



CORPORATE POWER, ECOLOGY, AND GLOBALIZATION IN BACIGALUPI'S BIOPUNK FUTURES

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Abstract

The connection of biopunk themes and aesthetics with globalization processes is examined in Paolo Bacigalupi's *The Windup Girl* and *The Water Knife* in this paper. Biopunk is a subgenre of science fiction that includes stories that take place in a dystopian future where ecological breakdown and biotechnology interact with social unrest. Through a comparison of these two significant works, this study looks at how the authors use biopunk elements to critique how globalization affects cultural identities, socioeconomic institutions, and environmental sustainability. Using the notion of ecocriticism, this paper investigates how Bacigalupi crafts dystopian futures that reflect and extrapolate contemporary global dynamics, such as the exploitation of disadvantaged populations, the privatization of nature, and the consequences of unchecked corporate power. By analyzing the intricate world-building and plots of *The Windup Girl* and *The Water Knife*, this thesis aims to clarify the complex interactions between technology, society, and the environment in an increasingly globalized world.

Keywords: *Biopunk, Globalization, Environmental Degradation, Biotechnology*

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1. Introduction

Biopunk is explored in Paolo Bacigalupi's books *The Windup Girl* and *The Water Knife*, which are set in a future influenced by globalization. These books examine issues of environmental deterioration, corporate power, and biotechnology, providing a realistic and sobering look at the possible outcomes of our present course in these fields. Bacigalupi imagines a future Bangkok in *The Windup Girl*, where bioengineered diseases are a continual menace and genetically altered "megodonts" run the metropolis. With strong biotech corporations controlling food supply and bioengineering new species, the novel centers on the politics of genetic engineering.

The Windup Girl is praised for its intricate world building and the credible portrayal of an imminent Thailand struggling to recover after environmental downfall (Adam Roberts, 2010). The novel explores the penalties of heritably adapted food on biological stability and the fate of humankind. It depicts a world where innately wangled diseases plague the harvest, defrayals face the risk of flood, and calories become a valuable commodity due to depleted fossil fuels. Furthermore, the society's power dynamics are dominated by religious organizations, while politicians and traders continue to pursue their personal interests, oblivious to the devastation that has befallen Bangkok (Clute, 2018).

Another significant work by Bacigalupi is his 2015 novel *The Water Knife* which portrays a brutal world ruled by capitalist powers in the midst of a severe drought. The novel's depiction of California experiencing droughts aligns with real-world events at the time of its publication (Tobar, 2015), ethical implications and the socio-economic divide driven by such technologies. *The Water Knife* shifts the focus to water scarcity in the south-western United States, portraying a brutal world where states sabotage each other for water rights. The novel underscores the harsh realities of climate change and privatization of natural resources, presenting a stark vision of the future where water is more valuable than gold and can dictate the survival of entire populations. Both novels use the lens of biopunk a subgenre of science fiction that emphasizes biological innovation and its impacts to critique current global issues such as corporate dominance, sustainability, and the ethical quandaries of genetic modification. Through vivid storytelling and complex characters, Bacigalupi warns of the dark potentials of unchecked technological and corporate power in a globally connected world. Biopunk theory, as a critical framework within science fiction and speculative fiction, extends from the aesthetic and thematic elements of the biopunk genre. It critically examines the social, ethical, and political implications of biotechnological advancements.

1.1. Research Objectives

This research aims to achieve the following objectives to:

- explore technology driving the processes of globalization within the biopunk settings of the novels
- examine the depiction of environmental degradation and the implications for society

1.2. Research Questions

1. In what ways do the novels align with the conventions of the biopunk subgenre in science fiction?
2. How do the socio-political and cultural shifts in the selected novels impact the lives and relationships of the characters?

2. Literature Review

Humans are social beings who form communities, socialise within them, and serve as their leaders. These groups make up the human ecosystems, where yesterday human welfare was prioritised. Future priorities will continue to be the privileges of today. Stanley A. Cain notes that human ecosystems range in size from quite small and simple to very huge and complicated. The human species is the most widespread and powerful of all. Consequently, people have invaded and modified almost every ecosystem (Cain, 1960, p. 160). Ecology is the study of the interactions between living things and their surroundings. In reality, it is based on the study of both human and non-human species. It has been receiving increased attention for a number of decades and is one of the key concepts in biology. Ecology has its origins in the Greek word "Oikos," meaning "house, household, family" and refers to the interrelationships among systems and societies (Garrard, 2012, p. 83). According to Morton (2017, p. 118), the concept of nature is rooted in an idealized past, evoking a sense of a more authentic and organic existence. It serves as the space where both humans and other species coexist, forming the foundation for their present and future interactions. Five key ideas constituent material, context, resource, challenge, and limit illustrate nature's role in the relationship between humans and the natural world, as stated by Weissman (2000, p. 336). Firstly, because natural elements form the basis of the human body, humans are bound to follow the rules of the environment. They are an integral part of the usual ecosystem, sharing their existence with numerous other species. Additionally, nature provides essential resources for the well-being of all living beings while presenting challenges through its laws and elements. Moreover, nature sets limits that prevent humans from overexploiting its resources and intervenes when necessary.

