originally? Where is your brain from?" Under its layers of abdominal shielding, Paladin's biobrain floated in a thick mixture of shock gel and cerebrospinal fluid. There was a fat interface wire between it and the physical substrate of his mind. The brain took care of his facial recognition functions, assigning each person he met a unique identifier based on the edges and shadows of their expressions, but its file system was largely incompatible with his own. He used it mostly like a graphics processor. He certainly had no idea where it was from, beyond the fact that a dead human working for the Federation military had donated it. (Newitz, *Autonomous* 33)

As seen above, Paladin's brain, due to its limited functionality, notably only performing facial recognition, presents another facet of bodily vulnerability. As an indentured robot, Paladin is unable to reach the memories of the brain, which- as it later emerged- belongs to a deceased woman. "Until he [Paladin] was autonomous, the Federation would always hold a key to the memories he'd encrypted in the Federation cloud" (124), and for this reason, Paladin desires to attain the autonomy card to build her/his own identity. The lack of access to memories or their being doubled or tripled during the training activities complicate her/his temporality as a posthuman being. In this respect, Rosi Braidotti states:

> Considering that posthuman time is a complex and non-linear system, internally fractured and multiplied over several time sequences, affect and memory become essential elements. Freed from chronological linearity and the logo-centric gravitational force, memory in the posthuman nomadic mode is the active

> reinvention of a self that is joyfully discontinuous, as opposed to being mournfully consistent. (*The Posthuman* 167)

As seen above, temporality associated with posthuman beings provides a unique sense of time transcending beyond its traditional understanding. Paladin embodies this fractured and discontinuous temporality since her/his consciousness is not confined in a linear time. Having a distributed consciousness leads Paladin to be continually in flux between her/his organic neural system and software-driven network.

> After weeks with her simulated autonomy key, Paladin was used to the idea that memories could be modified with new metadata. But this was a more difficult task than she'd faced in Vancouver when she'd reanalyzed how she felt about Eliasz. . . Every time she encrypted her memories, she was reminded of the limits to her autonomy. (Newitz, *Autonomous* 295)

For Paladin, gaining her/his autonomy and control over her/his own programming is important to understand that her/his feelings for Eliasz are her/his own code. Owing to the simulated autonomy key, she/he could encode the memories, which demonstrates that for Paladin, memory refers to a complex combination of encoded data to be encrypted and organic recollection to be analyzed with metadata. Thus, this combination indicates her/his internally fractured and multiplied temporal existence.

Whereas Paladin values to own her own thoughts so that "nobody could find out what she was thinking, unless she allowed it," Eliasz is more interested in her/his brain (299). After learning that the gender of the previous owner of the brain was female, Eliasz even starts to identify Paladin female by changing the pronouns.

> Eliasz had picked a nym for Paladin that was more commonly given to women, but gender designations meant very little among bots. Most would respond to whatever pronoun their human admins hailed them with, though some autonomous bots preferred to pick their own pronouns. Regardless, no human would think twice about calling a bot named Xiu "he." Especially a bot built like Paladin, whose hulking body, with dorsal shields spread wide over his back, took up the space of two large humans. (Newitz, *Autonomous* 33)

As pointed out above, posthuman bots contest the binary notion of male/female and anthropocentric views on embodied identity, considering gender instead as a fluid

concept. Yet, Paladin's hybrid identity evolves from being genderless to first being labeled male, and subsequently, female. This transformation can be observed through the change in pronouns from "he/his" to "she/her" by its owner Eliasz. Although Haraway considers that technology has an emancipatory power to free people from rigid gendered categories, Autonomous contends that despite being manufactured genderless, robots are unable to entirely escape these categories because of the desire of humans to incorporate anthropomorphic elements.

> "My brain is just an advertising gimmick," Paladin vocalized, echoing what the bots had told him in the Kagu Robotics Foundry. "It's to make humans think I'm vulnerable. But it has no real functionality." Then he ripped the man's face shield off and crushed his skull against his breastplate. For an instant, there were useless chunks of brain inside and outside his carapace, inches away from each other. (Newitz, *Autonomous* 102)

This advertising gimmick mislead the attackers targeting the brain with the intent of causing a huge damage to this military biobot. "[L]ike most humans, he [an attacker] made the mistake of assuming the brain was what controlled the bot" (89) whereas Eliasz "assumed it was the seat of Paladin's identity" (87). According to the humanist thought, consciousness and identity are essentially associated with the brain. Yet, consciousness is not centralized in the brain for Paladin but distributed and such an association complies with the posthumanist view. Furthermore, not having full control over the brain complicates her/his relationship with her/his identity, agency, and autonomy. Thus, it can be argued that the interconnected nature of human and nonhuman elements, demonstrated through the combination of the human brain and machine, further indicates Paladin's embeddedness in technology and her/his bodily vulnerability as a cyborg.

