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Cyberspace vs Green Space: Nature's Psychological Influence in Neuromancer, Blade Runner 2049, and The Stone Gods

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ABSTRACT

Cyberspace vs Green Space: Nature's Psychological Influence in *Neuromancer, Blade Runner 2049,* and *The Stone Gods*

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Cyberpunk science fiction is often set in dystopian futures where capitalism and rapid technological growth have rendered the planet ecologically devastated. The people of these worlds are host to numerous mental illnesses that many attempt to cure with drugs, entertainment, or other aspects of their fast-paced existences, but these solutions are rarely successful. When characters come to embrace the remnants of the natural world, however, they typically show signs of mental healing as the result of exposure to nature. This thesis analyzes William Gibson's *Neuromancer*, Denis Villeneuve's *Blade Runner 2049,* and Jeanette Winterson's *The Stone Gods* alongside research from the fields of ecopsychology and ecotherapy to better understand the relationship between mental health and nature within the cyberpunk genre.

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CHAPTER 1. INTRODUCTION

Cyberpunk is a subgenre of science fiction known for its reverence of technology. It is common to find cyberpunk worlds filled with holograms, virtual reality, and robotic augmentations that blur the line between human and machine, yet whereas the broader science fiction genre typically involves external conflicts such as extraterrestrial encounters or robotic wars, cyberpunk's antagonists often prove to be mankind itself. Typically set on a futuristic Earth ravaged by nuclear war, runaway climate change, or some other manmade disaster, cyberpunk consistently makes the point that the technological boom center to the genre's aesthetic is achieved alongside the loss of the natural world. These bleak views of the future allow cyberpunk to hold up a critical mirror to the societal issues of the present and warn about the ecological cost of unregulated technological advancement. Initially, the relationship between man and technology might appear to be the genre's most important criticism, but a closer look reveals an almost paradoxical importance placed on nature. Throughout many works of cyberpunk fiction, characters find themselves drawn away from their digital cities and into natural ecosystems, and in these brief encounters with nature they find the key to psychological healing.

To understand how nature applies to cyberpunk, it is first important to understand cyberpunk as a genre. In *Mirrorshades: The Cyberpunk Anthology*, Bruce Sterling prefaces the collection by defining cyberpunk as "an unholy alliance of the technical world and the world of organized dissent" (Sterling xii). He then lists several common themes for the genre, including "body invasion: prosthetic limbs, implanted circuitry, cosmetic surgery, genetic alteration," and the "even more powerful" theme of "mind alteration: brain-computer interfaces, artificial intelligence, neurochemistry—techniques radically redefining the nature of humanity" (xiii). A

different alliance is mentioned by Veronica Hollinger in her article, “Cybernetic Deconstructions: Cyberpunk and Postmodernism,” when she defines cyberpunk as “the breakdown” of binaries “between the natural and the artificial, the human and the machine,” suggesting that, unlike previous science fiction that typically dealt with man versus machine, cyberpunk instead focuses on the blending of these concepts (Hollinger 30). This blending is not limited to humans and machinery, as Hollinger writes that Gibson’s *Neuromancer* “invokes a rhetoric of technology to express the natural world in a metaphor which blurs the distinctions between the organic and the artificial” (Hollinger 31). The entire cyberpunk world endures a form of Sterling’s so-called body invasion led by growing technology and human-led destruction of the environment, and it is this overwriting of nature’s memory that serves as the foundation for the genre’s disconnect with the natural world.

Throughout cyberpunk fiction, natural ecosystems are frequently mentioned only as a relic of the past, something that either no longer exists or is only kept alive by artificial means. In these worlds, humanity has created advanced societies capable of incredible technological feats at the expense of the surrounding ecosystem, yet no one seems capable of understanding the full scope such a loss has on their daily lives. On one level there are physical consequences to the destruction of nature that affect the survivability of life on Earth, things like food shortages, poor air quality, and any other issues that threaten people’s physical health, and solutions to these problems most often become core elements to the overall aesthetic of cyberpunk. Anti-radiation chemicals pumped into the water supply in irradiated zones, special masks to filter pollution from the air, and organic foods being replaced with synthesized protein supplements are a few tropes used by the genre. But one consequence of ecological loss in cyberpunk has been largely

overlooked by scholarship: the effect nature's desecration has on the minds of people within these societies.

Because of the importance cyberpunk citizens place on the digital world, technology becomes the primary goal in their pursuit of personal improvement, leading to nature losing much of its attraction and slipping between the cracks of a society that no longer sees its value. Cyberpunk typically includes pessimistic narrators on the cusp of understanding that their world, advanced as it may be, is ultimately a failed experiment, though they usually are unaware of why that is the case. Rather than seeing a lack of natural environments as part of the problem, attention is directed toward corporations and corruption as the source and away from the ecological changes that ecopsychologists argue are detrimental to mental health. Lead characters tend to differ from the average citizen in how they see nature, and while they rarely encounter nature for long, they are often positively altered by their experiences with the greener side of life, which is a core tenet of ecopsychology.