Controlling our impact on the environment is essential for securing a hopeful present and future for ourselves, as stated by Weissman (2000, p. 339). Science fiction (SF) serves not only as an inspired art form but also as an epistemological apparatus that engages bibliophiles and journalists in imaginative "possibility thinking" about the future. Cognitive scientists describe possibility thinking (Greene, p.4) as essential for thought, decision-making, and action, allowing individuals to generate ideas and images of future states that are not perceivable with the senses. Authors use scientific fiction (SF) to place readers in future worlds where the negative consequences of current thinking and behaviors are starkly evident, influencing readers to take action on issues such as climate change (Otto, p.182). Despite their wealth, people continue to be greedy, depleting resources necessary for their survival. This greed leads to the earth becoming uninhabitable, with consequences such as wood refuge loss and ozone layer destruction (Bhattacharya & Ghosh, 1992). Efforts like reprocessing and reusing soft cans are attempts to protect the environment but are insufficient to counteract human errors (Weissman, 2000, p. 343). Some argue that the depletion of nature equates to the depletion of humanity (Morton, 2017, p. 119). This perspective raises the question of whether we can preserve anything from the damage caused over the years or if we have jeopardized future generations. The responsibility for this choice lies solely with us (Bhattacharya & Ghosh, 1992). One of the primary aims of dystopian literature is to shock readers with worst-case future scenarios. Initially, readers may feel self-pity, but as they continue, they come to understand and justify nature's retribution. In essence, danger lurks everywhere, creating an atmosphere of constant peril and uncertainty. Simultaneously, contemporary dystopian literature has been influenced by various factors such as rapid advancements in genetic study, the development of the internet, and uncertainties of epidemic diseases. These elements have sparked a range of reactions in dystopian narratives (Hughes & Wheeler, 2013). Consequently, works in environmental science and dystopian literature share common ground as they often portray the dire long-term consequences of human actions on the environment and society. Writing about nature and the oppressed world is important because both categories provide fresh and fundamental approaches to examining the relationship between society and the environment. New voices and viewpoints have entered the literary canon thanks to these fictional formats. Analyzing ecological fiction, eco-critics frequently support environmental advancement and preservation. They examine the development of ecological disciplines, the complexities of biosystem relationships, the resurgence of environmental science, the responsible management of natural resources, and efforts to reduce pollution (Garrard, 2012, p. 80). This ecological perspective highlights the importance of environmental themes and the intricate connections between humanity and the natural world within literary work. Both ecology and dystopia share a common purpose in their depiction of the Earth and the underlying

message they convey about the relationship between humans and nature. They aim to highlight the consequences of humanity's unrestrained exploitation of the environment and serve as warnings to evoke action (Hughes & Wheeler, 2013, p. 6). Furthermore, these two genres share similar elements, albeit from different perspectives. Both ecology and dystopia adopt an interdisciplinary approach, engaging with the interactions between nature and humans and advocating for the recognition of their rights. They draw upon various scientific fields, such as biology, to emphasize the need of maintaining harmony between humans and nature for existence. All life forms can be greatly impacted by the natural balance. Furthermore, both genres examine the role of technology, highlighting both its potential advantages for the environment and its dangers when abused by those in positions of authority, which could endanger the weak. Their messages are stronger and more compelling because they use literary tactics like metaphors and exaggerations to highlight how urgent the events in their stories are. Essentially, both dystopian and ecological fiction use a variety of techniques to express their common worries about the environment and human society.