As another aspect of being posthuman, Paladin's evolving romantic relationship with its human partner, Eliasz, constitutes an example of relationality between humans and nonhumans. In this respect, Braidotti describe relationality as follows:

> Life, whether of the human or the non-human, is about relationality, difference and connections rather than about isolation, separation and boundedness. If we can use the human as the point of departure to then cognitively and ethically revaluate difference and acknowledge the intrinsically differentiated, different and differential nature of the human, we have a critical posthumanist position. In lieu of the

traditional humanist idea of the centrality of the human, posthumanism proposes a
'trans-species egalitarianism.' (Braidotti, *Transpositions* 41)

According to Braidotti's ideas about relationality, the relationship between Paladin and
Eliasz transforms by breaking down the anthropocentric dichotomies as a result of a
mutual process of identity formation. With the help of Eliasz, Paladin acquires the control
of her memory after possessing the autonomy key and prefers to be identified as female.
Similarly, Eliasz evolves his understanding of the other and the self with his interactions
with Paladin. At first, he had anthropomorphic tendencies towards Paladin by attaching
too much value to her/his brain; however, later he departs from his anthropomorphic
ideas.

> Of course she [Paladin] had been programmed to take Eliasz' orders, to trust and
> even love him. That much she had expected. But she hadn't been prepared for how
> it would feel to think about Eliasz without idealizing him. As Fang had told her long
> ago, Eliasz was truly an anthropomorphizer; he saw Paladin's human brain as her
> most vital part, especially because he believed it made her female. Even though she'd
> known that about him, she hadn't been able to feel it. Until now. (Newitz,
> *Autonomous* 205)

Unlike Eliasz's ideas about identity and gender, Paladin encompasses a complex, multi-
faceted posthuman identity, not merely reducible to brain and what it represents. Yet,
Eliasz's relationship with Paladin also changes his anthropomorphic ideas and after
Paladin loses her/his brain in a battle, Eliasz states, "'I know it's not the same for you. A
part of you is gone. But you are still the most amazing woman I have ever known.' He
stroked Paladin's abdomen over her brain cavity now filled with shock-absorbing foam"
(261). This loss demonstrates how Eliasz acknowledges that Paladin is a sentient being
whose consciousness is not contained in a psychical brain. Thus, it may be argued that
their emotional bond affects both characters' development. In terms of embodiment, the
pirate Jack can be also considered a cyborg as a bioengineered human.

> Loosening the molecular bonds on her coveralls with a shrug, Jack felt the fabric
> split along invisible seams to puddle around her feet. Beneath plain gray thermals,
> her body was roughly the same shape it had been for two decades. Her cropped black
> hair showed only a few threads of white. One of Jack's top sellers was a molecule-
> for- molecule reproduction of the longevity drug Vive, and she always quality-tested
> her own work. That is, she had always quality tested it —until Zacuity. (Newitz,
> *Autonomous* 12)

As seen above, Jack, as a biohacker, embodies a posthuman body which transgresses the boundaries of the natural/artificial and represents a fluid identity. She develops life-enhancing and life-extending drugs to considerably prolong the lifespan and manipulates the biology of organisms by reverse-engineering patented drugs. Thus, her identity as a biotechnician and pirate entails the posthuman perspective of blurring the lines between the natural/artificial and challenges traditional ideas about aging and mortality.

With her biohacker identity, she is embedded in the economic structure of pharmaceutical companies, and this embeddedness affects her and the system itself deeply after the release of the drug Zacuity. This reverse-engineered productivity drug becomes a nonhuman agent that eliminates the users' agency by converting their work into an obsession that ultimately leads them to their demise. Since Jack considers herself responsible for the deaths of these people, she starts to question her purpose in life. Her embeddedness in this system forces her to release the drug without testing its adverse effects. It is stated that "This was the kind of pharmaceutical disaster she'd vowed to fight against, and now she'd caused one, for the exact same reason the corps did: money" (43). As an agent, Zacuity serves as a symbol of the exploitation and commodification of human bodies since it represents a form of biopolitical control of the sovereign power and shows how individual actions and choices affect others whereas collective efforts are needed to challenge oppressive structures.