Roger Duncan writes that the word *ecopsychology* became common thanks to the writings of Theodore Roszak, who defined the subject as an "emerging synthesis of ecology and psychology, the skillful application of ecological insights to the practice of Psychotherapy and a study of our emotional bond with the earth and the search for an environmentally based standard of mental health" (qtd in Duncan 27). Following Roszak, other researchers began studying the relationship between nature and psychology in their own experiments, though the ideas were rarely accepted due to a lack of hard evidence into how ecopsychology worked. The field was largely theoretical; because humans evolved and survived in unpolluted, pre-industrial natural ecosystems, it follows that nature would leave its mark deep within the brain as an instinctual comfort, a deeply ingrained attraction to nature referred to as biophilia. Bjorn Grinde and Grete

Grindal Patil discuss this natural attraction in their article, “Biophilia: Does Visual Contact with Nature Impact on Health and Well-Being?,” in which they explain that biophilia is recognized as an aspect of psychology claiming that “humans have an inherent inclination to affiliate with Nature” (Grinde and Patil 2332). A lack of green space leads to negative mental states, such as zoo animals “hurting themselves and refusing to mate or eat” when not provided with the visual stimulation of the natural environments they evolved in, and this mental distress also applies to humans (Grinde and Patil 2334). With the advent of civilization, humanity no longer needed green pastures to survive and so the comfort nature provided was gradually replaced with unnatural, manmade luxuries. As a species, we “[fell] out of the dance with nature,” as Duncan puts it, and rapidly advancing technology is what killed the music (Duncan 2). Such a statement is far from sounding scientific, of course, which Duncan considers as a large reason for ecotherapy not becoming popular sooner. Duncan writes that many professionals would have dismissed it all as “just ‘hippy shit’” without any evidence-based research to support it, which led to hesitancy within the scientific community to seriously consider the ideas (99).

But in recent years, ecopsychology has blossomed not only into a serious theoretical field, but a practical one. Countless researchers have explored the subject and discovered nature’s effectiveness in aiding patients with various mental disorders, ranging from autism spectrum disorder and attention deficit hyperactivity disorder to depression and post-traumatic stress disorder. Various forms of ecotherapy cause these benefits, all centered on satisfying the biophilic needs within human minds. Studies increasingly show numerous therapeutic benefits of time spent in nature, a finding that is reinforced by observed increases in mental illness in highly urbanized areas when compared to rural areas. It is important to note the scientific community does not argue that the absence of nature is the primary cause of this mental health discrepancy,

nor does it suggest that a simple walk in the woods is effective enough to replace recommended methods of treatment like medication or therapy, only that there is a correlation between a lack of green space and rise in mental illness, as well as documented benefits in individuals who place themselves in nature. Further research is required, but the current understanding is that healthy ecosystems correspond to healthy minds.

Myriam Thoma and several other researchers elaborate on this connection in their article "Clinical Ecopsychology: The Mental Health Impacts and Underlying Pathways of the Climate and Environmental Crisis." Thoma et al. reinforce the importance of biophilia as a "crucial prerequisite for humans' physical and mental health and well-being" (Thoma et al. 3). They note that "Observing the pollution and destruction of the natural world can thus psychologically hurt individuals," and when one considers the degree of pollution and ecological collapse present in most cyberpunk settings, this psychological pain would undoubtedly be more severe (9). A brief encounter with the cyberpunk genre will suggest as much, as these works are almost always inhabited by mentally ill societies struggling to find happiness in their dying worlds. With no nature left to satisfy their biophilic desires, these societies are forced to find pleasure in drugs or digital forms of entertainment, but they are never truly happy. Many of the characters who do experience genuine joy do so outside the technological realm in rare forms of natural environments still clinging to life, and their altered states of mind following their exposure to a greener world are supported by the findings of ecotherapy.

William Gibson's novel, *Neuromancer,* features a corrupt and polluted world where nature has been replaced by technology and society is ruled by corporations and cyberspace. The people of this world, including the protagonist, Case, have been conditioned to fear and avoid nature, yet there exists a self-governed colony of people who thrive on a connection to the

natural world despite living in space. This colony benefits from ecotherapeutic approaches to gardening as well as the satisfaction of biophilia through aesthetic applications of green space, and as a result the colonists enjoy relatively stable mental health compared to the rest of society.

Blade Runner 2049, directed by Denis Villeneuve, is set in a future in which climate change has destroyed almost all life on Earth and resulted in complete ecological collapse. To escape extinction, the wealthy flee to colonies established on other worlds, but the poorest of humanity remains on their dying planet with nowhere else to go. The larger society proves to be largely ignorant and indifferent to the natural world, but depressed protagonist Agent K finds an intimacy with nature that grants him brief moments of respite following his limited interactions with natural elements. The other artificial intelligences of the film experience similar biophilic attractions to nature, such as Joi and Dr. Stelline's impossible quests to come into physical contact with nature and the tranquility they discover through their holographic attempts. The characters who pursue this desire for an intimacy with nature are positively affected by their experience.