The intersection between dystopia and ecology becomes necessary due to the advancements in technology, particularly in the realm of artificial intelligence.. In the cultural context, literary works play a vital role in forging a sturdy link with biological science fiction and social critique. The contemporary public's interest with hereditary qualities and the posthuman concept is evident both within the core of the science fiction genre, where ecocriticism and imaginative depictions of hybrid posthumanity are prominent, and in broader intellectual circles where themes and issues related to AI and posthumanism are explored by the cultural elite (Schmeink, 2016, p. 71). This connection between dystopia and ecology allows literature to explore the potential consequences of unchecked technological advancements and their impact on the relationship between humans, nature, and artificial intelligence. It provides a forum for critical and speculative analyses of the future, tackling issues with the social, ethical, and environmental effects of new technologies. Tragic writing has long focused on the relationship between humans and the everyday world, and in recent years, the eco-tragic genre has expanded its vocabulary (Hughes and Wheeler, 2013, p. 2). Focusing on environmental change, nature and tragic fictions share different components and topical processes. In these artistic works, untamed life, wild, humanity, creatures, plants, and the effect of mechanical advancement on scenes, environment, climate, and living animals are completely investigated from political, biological, and profound viewpoints. Moreover, eco-tragic accounts frequently include topics of human seclusion, the estrangement of nature, the depiction of pompous characters, changed animals, and the rise of infections, among different components. These perspectives add to the profundity and intricacy of eco-

oppressed worlds, underscoring the perplexing associations among humankind and the climate, and cautioning against the possible outcomes of ecological debasement and the abuse of technology. Here, the contention between untamed wild and encased gardens is rethought as a battle between 'normal' life and 'counterfeit' living things (Hughes & Wheeler, 2013, p. 3). To put it differently, many contemporary eco-dystopias portray technological progress as a dual movement: one away from the idea of nature as wilderness, and simultaneously towards the concept of nature as a controlled and engineered garden. This shift implies that even in technological utopias or urban spaces, there remains an essential connection to a constructed form of nature. This highlights the importance of recognizing the consequences of our actions on the environment and the need to preserve the delicate balance of nature for the sake of all living beings, including humans. The careless actions of humans need to be highlighted, and literature serves as an effective medium to reach a broad audience. Ecology and dystopian fiction, as literary genres, are powerful tools to achieve this because they encompass themes related to humans, animals, plants, and the planet. In "The vast wild the house alone" Gary Snyder's poem the little house in the wild and the wild in the house both are forgotten. Nature captures this intertwined relationship, captures the essence of the relationship between eco-fiction and dystopian novels. In eco-dystopias, we find a blend of ecological elements and a vision of a destructive future, merging the concerns of both genres into a compelling narrative.

3. Research Methodology

This study employs a qualitative research approach to explore the themes of biopunk globalization in Paolo Bacigalupi's novels, *The Windup Girl* and *The Water Knife*. The qualitative nature of this research is suited to the in-depth exploration and interpretation of the complex relationships between globalization, technology, and biopunk aesthetics within these literary texts.

3.1. Research Method

Textual analysis is the method used in this study. Textual analysis involves examining any type of written material, including books, journals, scientific and literary articles, advertisements, and even text messages. The process involves identifying and investigating every facet of a text. Textual analysis is both a science and an art, requiring immersion in the written word due to the field's vast and intricate nature. It is a fundamental research technique in cultural studies, relying on elements such as creativity, originality, inspiration, history, and the cultures we study or inhabit (McKee, p.73). The textual analysis will concentrate on how Bacigalupi challenges global socioeconomic systems,

cultural identities, and environmental sustainability through world-building, character development, and narrative.

3.2. Data Collection

The main source of data for this paper is *The Windup Girl* and *The Water Knife*. To emphasize the portrayal of biopunk elements and their interactions with globalization processes, from these works have been carefully chosen and examined. Since the emphasis is only on the textual examination of these literary works, no outside data or quantitative metrics are used.

3.3. Data Analysis

Finding important trends of biopunk and globalization in the text is the main task of the analysis. Ecocriticism has been used to understand these topics, .It is the interdisciplinary study of the relationships between literature and the environment. It draws on works by anthropologists, scholars, artistic pundits, regular researchers, and antiquarians to analyze the distinctions between nature and its cultural representationed groups are exploited, and how corporate power is portrayed.

4. Textual Analysis

The Windup Girl is set in a post-oil future where genetic engineering has taken over as the foundation of ecological systems and global economies, and biotechnology is king. The human dramas taking place within the city's walls are set against the backdrop of the city's battle against rising sea levels and its frantic attempts to maintain genetic purity in a world full of manmade plagues. The juxtaposition of the Thai Kingdom's efforts to resist foreign genetic material with its reliance on engineered species for survival illustrates the complex interBacigalupi's portrayal of his characters reflects the darker aspects of humankind, inferred from real-life instances.

His charismas are depicted as "broken people," flawed and shaped by the harsh realities they have faced (Bacigalupi, "The Author With The Unpronounceable Name: An Interview With Paolo Bacigalupi," 2010). One such character is Anderson Lake, who has endured difficult times witnessing the suffering of starving people. Despite witnessing such hardships, Anderson, like many others, fails to learn from these experiences. He continues to engage in the production of harmful products, even if it requires more resources than it costs. This situation is succinctly expressed through the complaint, "They're spending millions to produce trash that will cost millions more to destroy a double-edged sword that just keeps cutting" (Bacigalupi, *The Windup Girl*, 2010, p. 16).