As a liminal character, Jack is also an embodiment of the posthumanist ideals. Although having a franchise is enough to make her one of the certain people with sovereign power, she prefers to work for building a *zoē*-centered egalitarian society.

> Although she'd broken many laws in her time, Jack had never lived without a franchise. Her parents bought her one the moment she was born. They had a family package that guaranteed all the Chen children could own property, apply for jobs, go to school, and move to another city if they wanted. Though Lucky Lake was small, it was still incorporated—the city used money from local enfranchisement deals to pay for police and emergency responders, as well as regular mote net dusting to keep all their devices robustly connected. (Newitz, *Autonomous* 144)

As seen above, despite the advantages came with her birth, she dedicates herself to destroy BigPharma and the patent regime. By using biohacking, she develops an optimistic attachment to the idea that she can provide access to expensive and patented drugs. However, this attachment causes a considerable number of deaths because of Zacuity.

As regards the affective relations, *Autonomous* provides piracy against the patent system and becoming autonomous in the indenture system as the affective attachments that are seemingly desirable but ultimately cruel. The flashbacks to Jack's past show that her attachment to make a big difference in the world throughout her promising academic career are depicted as negative situations. In the book, it is stated that Krish has ever held a job open for Jack "under the intentionally low-profile title of research assistant" (95); however, Jack prefers to become a pirate with the aim of ending diseases and extending the access to medicine for all kinds of people. During this process, she goes to prison with the charges of trespassing, conspiracy and commit theft, and later learns that her partner, Krish ends their patent reform movement by shutting down their anti-patent text repository *the Bilious Pill* with the fear of risking their careers.

> When Jack got out of prison, all evidence of her broken bones erased by patented therapies, she felt more broken than ever. The man she loved, her partner in crime, had killed The Bilious Pills and her career. Everything she'd felt for Krish had been transfigured by her rage, then settled into melancholy numbness. None of her options seemed real or important anymore. She took the job at Krish's lab in Saskatoon because it was better than starving. (96)

This quote demonstrates how Jack's dreams are shattered by her experiences, turning her hope into a disillusionment. Not only her relationship with Krish but also her career as a pirate is shown to be cruel with the betrayal of her partner and the consequences of her actions. After realizing the cruel nature of her optimism, these dreams once motivate her are replaced with hopelessness. However, she continues pirating "not only due to lack of other employment but also because she also recognizes that activism needs to be more than 'organizing neatly symbolic protests against patent law'" (Vint, *After the Human* 166). She reverse-engineers various life-saving and life-enhancing drugs until the disaster of Zacuity, which makes all the users vulnerable, since its users take the drug with the

optimistic belief that it will enhance their productivity but leads them to their death. The process of how the drug makes people addicted to work is explained below:

> Some people who dose themselves basically become manic. They refuse to do anything but engage in whatever process they associate with that dopamine reward. They don't eat, sleep, or drink water. These deaths aren't from the drug itself—they're side effects from things like dehydration, injury, and organ failure. Of course, people also have to take more and more of the Zacuity to get their rush, so that makes everything worse. (Newitz, *Autonomous* 117)

As illustrated above, Zacuity changes how the work feels like and is advertised to help you "get the job done faster and better" (9). By creating positive emotions such as happiness and enjoyment while doing the work, this drug aims to increase productivity. It also demonstrates that how pharmaceutical companies use pharmaceuticals to have the authority over *zoē* and *bios* by creating emotional and physical experiences.

Considering that the control of leisure time and spent on work is one thing that capitalism desires to have full control over (Hogg and Peterson 15), a drug transforming the affective relation with work may be a capitalist dream. Likewise, Sherryl Vint states,

> Even our imaginary of the good life has been fully subsumed by capital in the future Newitz projects. The opportunity to customize one's biological functioning manifests in neurochemical modulations that make one better suited for capitalism, which has come to seem interchangeable with the future: on Zacuity, any kind of work becomes a kind of clinical labor, an intervention into the biological body for the sake of profit. (*After the Human* 166)

Thus, the productivity pill Zacuity serves as a symbol of the exploitation and commodification of human bodies since it represents a form of biopolitical control of the sovereign power. Vint also states that the cure for the plague of workaholism is presented as a method called "retroactive continuity," which aims to create an alternate present by changing the memories of how Zacuity fuels reward. The cure alters the impact of the drug related to considering "the good life as greater service to capital" (167), and also how Zacuity affects the perception of time.