The cyberpunk section of Jeanette Winterson's *The Stone Gods* follows the environmentally aware Billie Crusoe as she suffers through depression on a planet with mere decades of habitability left. While society, guided by materialistic and patriarchal values that repeatedly destroy new environments, attempts to cope with their world's death through distractions and consumerism-based forms of entertainment, Billie chooses to live on one of the only plots of unblemished nature left in the world to find contentment. After leaving for the newly discovered Planet Blue, Billie and her companions experience happiness and a decrease in anxiety as a result of their brief time in a pristine natural ecosystem. Like in *Blade Runner 2049*,

the artificially intelligent character, Spike, gains an evolved consciousness from her natural experiences.

Each of these cyberpunk works are set in futuristic societies that are islands of civilization scattered among the Anthropocene ashes, completely detached from a nature that has been destroyed by humanity's own irresponsibility. Despite this, their characters still manage to interact with nature in various ways that lead them to experience the benefits of ecotherapy. By analyzing how these interactions happen and the effects they cause, it is possible to gain ecopsychological insight into cyberpunk and better understand the importance the genre places on a connection to nature over a connection to technology. This provides a clearer picture of how the minds of fictional characters are intertwined with nature, as well as how our own minds are related to and influenced by the ecosystems in which we live.

CHAPTER 2. ECOPSYCHOLOGY'S MANIPULATION IN NEUROMANCER

William Gibson's novel, *Neuromancer,* is set in a world dominated by data, where rapid technological expansion covers the world and radioactive fallout dots the landscape. Wealthier members of society have access to luxury orbital stations to escape a miserable existence on the surface, but most citizens live below the smog line in the polluted shadows of the omnipotent corporations that govern them. Regardless of class, the people of Gibson's world do not see nature as worthy of their attention largely due to their preoccupation with their technological lifestyles. Value exists in data and cyberspace, making nature an alien world perceived to be entirely useless in comparison. Even if they wanted to step outside city limits, many regions of the world bear radioactive scars of manmade warfare, heaps of plastic pollution, and voids left by biological extinctions, resulting in an ecosystem just as corrupted by mankind's touch as the city zones. The end result is a world filled with people who have entirely forgotten the benefits of a healthy natural environment, which leads to higher rates of mental illness due to a complete severance from green spaces. The only exception to this is a colony of Rastafari space farmers orbiting Earth high above the capitalist hellscape of civilization beneath them, and their lone embrace of nature grants them access to a relatively uncommon psychological stability and provides a glimpse at humanity's conflicted relationship to the natural world.

*Neuromancer'*s society exhibits an inherently negative view of nature that leads them to perceive it as a place of danger and fear. In several parts of the novel, natural elements are foregrounded by violent or negative associations that strengthen this negative connotation. Perhaps the most prominent example of society's discomfort toward nature comes from the group of terrorists that Case, the novel's protagonist, works with to steal the ROM construct of Dixie Flatline. Calling themselves the Panther Moderns, this group consists mostly of younger

people who Case notes are “mercenaries, practical jokers, [and] nihilistic technofetishists” who enjoy causing as much social upheaval as possible (Gibson 64). The Panther Moderns’ leader, a man named Lupus Yonderboy, defends the unnecessary slaughter of civilians during the heist by saying, “Chaos . . . is our mode and modus” (74). The members of this organization are repeatedly shown to have animalistic characteristics; a member named Angelo flaunts elective surgeries that give him a “shark-cartilage” augmented face and the “razor-sharp canines of some large animal” in his mouth (64); Lupus himself, whose first name is Latin for “wolf,” wears a chameleon-like suit that allows him to blend in with his environment; most of the aliases the Panther Moderns use are related to animals, such as their designation of Molly as “Cat Mother” and their link man as “Brood” (72). As a terrorist organization so chaotic and morally indifferent that even Case is reluctant to cooperate with them, the Panther Moderns establish themselves as a force worthy of being feared, and their adoption of natural imagery furthers this perceived terror by actively playing on the fears that already exist within society.

This conditioned fear arises from the fact that Gibson’s cyberpunk people are entirely disconnected from nature due to being plugged into city life and nature’s status as a foreign territory. To the inhabitants of Chiba City or any of the other urban areas of the world, home is characterized by densely packed streets, glaring neon, and digital screens around every corner. These features of daily life are comforting if only because they are familiar, and this is where cyberpunk citizens’ primary disconnect with nature lies. Gibson suggests that these societies are obsessed with their technological way of life, but in the high rate of addiction and mental illness he also suggests that their avoidance of nature prevents them from fulfilling their biophilic desires. They become like the caged zoo animals deprived of nature in Grinde and Patil’s article and end up hurting themselves. But because they see nature as dangerous, placing themselves

into such a stressful and potentially hazardous environment is not an option. The safer alternative is to continue living in the high-tech world where threats are predictable and every need is on sale, even if it harms their minds.