This quote highlights the unsustainable and self-destructive nature of human actions, a theme that resonates throughout the novel as Bacigalupi explores the consequences of humanity's relentless pursuit of profit and power without due consideration for the impact on the environment and society. The depletion of energy sources, the effects of climate change, and devastating plagues have not only decimated human life but also disrupted the natural balance. Furthermore, diseases have mutated, leading to the destruction of agricultural products. This compels governments to rely on calorie companies that produce patented genetically modified food. Unfortunately, these companies experience rapid growth, and the situation worsens, even dawning on Anderson the alarming consequences of these events. The sight unfolds in a discussion between Anderson and Akkarat: Anderson inclines forward, expressing, "Finland was a tragedy, and not just for us. If the world is going to survive, we have to stay ahead of Cibiscosis, blister rust, and Nippon genhack weevil. It's the only way." In response, Akkarat confronts him, stating, "You're admitting that you've tied the world to your patented grains and seeds, happily enslaving all of us and now you finally realize that you are leading us all towards destruction." The conversation illustrates the dire consequences of humanity's dependence on genetically modified crops and the unrestrained pursuit of profit and control. The novel explores the disturbing implications of unchecked technological advancements and the need for responsible decision-making to safeguard the well-being of humanity and the environment. In the dialogue between Anderson and Akkarat, the harsh reality of the situation is laid bare. Akkarat accuses Anderson of tying the world to his patented grains and seeds, effectively enslaving everyone, and now realizing that these actions are leading them all towards catastrophe. Anderson defends the actions of his company, acknowledging the urgency of dealing with issues like weevils and blister rust that threaten food production. He hopes that the scientific resources of his company can find a solution in the seedbank, but he acknowledges the severity of the situation, stating that if they fail, the consequences will be dire for everyone, regardless of their position or identity (Bacigalupi, 2010), play between nationalism, technology, and globalization.

4.1. Cultural Conflict and identity

The novel also highlights the persistence of racism and discrimination even in the face of the worst conditions. The character Tan Hock Seng, who is of Chinese identity, faces the challenges of being othered and marginalized due to his national identity. He expresses regret over his inability to do more, feeling constrained by his identity as a "yellow card," which is a derogatory term used to describe people of Chinese descent in this setting (Bacigalupi, *The Windup Girl*, 2010, p. 39). This portrayal sheds light on the persistent prejudices and divisions within society, even amidst the larger crisis and challenges faced by humanity. The novel delves into the complexities of human nature and

the deep-rooted issues that persist even in dystopian settings. The novel implicitly portrays how being labeled as "yellow cards" due to their Chinese identity relegates people to the background of society, subjecting them to discrimination and marginalization. Alongside discrimination, there is a prevalent dread of synthetic intellect, as the New People are seen as potential competitors for positions in the hierarchy of the life cycle. This fear and prejudice lead to mistreatment of Emiko, a reckless windup girl, by her Japanese landlord and others. She is insulted, assaulted, and even raped (Bacigalupi, *The Windup Girl*, 2010, pp. 53-55). In response to these horrific events, Bacigalupi presents his perspective on Emiko's eventual act of violence against her abusers. He reflects on the breaking points that people reach, moments when they decide to stop conforming to societal norms and choose a different path. The novel suggests that individuals are often pressured to obey and follow societal expectations, even when it contradicts their best interests and the interests of others (Bacigalupi, 2010). Through this portrayal, Bacigalupi probes in the complexities of human behavior and the impact of societal pressures. He explores the themes of agency, self-preservation, and the struggle against oppressive forces in a dystopian world. The novel challenges readers to contemplate the consequences of discrimination, prejudice, and the treatment of artificially created beings, while also shedding light on the power dynamics at play in such a society. Adam Roberts, while assessing Anderson's attitude towards Emiko, points out that there is a delicate balance between criticizing Emiko's erotic objectification and inadvertently perpetuating it (2010). It is a troubling aspect of humankind that they create human like windup girls to serve both practical and sexual purposes. The human ideas of people are embodied in the personality of Gibbons, the geneticist in the book, who relentlessly pushes the boundaries of creation. Bacigalupi portrays Gibbons as the ultimate pragmatist, someone who keenly observes the changing planet and quickly adapts to the new circumstances. Gibbons believes in the creative power of humans, seeing them as godlike figures in control of all other creatures. He emphasizes the need for humans to adapt or face extinction in the rapidly changing world (Bacigalupi, 2010). Gibbons' thoughts reflect Bacigalupi's titles about the human impact on the ecosystem. Gibbons' statement reflects a perspective that human actions and interventions are an inherent part of nature, and he sees humans as gods of their own world. He dismisses the idea of a separate food web and ecosystem, considering it mere nostalgia. According to him, humans are nature, and everything they do, including their biological endeavors and tinkering with the environment, is a natural expression of their potential (Bacigalupi, *The Windup Girl*, 2010, p. 3). However, the novel also highlights the negative consequences of human actions driven by greed and short-sightedness. The world has already experienced the unraveling of ecosystems, and now the war for power among capitalists worsens the situation, making the Earth increasingly uninhabitable. The insatiability of these strong substances is the main thrust behind the abuse of nature.