In terms of temporality, Newitz presents an interconnected narrative of two posthuman characters via a non-linear structure. As two alternating timelines, Jack's story set in the past and the present, and Paladin's story set in the present finally converge. For this reason, the whole book resembles to a diary with the dates written at the beginning of each part. Newitz uses different strategies to reflect the perspectives of Paladin and Jack. Until the overlaps of timeline on 18 July 2144, the temporal structure between Paladin and Jack's perception of time varies considerably. Whereas Jack's humanist temporality allows jumps from the present to the past, Paladin's nonhuman temporal structure demonstrates a distorted notion of time.

> It was the first training exercise" or 'aybe the fortieth. During the formatting period, it was hard to maintain linear time; memories sometimes doubled or tripled before settling down into the straight line that he hoped would one day stretch out behind him like the crisp, four-toed footprints that followed his course through the dunes. (Newitz, *Autonomous* 19)

As stated above, the booting process exposes Paladin's existence to manipulation by causing a sense of disorientation. The non-linear nature of Paladin's perception of time constitutes an element of precarity since she/he can only access to memories with a linear perception after obtaining the autonomy key. Thus, against the fluctuating and uncertain temporal experiences as a posthuman subject, Paladin yearns for having a linear track of "footprints" and the linear progression of time. Paladin's perception of time is further complicated not only by being a robot but also by being an indenture worker.

To show that both humans and nonhumans are temporal beings, the book uses the indenture system in which humans and nonhumans give up years of their life in servitude. In this system, indentured workers are promised the autonomy key after their service. This practice ensures that indentured workers remain invested in this system that exploits them. This affective atmosphere creates unitary responses shaped with the precarity and vulnerability of indenture workers as being indentured temporarily suspends agency. In other words, these unitary responses are prone to be manipulated by the owners of these indenture workers. In fact, indenture robots are particularly susceptible to this manipulation due to the programs operating in their minds, which they themselves do not have control over.

> Finally, Paladin considered the possibility that his own feelings were also an illusion. Every indentured bot knew that there were programs running in his mind that he could not access, nor control—and these programs were designed to inspire loyalty. But were they also supposed to make him care this much about small physiological changes in Eliasz' body? Was this constant searching and data-gathering about Eliasz something that he would shut down if he were autonomous? (Newitz, *Autonomous* 128)

As the quote suggests, Paladin's affective responses are presented as embodied experiences, which are manifested in the present and pre-programmed. The present reality for indentured workers like Paladin is one characterized by vulnerability, yet it is also intertwined with an affective attachment to the future characterized by autonomy and agency. Paladin experiences these pre-programmed emotions in the present, yet simultaneously questions their authenticity by contemplating how they would be experienced in a future autonomous state. Thus, the complex portrayal of temporality emerges as present experiences and future attachments become intertwined by offering an understanding of the temporality of posthuman entities.

> Families with nothing would sometimes sell their toddlers to indenture schools, where managers trained them to be submissive just like they were programming a bot. At least bots could earn their way out of ownership after a while, be upgraded, and go fully autonomous. Humans might earn their way out, but there was no autonomy key that could undo a childhood like that. (Newitz, *Autonomous* 24)

As stated above, being submissive is one of the key features defining both indenture humans and robots. Since they are tracked by the indenture tags on their bodies, this constant feeling of being watched shapes how they react. Although there are age-of-consent laws preventing indenturing children under sixteen, the violations are quite common. Humans are comparatively more precarious than robots in this system since being indentured creates a shared affective experience by constituting an affective class. Once being part of this class, humans continue carrying the traces of the implications of being indentured even after their attainment of the autonomy key.

> Though he was just beginning his term of indenture, Paladin had heard enough around the factory to know that the Federation interpreted the law fairly liberally. He might be waiting to receive his autonomy key for twenty years. More likely, he would die before ever getting it. But he wanted to survive—that urge was part of his programming. It was what defined him as human-equivalent and therefore deserving

> autonomy. The bot had no choice but to fight for his life. Still, to Paladin, it didn't feel like a lack of choice. It felt like hope. (Newitz, *Autonomous* 35)

For this reason, being autonomous can be an idea that robots are attached to and deal with their temporal bondage to attain it; however, for humans, it means the reduction of their futures to a pre-determined timeline of servitude. On the other hand, life-enhancing or longevity drugs demonstrate that concerning the temporality of bodies, the threshold between life and death has been breached. Pernille Leth-Espensen states that as a significant element of posthuman condition, technological developments have complicated the temporality of bodies (360-61). In this regard, the book not only highlights biotechnology as a solution to finitude and mortality, but also with the workaholism pandemic related to the drug Zacuity, it shows how capitalist institutions utilizes biotechnology to make more profit. For this reason, the cure for this pandemic lies in changing affective responses to the memories of Zacuity users.