Green Space: The Orbital Colony of Zion

While the majority of *Neuromancer'*s people have come to accept this avoidance of the natural world, one unlikely group proves to actively benefit from the concepts and procedures of ecotherapy despite living several hundred miles away from any natural ecosystems. The orbital colony known as the Zion cluster, or just Zion, exists as a collection of like-minded people living aboard a space station outside the gravity of Earth society, and their self-ostracization is built upon artificial nature. Founded by five workers who "refused to return, who'd turned their backs on the well and started building," the mere existence of Zion stands as a rejection of the capitalist hegemony that dominates the rest of the planet (Gibson 111). The inhabitants follow Rastafarian ideals, including the avoidance of corrupt Western society and a religious embrace of the natural world. Unlike other characters in the novel, the Zionites are shown to be noticeably relaxed and happy aboard their floating community, and while they may not understand the underlying mechanisms for it, the people of Zion actively participate in ecotherapy every day of their lives and reap the mental benefits it provides. Judy Kuriansky and other researchers expand on the relationship between nature and mental well-being in their chapter of *Ecopsychology: Advances from the Intersection of Psychology and Environmental Protection* titled "Paradigm Shifts in Nature and Well-Being: Principles, Programs, and Policies about the Environment and Climate Change with Actions by the United Nations for a Sustainable Future." Kuriansky et al. write that

time spent surrounded by nature can "aid in mental restoration, . . . reduce psychological and physiological distress, . . . create greater connectivity with others, resulting in less conflict and more cohesive communities," among other benefits, all of which can be applied to the relaxed, close community of Zion (Kuriansky et al. 309).

Zion proves to be reliant on nature and opposed to most other aspects of Western society, which they consider to be corrupt and often refer to as Babylon. In his article, "Stepping Razor in Orbit: Postmodern Identity and Political Alternatives in William Gibson's *Neuromancer*," Benjamin Fair writes that "The Zion cluster appears in stark contrast to the postindustrial world represented by cyberspace, just as the Rasta Maelcum fundamentally contrasts with Case" (Fair 93). This is most clearly shown in the novel when Case lets the Zionite Aerol view the matrix through his cyberdeck and asks him what he saw. Gibson writes that Aerol "shuddered" and says he saw "Babylon," emphasizing Zion's correlation between technology and corruption (Gibson 115). Fair argues that Zion offers an "alternative to the hyperrational, individualistic, parasitic realm that characterizes postindustrial capitalism," or in other words, an alternative to the values that define the cyberpunk genre. To Case, the colony is a completely different world. At one point, he even tells Maelcum, the Zionite who flies them from Zion to Freeside, "I don't understand you guys at all," to which Maelcum replies "Don' 'stan' you, mon . . . but we mus' move by Jah love" (Gibson 206). Case, who is arguably the personification of the cyberpunk world, is visibly uncomfortable upon entering the colony, but the Zionites, standing as the personification of the natural world, are able to move past this cultural divide fairly quickly and express more positive emotions. This polarization not only explains why Case is so uncomfortable with the Zionites' way of life, but why the colony is able to enjoy a life of relative peace. Rather than living with the anxieties and stresses of a globally interconnected world, Zion

instead creates a private garden that allows tranquility to grow. Their improved outlook as a result of nature reinforces Gibson's subtle idea that nature is the better alternative to a cyberpunk lifestyle.

One reason for Zion's attraction to a more natural way of life lies in the Rastafarian beliefs adopted by the colonists. To better understand how this religion is equated with a deeper connection with nature for Zion, it is important to understand the beliefs in which the Rastafarian religion is rooted. Fortune Sibanda discusses the Rastafari connection to nature in a study titled, "The Impact of Rastafari Ecological Ethic in Zimbabwe: A Contemporary Discourse." Sibanda first grounds the space colony's moral view of Earth by noting that Rastafarians refer to any system of "repressive structures . . . as Babylon" and that any "restoration of both physical and mental oppression restores their 'Zion', dignity and self-respect" (Sibanda 66). Quoting Ivor Morrish, Sibanda writes that the "Rastafarian reverence for nature" can be traced back to a blend of cultural traditions, including beliefs held by enslaved people of Jamaica that "the 'entire realm of nature has been endowed with personal life; and every tree or plant, every river or stone, becomes a source of energy or power which may be used'" (qtd. in Sibanda 68). In general, Rastafarians desire "an independent life style that is in harmony with the natural world," and Sibanda defines this as "producing one's own food, eating an *Ital* diet consisting of organic and vegetarian foods as well as upholding the sacredness of the earth by refusing to pollute and commercialise it" (68). Based on Sibanda's research, it is clear that Zion is saturated with Rastafarian beliefs that both create a stronger connection to nature and distance the colony from the polluted morals of the Western world. Their space station becomes the most extreme declaration of independence possible, and their creation of a completely self-sufficient,

vegetarian society with deep roots in a healthy respect for nature serves to reinforce their Rastafarian beliefs and guide them toward a healthier state of mind.