Legislators endeavor to defend their countries, and the Climate Service assumes the liability of dealing with the waste and natural outcomes of human existence. The Ministry's role includes mitigating, guiding, and policing the waste and environmental impacts of individuals, as well as investigating the actions of those who prioritize quick profits at the expense of others' well-being (Bacigalupi, 2010). Through these portrayals, the novel presents a complex picture of human-nature interactions, emphasizing the consequences of unchecked greed and exploitation on the environment. It raises questions about the balance between human progress and ecological sustainability and serves as a cautionary tale about the potential consequences of human actions on the planet. The unfortunate truth is that the ministries, which should be protecting the public and nature, are instead supporting eradication and remaining silent. However, there are characters like Jaidee and Kanya who are determined to protect their motherland and stand as patriots. Jaidee, as an officer of the Environment Ministry, is resolute in his mission to protect the seed banks, even though he sometimes finds himself resorting to fear to accomplish his goals. He is seen as a bully, trying to guide others with kindness but having to use fear to maintain the crucial line of protection (Bacigalupi, *The Windup Girl*, 2010, p. 175). Spiritual consultants, represented by the Grahamites, a religious sect in the novel, are also criticized. While the Grahamites aim to protect the natural world, they can be carried away and resort to extreme actions, including burning things down. Bacigalupi does not interpret them as a clarification on religion itself but as believers with both positive and negative aspects to their mission (Bacigalupi, 2010). Through the portrayal of these characters and institutions, the novel delves into the complexities of human motivations and actions in the face of ecological and societal challenges. It explores the conflicts between individuals and institutions striving to preserve nature, the tensions between kindness and fear in decision-making, and the potential pitfalls of extreme beliefs and actions in the pursuit of environmental protection. The novel portrays a society where people are oblivious to the impending environmental disaster and continue to consume and pollute without considering the consequences for the future. The Grahamites, a religious group, preach about salvation and tell stories of Noah Bodhisattva, who protected all living beings and plants on a bamboo tranche during a great flood. However, the novel points out that there is no savior like Noah Bodhisattva in the present time. Instead, there are individuals like Phra Seub, who senses the pain of damage but can do little to prevent it, and the Environment Ministry's efforts, symbolized by the little mud Buddhas, barely managing to hold back increasing waters (Bacigalupi, *The Windup Girl*, 2010, pp. 241-242). The novel draws a clear parallel between the genetic modification of food and the creation of Emiko, the genetically modified windup girl. Both represent the self-interest of seed companies, which often come at the expense of conservative plant and humanoid life cycles. This genetic modification leads to infertility, a consequential and invisible trait that