> The pirated Zacuity users had reco"ered'quickly, but corporate users suddenly found themselves with months of memories that made no sense. They were unable to bounce back. Maybe they would never be able to do their jobs again without throwing up. . .These Zacuity users are going to have to build up new memories of enjoying their jobs. I think Zaxy is going to be responsible for a lot of unemployment. Zacuity users might even be able to sue for damages. (Newitz, *Autonomous* 231)

Although the ending does not put an end to the patent or indenture system, Jack could be successful in making a change in the world with Zaxy's financial loss. Moreover, in the ends, she continues with "the safer version of her life" and becomes a farmer quitting working as a pirate. The yearning for a more secure life also triggers Paladin and Eliasz and they decide to go to Mars rather than hunting pirates. Despite the dystopian elements, there are utopian aspects primarily in the form of resistance against the potential dangers of unregulated capitalism and established systems of exploitation. Challenging the existing power structures, these characters fight for autonomy and a more equitable and secure life. In this respect, the book provides a posthumanist utopia by criticizing current socio-economic structures and imagining a vision of possible future relations between humans and robots.

In conclusion, *Autonomous* offers a critical dystopia in which the commodification of all life forms creates precarity with the indentured servitude. In this system, being autonomous is portrayed as an optimistic attachment that forms its temporal bondage and affective experiences. By analyzing the impacts of the patent system and indenture servitude on humans and nonhuman entities, this chapter indicates that being posthuman also refers to a shared vulnerability shaping the embodied, embedded, affective and temporal nature of the posthumans. In line with posthumanist ideas, the book not only criticizes capitalism, demonstrating how its systems exacerbate bodily vulnerability and perpetuate inequality, but it also emphasizes the need to reevaluate our comprehension of identity, agency, and autonomy, challenging traditional concepts of humanity and embodiment. While *Autonomous* criticizes how the intersection of bio-genetic technologies and advanced capitalism lead to extreme precarity, it also incorporates utopian elements for a posthuman future.

CONCLUSION

The Global Financial Crisis (GFC) and subsequent Great Recession of 2007-2008 not only triggered widespread global unrest and elevated economic issues in public conversations, but also deeply impacted American literature. In nonfiction works, this influence is seen as a surge in exploring alternatives to capitalism and depictions of postcapitalism. In literature, a variety of subgenres have emerged, incorporating elements of the crisis and economics into their narratives. Nonetheless, the concepts of precarity, precariousness and vulnerability seem to be widespread across these works. This economic shift in literature can be also observed in the SF genre, with an emphasis on precarity deriving from two interconnected catastrophes: the crisis of global ecological disasters and the looming collapse of capitalism. Kim Stanley Robinson points out the trend of writing realist novels after the GFC and contends that SF works can be considered more realist than other literature as they have always incorporated current realities and how the humanity affects the planet (Robinson, "Science Fiction Is the Realism of Our Time"). Considering the significant role of economics in the world-building process of SF works, after the GFC, the thriving of precarious characters could be observed and portrayed in a posthumanist perspective.

In this thesis, precarity is defined as a shared vulnerability that binds all life forms and necessitates the act of theorizing ourselves as posthumans. The aim of this thesis is to demonstrate this shared vulnerability with the lens of posthumanism and analyze the embodied, embedded, affective and temporal nature of precarious characters in Paolo Bacigalupi's *The Windup Girl* (2009), Cory Doctorow's *Walkaway* (2017), and Annalee Newitz's *Autonomous* (2017). Each of these novels depicts different economic systems that persistently induce precarity, impacting aspects of body, affect, and time. To define the concept of posthuman, Rosi Braidotti's multi-scalar relationality has been used, which emphasizes that posthumans are embodied, embedded, affective and transversal selves bonded by ontological relationality. This idea, which decenters the human, demonstrates that the embodied and embedded nature of entities requires being "deeply steeped in the material world" (*Posthuman Knowledge* 96). Thus, economic and ecological factors forming the material world also shapes these embodied and embedded beings. Although

all living forms including humans and nonhumans are connected and affective by "co-defin[ing] [themselves] within the same living matter – environmentally, socially and relationally," they also differ from each other (96). In the books, while vulnerability arising from economic and environmental issues connects them, the characters display variations such as nonhumans, subhumans or cyborgs as an example of being transversal. Yet, as relational beings, they are formed with the capacity to affect and to be affected (96). Moreover, the affective relations also shape their temporal experiences.