In addition to these ideological beliefs, Sibanda also writes that the religion's use of ganja, or cannabis, is a major aspect of Rastafarianism. He writes that the "respect and deep connection to nature" held by modern followers of the religion developed from the "Rastafarian use of *ganja*" that originated in practices from India, "where it was used in meditation and as herbal medicine" (Sibanda 68). Gibson's descriptions of the people of Zion involve frequent images of their consumption of ganja, such as when Case arrives to the station and notes the smell of "cooked vegetables, humanity, and ganja" (Gibson 112). Molly tells Case that the bizarre stories Zionites believe are a result of this drug, a way for them to connect to an altered level of thinking they otherwise cannot experience, and she describes their wild accounts as "not like bullshit, more like poetry" (114). In this way, ganja is similar to a cyberdeck, the device Case uses to enter the matrix, in how it grants users access to a distinct realm of thought and insight. While cyberdecks open the door to altered perception through use of a digitally induced "consensual hallucination," as Gibson describes the matrix, ganja offers the anti-Babylonian Zionites a similar result through nature (5). Their access to this state through entirely natural means provides a deeper contrast to cyberpunk society's reliance on digital access and emphasizes the idea that, through nature, Zionites are granted connection to a more religious and contemplative state of mind, which aids them in the stability of their overall mental state.

The fact that Zion benefits from a higher emotional stability than the people of Earth is contingent on another societal difference that also keeps them alive: gardening. Despite being the farthest from Earth, Zion is the only settlement described in the novel to actively care for farms and plant life, and as a result they enjoy well-kept stocks of freshly grown produce, ranging from

recreational harvests of ganja to the more necessary crops that sustain them nutritionally. By relying on their own communal plots of farmland, Zion has no need for the cheap processed foods that Earth produces. Gibson contrasts the colony with a much wealthier space station called Freeside. He writes, "Freeside's ecosystem was limited, not closed. Zion was a closed system, capable of cycling for years without the introduction of external materials. Freeside produced its own air and water, but relied on constant shipments of food, on the regular augmentation of soil nutrients" (Gibson 240). As a result of their rejection of the world outside the colony, Zion creates its own ecosystem capable of producing air, water, and naturally grown food. The people of Zion, then, must interact with nature daily by becoming gardeners and farmers to maintain these crops, an act which has proven to be extremely beneficial in many ecotherapeutic studies.

In their article, "Gardening on a Psychiatric Inpatient Unit: Cultivating Recovery," Huibrie Pieters and others report many positive benefits from group gardening sessions. This study is especially relevant in that, much like the societally disconnected Zionites orbiting Earth, the patients were kept in an isolated space away from the distractions of society. Pieters et al. note that for isolated situations like this, gardening can provide even greater benefits:

> In a treatment setting where outside world distractions and activities are removed, the garden provided the participants an additional way to bring meaning to their day. The sense of productivity, contributing to the unit, and being part of community through gardening was a way that patient efforts fit into a larger context. . . . [T]he garden itself provided them a medium to feel contributory and productive as well as the space to reflect on what that might look like in the future. (Pieters et al. 63)

Although the people of Zion are not in a psychiatric ward or actively suffering from severe mental illnesses, they are similarly cut off from the rest of the world and many of the forms of entertainment they would otherwise have access to. This not only makes it more difficult for Zionites to find recreational activities uncorrupted by the Western world, but it also makes it more necessary for them to find an activity that benefits them in more ways than just entertainment. Gardening proves to be one of the most useful hobbies the colony can adopt, granting Zionites access to a form of entertainment that provides food, a stronger connection to their fellow colonists, and the soothing mental benefits associated with ecotherapy.

Zion also benefits physiologically from their closeness to nature. The surviving founders of the colony, who endured the physically degrading effects of years spent in zero gravity, spend their time at the low-gravity center point of the colony to relieve symptoms of the "calcium loss and heart shrinkage" brought on by prolonged weightlessness (Gibson 111). When Case meets the elders, he finds two "fragile" old men "float[ing] in the center of a painted jungle of rainbow foliage" amid clouds of ganja smoke (118). The room is not merely accented by a single jungle painting but is dominated by themes of nature, as Gibson writes that the mural "completely covered the hull of the spherical chamber" that surrounds the founders (118). This heavy emphasis on greenery decorating a space designated for relieving physical pain reflects the reduced "physiological distress" mentioned by Kuriansky et al. and suggests that the Zionites are well aware of the medicinal benefits of a close proximity to nature (Kuriansky et al. 309). Though they believe in a more spiritual explanation for the bulk of their boons, the people of Zion still show that an intimacy with green space can have lasting positive effects on their health for those willing to be changed by it.