has been programmed into these creations (Selisker, 2015, p.506). As an online editor of an environmental journal, Paolo Bacigalupi becomes deeply concerned about the dark future of the Earth due to the corruption in nature. He highlights the threat of wheat rust, which could potentially lead to the termination of strong and plentiful food, forcing people to depend solely on genetically modified food produced by the monoculture foodstuff production. Furthermore, Bacigalupi questions the potential dangers of Genetically Modified Food, a central theme in his novel. He believes that if the current rate of nature's corruption continues, it may lead to the downfall of humanity. The novel illustrates how "calorie companies" play a major role in changing agricultural practices by producing and selling specialized seeds that have detrimental effects on the environment and human wellbeing. Notably, "Total Nutrient Wheat," "SoyPRO," and "HiGro Corn" are examples of genetically modified products used by "generippers" to exert control over governments and force them to comply with the demands of these powerful corporations (*The Windup Girl*, 2010, pp. 3-8). Overall, Bacigalupi's concerns reflect a warning about the potential consequences of unchecked human actions on the environment and the urgent need to address issues related to genetically modified food and corporate influence on agriculture. Furthermore, the calorie companies intentionally corrupt the crops and then introduce their own healing cure, known as "kink-springs," which contains calorie to strengthen the damaged parts of the crops. (*The Windup Girl*, 2010, p. 8). Notwithstanding, they in the long run understand the mischief they have caused to nature when they come into contact with and taste the hereditarily altered food. For example, when Anderson Lake grasps an unusual bristly natural product, he can't perceive its starting point or connect it to any recognizable natural product or vegetable in his memory. The hereditarily hacked organic product has lost its unique structure and taste, like the wide range of various hereditarily altered food. (*The Windup Girl*, 2010, p.2). This scene serves as a poignant reflection of the consequences of genetic modification on the natural world, where the once diverse and familiar fruits and vegetables have been altered beyond recognition. Through such portrayals, Bacigalupi highlights the detrimental effects of genetically modified food on biodiversity and the environment, emphasizing the need for caution and responsible practices in manipulating nature for human needs. Moreover, in the world of *The Windup Girl*, new animal species are created to serve human needs, but they end up spiraling out of control. One of these manifestations is the megalodons, which are depicted as creatures with colossal heads and prehensile trunks. They act as the living heart of the manufacturing plant's drive framework, giving energy to different modern cycles (*The Windup girl*, 2010, pp. 11-12). Nonetheless, these elephant-like animals become a danger to humankind because of their colossal size and hereditary contrasts from standard elephants.

4.2. Water Scarcity and Environmental Degradation

In the novel, *The Water Knife*, even in the face of the harshest conditions, water rights are not shared, and people are driven solely by their own selfish interests, disregarding the well-being of nature and other creatures. Their greediness and shortsightedness ultimately lead to their own downfall, as the onset of drought exacerbates the situation. Lucy expresses her regret and guilt, acknowledging that humanity's actions have played a significant role in the deterioration of the world. She laments how they saw the impending disaster coming but failed to take appropriate action (Bacigalupi, 2016, p. 421). Humans have unknowingly contributed to their personal demise, but they remain oblivious to the grim reality they are facing. Toomie, like many others, admits that he made a mistake in thinking he could continue as he were, underestimating the consequences of his actions. The novel portrays a cautionary tale, highlighting the devastating consequences of human actions and the dire need for greater awareness, responsibility, and proactive measures to address environmental challenges and preserve the delicate balance of nature. In the novel, the excessive use and exploitation of nature's resources have led to their depletion, resulting in a scarcity of water. This scarcity has given rise to a water trade, where people like Maria are forced to sell water to pay off their debts. The phrase "It was almost like buying futures" (Bacigalupi, 2016, p. 56) suggests that in the past, when water was abundant, people took it for granted and did not fully appreciate its value. Now, they find themselves having to pay a high price for something that was once plentiful. Politics and state utilities have a significant impact on people's lives, particularly when it comes to water. In the world portrayed in the book, water has turned into a valuable resource, and those in positions of authority fight over it in order to gain control. One of the water owners, Catherine Case, meets with a number of officials and specialists to talk about problems and solutions pertaining to water. But since they don't deal with the underlying reasons of the water problem they are confronting, their efforts appear pointless, like moving deck chairs on the Titanic. The book is a meditation on the results of human behavior and the ill-considered political choices that have caused environmental damage and the catastrophic water problem. The story's characters struggle with the consequences of their choices, and the book emphasizes how urgently responsible and sustainable natural resource management is needed to prevent more catastrophes. In the book, other professions like water attorneys and water knives have emerged as a result of the water shortage. Water lawyers work within the political system to secure water rights for their clients, while water knives resort to violent and sometimes deadly means to obtain water rights for their owners. As a columnist, Lucy condemns Angel's profession as a water knife, pointing out the dangerous nature of his job and the potential consequences. She remarks, "Live by the gun, die by the gun, right, mijo? If you earn your living by denying