All these three works employ similar narrative techniques to present critical dystopias with utopian and posthumanist elements. Since they portray post-disaster societies based on economic and ecological issues, these novels use precarious characters thriving in severe conditions. These societies are divided into *bios* and *zoē*. Whereas calorie companies including AgriGen, PurCal and RedStar, the wealthy elite group zottas/zottarich and the pharmaceutical company Zaxy represent *bios* with sovereign power in these books, nonhuman, subhuman and posthuman characters are united under the category of *zoē*. In the novels, the powerholders determine which lives are deemed as *bare life*, a life devoid of power that may be extinguished without it constituting a crime. This creates an asymmetry of power relations as it incapacitates entities other than the human in the singular. Rosi Braidotti states that the human has never been a neutral term; instead, it alludes to the concepts such as rationality, autonomy, agency, and exceptionality. Yet, posthuman subjectivity decenters the human and questions these concepts associated with being human. Thus, selected novels for this thesis suggest that only a posthumanist utopia could be possible considering the economic and ecological problems derive from the idea that puts the *Anthropos* into the center of the universe.

The economic and environmental issues are the key elements that contribute to the dystopian nature of these societies. Whereas biotechnology is employed as a means of exploitation, leading to biocapital, precarious conditions and inequality, these works also suggest that in the face of detrimental environmental and economic challenges, the future lies in embracing a posthuman existence. For this reason, this thesis is divided into three chapters in which the issue of precarity based on economic and ecological systems in the three aforementioned novels is explored from a posthumanist perspective. Chapter 1

focuses on the change from petroculture to calorie economy and how nonhuman, subhuman and posthuman characters experience bodily vulnerability which forms their affective experiences and temporal relations in Paolo Bacigalupi's *The Windup Girl*. Chapter 2, on the other hand, examines a binary economic system in Cory Doctorow's *Walkaway*, that creates precarity for non-zottas, and explores the possibility of a posthumanist utopia through disembodiment by questioning its impacts on affective and temporal experiences. Lastly, Chapter 3 discusses the concept of autonomy in Annalee Newitz's *Autonomous* in an indenture and patent system commodifying both robots and humans by highlighting how affect works for posthumans and forms temporal relations.

For the posthumanist perspective, Donna Haraway's theory of cyborg and Rosi Braidotti's theory of posthumanism are employed to analyze the characters in these books. To theorize the concept of precarity, Emily H. Jogg and Peter Simonsen's critical examination is used to investigate the various dimensions of the term in contemporary literary works. Their framework identifying body, affect and time as the main angles of the precarity theory coincides with Braidotti's description of posthuman subjectivity, which is defined as "an embodied and embedded and hence partial form of accountability, based on a strong sense of collectivity, relationality and hence community building" (*The Posthuman* 49). By shedding light on the affective attachments to the conditions creating precarity, the affective and temporal dimensions of posthuman subjectivity are examined. These affective attachments not only help the characters endure the perpetual presence of crises but also form their relations with the present and the future. In line with Rosi Braidotti's concept of posthuman subjectivity, in these novels, the characters are created embodied and embedded in the economic and ecological systems. Their embodiment seems to be one of the factors that make them precarious and vulnerable. The precarious circumstances in which these embodied selves are embedded not only underscore the need for a symbiotic relationship with nature and the economy but also highlight how their physical bodies become a site of resistance. These works not only decenter the human by questioning what it means to be human but also indicates the interconnectedness between humans and nonhumans. Furthermore, as relational beings, their affective experiences have an impact both on the subject by shaping the temporal relations of the characters and on others.