An Unwilling Patient: Case

The willingness to change is a key part of allowing any form of therapy to take root in the mind, and this is no clearer than in Case's character. As *Neuromancer* is written from his perspective, the book's narration is provided through a viewpoint that is highly filtered through Case's experiences. Before the events of the novel, Case worked for wealthy elites as a legendary thief stealing data within the cyberspace world of the matrix. Gibson writes, "At twenty-two, he'd been a cowboy, a rustler, one of the best in the Sprawl," referring to one who uses cyberdecks to steal data in the matrix (Gibson 5). Unfortunately, Case's chance at becoming a true legend never comes. He is caught in the act of stealing data from one of the elites who hired him for a job, and his employers poison him with a toxin that destroys his brain's ability to interface with cyberdecks, severing him from the matrix permanently. This event is Case's cataclysm, the one moment in his life where everything changed and left him with no purpose or hope for the future. Gibson writes, "For Case, who'd lived for the bodiless exultation of cyberspace, it was the Fall. . . . Case fell into the prison of his own flesh" (6). As one of the few people in the world forever disconnected from cyberspace, Case travels city to city in search of a corner clinic miracle that might be able to repair his nerve damage and give him access to his old life. Finding nothing, Case clings to the last of his money and works various criminal jobs in Chiba, but at his core he is a defeated and hopeless shell of himself, a man suffering withdrawal from the one rush he can never again attain.

Case's addiction to cyberspace stands as the primary reason for his disdain for nature. In addition to the ecological hesitancy felt by the larger society, Case experiences anger toward the natural world due to his reluctant existence in it, something made clear in how he observes the

world through the lens of technology as if attempting to eliminate nature by seeing it as something else. In this sense, nature has lost its original purity and become augmented by technology as much as the cyberpunk citizens have. Jade Hagan discusses this in her thesis, "The Dark Ecology of William Gibson's *Neuromancer*: Technology, Object-Oriented Ontology, and the Dawning of Entanglement," writing, "From its opening sentence, *Neuromancer* depicts an environment invaded by technology" (Hagan 12). She argues that "the ubiquity of artifice taints any concept of the natural portrayed in the novel, and it is the failure to keep pace with technology that now seems unnatural," which could explain some of society's uneasiness around nature (Hagan 12). Hagan notes that Case's technical observation of the world is an extreme form of this natural distancing, such as when he observes the sky in the opening line of the novel: "The sky above the port was the color of television, tuned to a dead channel" (Gibson 1). Rather than using ecological descriptors or the poetic language one might expect from an image of the sky, Case resorts to more technical words he can better relate to and compares it to a television screen. Hagan argues that Case "perceives his surroundings, and everything, in terms of its data," something that arises from Case's past as a cyberspace data thief as well as society's complete replacement of nature with technology (Hagan 14). This technological filtering of nature further alienates him and the rest of society from the land outside cities, transforming natural settings into unknown places of fear and uncertainty, something which prevents most people from moving beyond their discomfort and benefiting from ecotherapy. The difference for Case is his lack of cyberspace access. While the people within cities can escape their world via the matrix, Case is barred from this digital world and as a result seeks an escape through anything else he can find.

Case tries to alleviate his misery with drugs and adrenaline, but these only worsen his situation. He is shown to consume "the night's first pill [of dextroamphetamine] with a double espresso" to induce adrenaline-laced highs, and the resulting anxiety and paranoia only intensifies his struggles with insomnia (7). Case descends further into his depression to the point of danger. Gibson writes, "He no longer carried a weapon, no longer took the basic precautions. . . . A part of him knew that the arc of his self-destruction was glaringly obvious" (Gibson 8). Armitage, the man who eventually cures Case's nerve damage and forces him to work for him, tells Case he is attempting to "con the street into killing you when you aren't looking" (Gibson 30-31). Case's desire for self-destruction is an aspect of his character that is immediately clear to those around him. When examined alongside his other symptoms, it most likely points to a diagnosis of post–traumatic stress disorder following his poisoning, the details of which provide further insight into Case's aversion to nature.

Much like a person who suffers a life-altering car accident might develop a sense of unease behind the wheel of a vehicle, Case's encounter with natural poisons has a similar trauma reaction to anything he associates with the natural world. According to the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, post-traumatic stress disorder, or PTSD, is defined as "the development of characteristic symptoms following exposure to one or more traumatic events" (American Psychiatric Association 274). Many of these symptoms can be directly attributed to Case in the early chapters of the novel, including "Persistent negative emotional state," "Irritable behavior," "Reckless or self-destructive behavior," "Hypervigilance," and "Sleep disturbance" (272). The source of Case's trauma, his kidnapping and poisoning, is also connected to nature, as his employers used a "wartime Russian mycotoxin" to permanently damage his nervous system (Gibson 6). The World Health Organization defines mycotoxins as

"naturally occurring toxins produced by certain moulds (fungi)" that can commonly be found on crops, so rather than a synthetically manufactured poison that would be expected in such a futuristic world, the anachronistic use of a naturally produced mycotoxin creates within Case a deeper mistrust of nature ("Mycotoxins"). The American Psychiatric Association lists one criterion for a PTSD diagnosis as "Persistent avoidance of stimuli associated with the traumatic event," so Case's discomfort around elements of nature is likely a trauma response to the association between the natural poisoning and the natural world (American Psychiatric Association 271). If the fear of foreign natural spaces instilled by society wasn't enough to make Case wary of seeing nature as beneficial, then having his entire life upended and thrown into chaos by natural chemicals would do the trick.