people water, eventually, the scales have to even out." Her criticism is exemplified in a confrontation between Angel and Simon Yu, over water rights. When Angel insists on cutting off the water supply to Yu's people, despite the potential harm to thousands of individuals, it becomes evident that the water holders and water knives prioritize their own interests over the well-being of others (Bacigalupi, *The Water Knife*, 2016, p. 17). People are left to fend for themselves against the terrible conditions brought on by the water crisis in the novel's survival of the fittest scenario. The odds of survival are higher for those who can withstand and adjust to the difficulties caused by the scarcity of water. This draws attention to the brutality of the water wars and the drastic lengths people must go to in order to protect water supplies for their survival. The narrative serves as a warning about the negative effects of unbridled greed and the necessity of prudent water management for everyone's welfare. The tale illustrates how the fundamental survival instincts function during periods of severe adversity and deprivation. It underscores the need for responsible stewardship of natural resources to ensure a sustainable future for humanity. Indeed, Lucy's dream of rain symbolizes the collective longing of humanity for a world where water is abundant and life can thrive. However, the reality she wakes up to, with cracked and broken lips, is a stark reminder of the harsh and dry conditions they are facing in the novel (Bacigalupi, 2016). As the drought persists, hope dwindles even among meteorologists and scientists who see no signs of improvement or relief in the foreseeable future. The term "drought" itself is criticized in the novel because it implies a temporary and passing event, whereas the dryness and water scarcity have become the new norm, the *eminence quo* (Bacigalupi, 2016). The unending drought breeds misery and desperation, leading to a brutal and self-centered attitude among people who are fighting over the scarce water resources. In this dystopian world, violence and conflict escalate, and blood is spilled like rain on the land. The metaphorical statement "It never rains in Phoenix, except when it's raining bodies" highlights the grim reality where death and violence have become as common as the absence of rainfall (Bacigalupi, 2016, p. 245). The novel powerfully criticizes the devastating consequences of water scarcity on human behavior and society as a whole, as the fight for survival becomes increasingly ruthless and cutthroat. Ultimately, *The Water Knife* aids as an instructive story about the potential penalties of unimpeded environmental deprivation and the urgent need to address water scarcity and climate change to prevent such a dystopian future.

4.3. Ethics of Resource Management

In *The Water Knife*, the prevalence of death and the brutal conditions people face lead to a sense of hopelessness and desensitization to mass deaths. The novel vividly portrays the grim reality of a world plagued by water scarcity, where dead bodies of teenagers and children lying in mud and being consumed by dogs become disturbingly

common sights. People find it difficult to bear the thought of their own mortality when they are constantly exposed to such tragedy and misery. Maybe she's glad she's not here," the quote suggests. The thought that death may be viewed as a kind of relief or salvation from the unrelenting misery and suffering they face is reflected in the statement, "Perhaps she's found her escape from this cursed place" (Bacigalupi, 2016). People begin to accept death as a natural part of life as a result of its profound normalcy. Over time, the startling impact of such tragedies lessens as rows of remains waiting to be buried become the norm (Bacigalupi, 2016). People become depressed and hopeless as a result of the stabilization of mass fatalities, losing the drive to struggle for a better life. Hope and faith in a better future have been undermined by the hostile environment and the ongoing battle for water. It acts as a potent reminder of the negative effects that environmental deterioration can have on human health and the pressing need to address and alleviate these problems in order to safeguard the welfare of both individuals and communities. In a world where it appears impossible to escape the harsh realities of environmental deterioration, the story clearly depicts the worsening health conditions. People like Lucy fight to protect themselves from dust, smoke from wildfires, and valley fever, but despite their best efforts, they are unable to protect themselves from the "invisible airborne *Coccidioides* fungi." Lung ailments have become incredibly prevalent. When a dry hacking cough becomes a regular occurrence, people eventually learn to deal with these health issues. People wear filter masks because the situation is so bad, even though they don't offer much protection from the blazing air. The spread of different illnesses, such as Hantavirus, valley fever, and the common cold, becomes rapid and uncontrollable. Hopelessness and misery permeate society, leaving individuals feeling helpless in the face of overwhelming environmental catastrophes. Even someone like Angel, a water knife who deals with the harsh realities of the world, looks upon the dying city and sees people desperately clinging to the illusion of a future that is already beyond their reach. The novel presents a bleak and haunting portrayal of a world in decline, where people are left grappling with the consequences of their own actions and the destructive impact on their health and well-being.

4.4. Nature as a Resource and a Victim

In the passage from *The Water Knife* by Bacigalupi, Lucy wipes the muddy sweat from her forehead and wonders if she can even remember what the true color blue looks like. The sky can at this point not be depicted as blue, tan, or dark in light of the fact that the air is consistently filled with dust or the gray smoke from ongoing forest fires in California. The text suggests that human activities have severely damaged nature to the point where discussions about the blueness of the sky, clean air, or even the presence of oxygen have become rare or impossible. The environment has been so polluted and