In *TWG*, having a material body embedded in the calorie economy, post-oil world and environmentally compromised climate of Thailand creates the precarious conditions for its characters. Considered as *zoē*, megodonts, yellow card refugees and the new people build their affective relations over violence, displacement, and exploitation. Particularly, Emiko, one of the New People who is excluded from public life in Thailand, is depicted as having a vulnerable embodiment due to her body being unsuitable for the humid climate of Thailand and her interrelated relationship with water. As a nonhuman agent, flood is considered as Thailand's ecological issue that poses a risk for everyone except for Emiko. Yet, flood inundating the city becomes an empowering element for Emiko rather than a precarious condition. Meanwhile, the characters build affective attachments to build their own communities by reclaiming their lost value, wealth, or family. By employing multiple perspectives, Bacigalupi focuses on how vulnerability shapes the bodily, affective, and temporal experiences of these characters. It can be argued that posthumanist elements in the book offer a utopian potential in this critical dystopia.

In *Walkaway*, whereas the default system creates precarious embodiment with the non-zottas' embeddedness in unequal socio-economic conditions and artificial scarcity, being always on the move in the walkaway settlements due to the attacks of the zottas also leads to precarity. The dual structure of both the default and walkaway systems not only precipitates vulnerability for non-zottas but also necessitates their exclusion from the default system. This, in turn, compels them to reconstruct their communities in remote and environmentally ravaged regions. In these settlements, walkaways are perceived as precarious because they abandon their communities to construct new ones with each attack and challenge, they face. With the act of walking away, they become embedded in wasted areas and the post-scarcity walkaway economy. With the help of technology, they renovate these areas by transforming them into habitable places for themselves. In the default system, non-zottas are regarded as disposable surplus. However, in walkaway settlements, their desire to reinvent themselves is evident through the efforts made to transform these areas. In terms of affective and temporal relations, the act of "walking away" sparks a desire to construct a utopian society, and those non-zottas who prefer to walk away form affective attachments to the notion of secure life in these settlements. However, when the cooperative and supportive atmosphere within these communities

enables certain walkaway scientists to develop technology that facilitates disembodiment, walkaways become increasingly susceptible to zotta attacks. On the other hand, the affective and temporal experiences of disembodied consciousness perpetuate precarity by making them vulnerable to manipulation. Yet, the book underscores the significance of posthuman embodiment by critiquing the concept of disembodiment as a transhumanist ideal.

In *Autonomous*, the characters' embeddedness in the indenture and patent systems creates precarity, and their lack of control over their own embodiments further complicates their affective and temporal relationships. Stripped of basic rights such as the ability to own property, seek employment, obtain education, and relocate, indentured humans are depicted vulnerable. As for indentured robots, they are even denied access to the memories before being autonomous. The patent system also makes ordinary people vulnerable by restricting their access to medicine. Yet, the pharmaceutical companies with the sovereign power, exert control over life and death decisions, effectively creating plagues and limiting the access to medication. These exploitative systems lead to bodily vulnerability and blurs the boundary between a human and a robot. To demonstrate how nonhuman agents have the capacity to affect, the plot primarily uses the drug called Zaxy and its adverse effect, workaholism addiction. The cure is presented as changing the affective state in the memories of its users by manipulating the affective and temporal relations. On the other hand, indenture system not only leads to a temporal bondage by wielding control over the temporal relations of the workers, but it also creates an affective attachment to the concept of being autonomous in the future. Focusing on the concept of cyborg blurring the boundary between life and death, and human and machine, the book questions the terms of agency and autonomy from a posthumanist perspective. By criticizing the existing socio-economic systems, it also extrapolates these conditions leading to the commodification of humans and robots.

It is evident that the GFC has a huge impact on fiction and nonfictions works. In this respect, literary works belonging to the subgenres stated in the Introduction can be further analyzed in line with the precarity theory focusing on the interrelated concepts of body, affect and time. To further this study, economic systems depicted in these novels can be

scrutinized with current economic theories and trends. Apart from precarity, the issues of financialization and indebtedness, which are considered as the reasons of the GFC, can be explored in other SF works. In addition to these works, there are many other SF novels and short stories, which stand out with their economic systems after the GFC. *Neptune's Brood* by Charles Stross (2013), *The Peripheral* by William Gibson (2014), *If Then* by Matther De Abaitua (2015), *The Centenal Cycle* by Malka Older (2016), *The Mandibles* by Lionel Shriver (2016), *New York 2140* by Kim Stanley Robinson (2017), *The Collapsing Empire* by John Scalzi (2017), *By the Pricking of Her Thumb* by Adam Roberts (2018) and "Undercurrency" by Sam Beckbessinger (2021) are among SF works which can be explored through the precarity theory.