As a result of this traumatic association, Case proves highly resistant to ecotherapy. Gibson includes several scenes throughout *Neuromancer* where Case interacts with elements of nature, and each of these instances is accompanied by an air of discomfort or distrust. Case is unable to find tranquility among the nature loving Zionites. He considers the wood and sand aesthetic of his room aboard Freeside as "a style that had always irritated him" due to nothing appearing "machine-made or produced from synthetics" (Gibson 135-7). Even the tech-centered way Case observes natural landscapes is laced with cynicism, such as his description of a cloudy sky as "poisoned silver" (7). Case's aversion to nature and his refusal to embrace environments containing natural elements must be viewed not as a failure of ecotherapy to help him, but Case's own resistance toward nature's healing potential as a result of his trauma-related anxieties.

The association of nature with the mycotoxin further explains Case's discomfort while aboard Zion, as well. The Zionites' recreational use of ganja, a naturally occurring plant, is contrasted by Case's poisoning by a naturally occurring chemical. From his perspective, natural

compounds are dangerous, so when he boards Zion to discover a small society living in harmony with nature and beneficially consuming natural drugs, he is understandably disturbed. The internal conflict intensifies at the fact their use of ganja does not ruin their nervous systems but fills them with peace and happiness. Like the Zionites, Case is also shown to rely on various drugs to improve the quality of his life, but every pill he takes has been created in a lab. Whether he is taking high-potency dextroamphetamines, concentrated shots of espresso caffeine, or any of the other drugs he consumes, he mistakenly provides himself a false sense of security simply because the drugs are manmade. Seeing Zionites regularly enjoy the health benefits provided by a natural compound after having his own life upended by one is a foreign concept to Case that leaves a bitter taste in his mouth and makes it even harder for him to relate to Zion's eco-friendly society. His unwillingness to consider nature as beneficial or see the unhealthy aspects of cyberspace society results in his lack of emotional growth through the novel. Case is not healed by nature simply because he does not want to be healed by it.

Weaponizing Ecopsychology: Peter Riviera

Working as the moral opposite to the people of Zion, the character Peter Riviera proves to intentionally rely on themes of nature throughout *Neuromancer* for all the wrong reasons. Riviera actively works to get beneath the skin of those around him and proves to be highly successful in this endeavor, leading him to become the member of the group Case and Molly like the least. Riviera slacks off, constantly mocks his companions, and spends much of his time high on various drugs, but his most irritating form of psychological torture comes in the form of realistic holograms he creates to bother Case and the other members of the team. In nearly every

scene where Riviera is present, he forms holographic projections that annoy everyone, but because nearly all of these holograms are specifically themed after nature, Riviera proves particularly torturous for Case.

As he had done before when recruiting Case, Armitage, the man leading Case's group, runs a psychological profiler on Riviera's personality to better understand the new recruit. He finds a psychologically damaged and highly unstable prankster, but a skilled manipulator who is the perfect man for the job. Molly tells Case the details of the profile and says that Riviera is a "certified psychopath" and "one sick fuck" (Gibson 56). Once they force Riviera to join their crew, she provides Case with more information about the profile and says, "He's a kind of compulsive Judas. Can't get off sexually unless he knows he's betraying the object of desire" (103). She notes that Riviera's personality is a "very rare type, estimated one in a couple of million" and that it resembles a "[Panther] Modern's suit" in how it shifts and changes to blend into a group (103). The ugliness of Riviera's personality is only visible to those he chooses to show it to. From a distance, Riviera appears handsome, genuine, and charismatic, but as Case and Molly learn more about their newest recruit it becomes clear that this is nothing more than a mask.

Riviera transcends a mere dislike of nature and actively uses it to cause harm in other people as a result of his mental illnesses, and it is entirely possible that his state of mind is related to his home environment. Thoma et al. write, "Environmental toxins in the form of air pollution can be translated into psychopathology *via* biological pathways," meaning that air pollutants have the potential to affect one's psychology by physically affecting the brain after being absorbed into the bloodstream, which differs from negative mental changes caused by simply observing ecological destruction (Thoma et al. 9). The researchers note that

"[environmental] stressors can exert a meaningful impact on mental health *via* biological, psychological, and social pathways," with each category influencing the other in various ways for individuals living in ecologically damaged environments (2). Riviera's rare status as a sadistic psychopath aligns with these findings when one looks at where he was raised. Gibson writes, "[Riviera] was a product of the rubble rings that fringe the radioactive core of old Bonn," implying that he originally lived in the wasteland surrounding a nuclear explosion of some kind and was molded by this experience (Gibson 104). These wastes could easily fit the label of what Thoma et al. refer to as "'chronic' ecological events" that can lead to various forms of "adverse mental health" (Thoma et al. 7). Because ecological destruction is all Riviera knew while growing up, his chances for severe mental illness increase and he gains the twisted view of nature that leads him to actively work against ecotherapy. It is also possible that Riviera's use of nature as a psychological weapon derives from his own negative feelings toward the natural world as a result of his experiences in the wastes of Bonn, much in the same way that Case's negativity toward nature is strengthened by his traumatic past.