affected by wildfires that these natural elements are no longer a given. Furthermore, the intense heat has made life unbearable, especially for plants struggling to survive. In the book, it is described how plants stretch their roots widely and close to the surface, desperately searching for any available drops of water. Their saps harden to protect every tiny bit of moisture from evaporating. In the story, the antagonists use hyenas, wild animals, as tools for protection, imprisonment, and intimidation against weaker individuals, showcasing how humans can misuse and control wildlife to advance their own agendas (Bacigalupi, 2016, p. 155). Overall, the passage underscores the negative impacts of human actions on the natural world and its inhabitants. The broken machine of nature seems to respond with harsh consequences, and animals suffer as innocent victims, often manipulated and used for human ends in this bleak and dystopian setting. *The Water Knife* by Bacigalupi underscores the exploitation of animals by humans to fulfill their selfish desires. The novel portrays animals, even as pets, displaying a sense of vengeance in their eyes, seemingly aware of humanity's role in the catastrophic drought. During Maria's escape plans, she comes to realize that the broken Phoenix suburbs have become a promised land for hyenas. These wild animals, confined behind fences, exhibit patience as they anticipate inheriting the earth when the time comes. Their yellow eyes seemingly convey a message: unlike humans who desperately need water for survival, hyenas solely require blood to satisfy their primal instincts (Bacigalupi, 2016, pp. 160-161).

4.5. Nature as a Contested Territory

In *The Water Knife*, it is highlighted that human interference has disrupted the balance of nature, causing a disturbance in the functioning of the natural system. If they wish to restore the balance, they must make significant changes in "software and water flows and population." To regain the lost synchronization among animals and plants, in addition to ensuring clean water, the characters need to adopt specific approaches. This includes the process of cleaning and recycling water for use in greenhouses. However, Toomie, a character in the novel, reminds Maria that they cannot replicate nature's intricate system solely through machines or filtering systems. Tommie explains that restoring water quality involves running black water through filters, mushrooms and reeds afterward permitting it to stream into lily lakes, carp ranches, and snail beds. The collective efforts of different living organisms within this system, such as gears fitted inside an engine, work together naturally to purify the water. In other words, nature functions as a whole, living machine, with each component playing a crucial role in maintaining the balance. In summary, the passage emphasizes the importance of respecting and working with nature's mechanisms to restore the disrupted balance rather than solely relying on human-made solutions. Nature's own intricate system, with its various interconnected living elements, plays a vital role in achieving this restoration. In *The Water Knife*, it can be argued that

nature, symbolized as a broken machine, seems to retaliate with disasters, extreme heat waves, and untamed animals struggling to survive. The repercussions of human actions are evident, with wild animals resorting to scavenging on the streets, feeding on the corpses of deceased humans, a grim reminder of the consequences of human negligence (Bacigalupi, 2016, p. 383). The novel portrays animals as innocent victims suffering from the aftermath of human deeds. For instance, the howling dog mentioned in the story is likely to perish due to the severe drought conditions caused by human-induced climate change (Bacigalupi, 2016, p. 24). Moreover, the narrative highlights how some characters exploit and manipulate animals for their own purposes. In the story, the antagonists use hyenas, wild animals, as tools for protection, imprisonment, and intimidation against weaker individuals, showcasing how humans can misuse and control wildlife to advance their own agendas (Bacigalupi, 2016, p. 155). Overall, the passage underscores the negative impacts of human actions on the natural world and its inhabitants. The broken machine of nature seems to respond with harsh consequences, and animals suffer as innocent victims, often manipulated and used for human ends in this bleak and dystopian setting. *The Water Knife* emphasizes the exploitation of animals by humans to fulfill their selfish desires.

5. Conclusion

Many people are familiar with the idea of ecology, yet the crucial connection between nature and humanity is frequently forgotten. It is often overlooked that the actions of humanity could have disastrous effects on the ecosystem in the near future. Animals, plants, soil, water, rocks, and even the air all have vital functions to play in the larger ecology, and they are all interconnected in a delicate equilibrium. Sadly, people have a tendency to put themselves at the top of this ecological cycle, ignoring their essential relationship to the environment and using its resources carelessly. The frightening truth that people are inextricably linked to nature rather than distinct from it is essentially illuminated by this dystopian literature. They work as warning stories, asking readers to think about how their actions affect the environment and to support a more peaceful and sustainable cohabitation with the natural world. Both nature and humanity are profoundly impacted in these stories, influencing their destinies in a world where ecological conditions are constantly shifting. In these dystopian environments, people are shown as worn out, despondent, aimless, and forlorn, lost in the face of environmental disaster. However, the delicate balance of nature is upset when plants and animals undergo changes. The future of Earth. Places are described in detail to show the terrible effects of human activity on the environment and nature. To make the plot more credible and realistic, the novels' timelines are frequently set in the near future. Common themes across the two novels examined in

the book emphasize the unfavorable effects of human activity on the environment. A sense of atonement and the prospect of a new beginning, filled with humanity's second thoughts and a dedication to better times ahead, are offered by certain personalities and aspects. In summary, the combination of dystopian fiction with ecology highlights the disastrous effects of human activity on the ecosystem and natural world

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