Furthermore, the intersection of posthumanism with affect theory and temporality represents burgeoning areas that need further exploration. As stated earlier, the approaches to categorize SF works written after the GFC include analyzing neoliberal economic trajectories by extrapolating them into the future, restoring the subjectivities embedded within exploitative capitalism by opposing to the manipulation and erasure of the marginalized characters, and fusing these two methods by conceiving a strategy to challenge and potentially even overthrow the neoliberal regime. Taking all these approaches into consideration, the works analyzed in this thesis criticize the relationship between biotechnology and capitalism by extrapolating economic systems inducing precarity and exploring marginalized characters in light with posthumanism. In doing so, they apply similar strategies such as using multiple perspectives of vulnerable and hybrid characters and how they handle the crises and the issue of precarity, rejecting closure by embracing ambiguous endings, resorting to posthumanist perspectives to decenter the human, and criticizing existing economic system. Finally, posthumanist elements are correlated with a utopian potential rather that the depicted economic systems. In this context, these works reveal the increasingly blurred line between SF and reality, and they illustrate our current situation by demonstrating how shared vulnerabilities transform us into posthumans.

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APPENDIX 1: ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
MASTER'S THESIS ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
AMERICAN CULTURE AND LITERATURE DEPARTMENT

Date: 14/07/2023

Thesis Title: Posthumanism and Precarity in the Post-2008 Crisis Science Fiction Novels: Paolo Bacigalupi's *The Windup Girl*, Cory Doctorow's *Walkaway*, and Annalee Newitz's *Autonomous*

According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 14/07/2023 for the total of 131 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled as above, the similarity index of my thesis is 5%.

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I respectfully submit this for approval.

14.07.2023

Name Surname:	Şükran Eda Marangoz Yemenici
Student No:	N20139019
Department:	American Culture and Literature
Program:	American Culture and Literature

ADVISOR APPROVAL

APPROVED.

Assist. Prof. Dr. Cem Kılıçarslan
(Title, Name Surname, Signature)

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HACETTEPE ÜNİVERSİTESİ
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AMERİKAN KÜLTÜRÜ VE EDEBİYATI ANABİLİM DALI BAŞKANLIĞI'NA

Tarih: 14/07/2023

Tez Başlığı: 2008 Krizi Sonrası Bilim Kurgu Eserlerinde Posthümanizm ve Güvencesizlik: Paolo Bacigalupi'nin *The Windup Girl*, Cory Doctorow'un *Walkaway* ve Annalee Newitz'in *Autonomous* Romanları

Yukarıda başlığı gösterilen tez çalışmamın a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 131 sayfalık kısmına ilişkin, 14/07/2023 tarihinde şahsım/tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı %5'tir.

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5- ☑ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

14.07.2023

Adı Soyadı:	Şükran Eda Marangoz Yemenici
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DANIŞMAN ONAYI

UYGUNDUR.

Dr. Öğr. Üyesi Cem Kılıçarslan
(Unvan, Ad Soyad, İmza)

APPENDIX 2: ETHICS BOARD WAIVER FORM

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ETHICS COMMISSION FORM FOR THESIS

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
AMERICAN CULTURE AND LITERATURE DEPARTMENT

Date: 14/07/2023

Thesis Title: Posthumanism and Precarity in the Post-2008 Crisis Science Fiction Novels: Paolo Bacigalupi's *The Windup Girl*, Cory Doctorow's *Walkaway*, and Annalee Newitz's *Autonomous*

My thesis work related to the title above:

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

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

I respectfully submit this for approval.

14.07.2023

Name Surname: Şükran Eda Marangoz Yemenici

Student No: N20139019

Department: American Culture and Literature

Program: American Culture and Literature

Status: ☑ MA ☐ Ph.D. ☐ Combined MA/ Ph.D.

ADVISER COMMENTS AND APPROVAL

Assist. Prof. Dr. Cem Kılıçarslan
(Title, Name Surname, Signature)

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AMERİKAN KÜLTÜRÜ VE EDEBİYATI ANABİLİM DALI BAŞKANLIĞI'NA

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Yukarıda başlığı gösterilen tez çalışmam:

1. İnsan ve hayvan üzerinde deney niteliği taşımamaktadır,
2. Biyolojik materyal (kan, idrar vb. biyolojik sıvılar ve numuneler) kullanılmasını gerektirmemektedir.
3. Beden bütünlüğüne müdahale içermemektedir.
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Gereğini saygılarımla arz ederim.

14.07.2023

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Statüsü:	☑ Yüksek Lisans ☐ Doktora ☐ Bütünleşik Doktora

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