The extent of Riviera's psychological imbalance is demonstrated in how he interacts with the people around him. Cynthia Davidson analyzes Riviera against the other characters of the novel in her article, "Riviera's Golem, Haraway's Cyborg: Reading *Neuromancer* as Baudrillard's Simulation of Crisis," and describes him as a "holographic genius, drug addict, and sexual pervert" (Davidson 189). She writes that "Riviera takes delight in wreaking havoc on any sort of orderly progression of events," which automatically situates him as the opposite of Case, who is "strictly a technician, a whiz at learning codes of operating systems" (189). From an internal viewpoint the two stand at opposing ends, with Case as the "brainchild of science and corporate power" in his need for control and Riviera working to "disrupt the established flow"

and order of any system he finds himself in (190). Case dislikes Riviera for the same reason he dislikes Panther Moderns and nature: they are built on chaos and unpredictability without any understandable or relatable motivations. Davidson writes, "For Riviera, the achievement or arrest of a goal seems not to be so much the point as the fun of getting there, the spinning of holographic webs which produce awe or fright or disgust in a spectator" (190). Combined with his desire to cause negative reactions in social situations, Riviera's uncanny ability to understand the inner fears and personalities of the people around him make him exceptionally talented at being the most annoying person in the room. It also suggests that he uses ecopsychology to his corrupt advantage by tailoring his holograms to cause additional distress to Case.

Riviera overwhelmingly uses natural imagery as the source of his sadistic holograms. The man who tracks Riviera down in Turkey tells Case he has seen "a dozen cycles fall, near him, in a day" and explains that each of the injured cyclists reported "A scorpion poised beside a brake lever" as the reason for their accidents (Gibson 97). Riviera's gravitation toward using nature as a source of fear echoes the Panther Moderns' tactics for causing chaos and panic within society. Like the terrorist organization, Riviera understands that most people living in a high-tech cyberpunk society are inherently wary of nature, so he shapes his holograms in the same way the Panther Moderns augment their appearances with animalistic names and implants. For Case, these holograms are especially annoying. His first attempt to upset Case is in the form of a "giant human sperm" cell floating in Case's bourbon, which earns him a slap in the face and a warning from Molly (109). In response, Riviera smiles, creates a black rose, and falls asleep. While the others busy themselves preparing their rooms aboard Zion, Riviera appears only when the work is finished and makes a fish swim out of his mouth when Case asks where he was (112). Case watches Riviera inject himself with a drug while a "jewel-scaled snake" tightens around

Riviera's arm and a "pale waxy scorpion" administers the injection with its stinger (115). At Freeside, Molly tosses Riviera more drugs as payment and he makes it disappear in a swarm of "small glittering insects" (137). By making his holograms nature-themed, Riviera injects tension into situations already laced with negative emotions, an act which reinforces the negative feelings people hold toward the natural world and satisfies Riviera's own sadistic desires. He resembles the Panther Moderns in his relationship with nature, which places him at moral odds with both the people of Zion and the field of ecotherapy.

It is worth noting that Riviera's holographic use of nature occurs only when he is consciously aware of what he is creating, as at one point Case discovers him asleep and observes "a revolving halo of small white geometric forms, cubes, spheres, and pyramids" floating above Riviera's head (Gibson 113). The appearance of shapes and structures typically found in manmade architecture suggests that at a subconscious level, Riviera has no actual obsession with nature for his holograms. In dreams his mind is filled with the angles and edges one would expect to find in cyberspace. The waking Riviera does not rely on natural images because of any mental benefit from their presence in the way that Zion does, but rather because he knows they will upset people around him and he makes a deliberate choice to create them. Case's rejection of nature, which would be obvious to anyone searching for cracks in his emotional armor, allows Riviera to gradually chip away at Case's mood while simultaneously lifting his own, though this emotional improvement comes from the act of making people suffer rather than nature. By actively weaponizing a potentially therapeutic process, Riviera proves even more resistant to the concepts of ecotherapy than Case.

Gibson provides a sort of ecotherapeutic scale through Zion, Case, and Riviera, with Zion at one end of the spectrum, Riviera on the far opposite end, and Case somewhere in the middle.

There is a clear relationship between nature and improved mental health in *Neuromancer* in how Zion interacts with farms and green imagery, but Case is ultimately unable to heal from his time aboard the colony due to his own cultural biases and traumatic past. Riviera's ability to recognize Case's trauma and attempt to worsen it with natural holograms shows his sadistic connection to ecopsychology. These three distinct groups demonstrate Gibson's fluid ability to show nature as a powerful tool, one capable of sustaining the bodies and minds of colonists in space and even defeating cyberspace itself through something as simple as toxins produced by mold. For those willing to accept it, nature's psychological benefits echo findings of ecotherapy that show an exposure to nature, when administered through the proper methods, has the power to cause lasting benefits in a person's mind. The fact that nature plays such an impactful role in the novel that defined cyberpunk is a testament to its underlying influence throughout the genre.

CHAPTER 3. SEEKING NATURE'S TOUCH IN *BLADE RUNNER 2049*

The world presented in Villeneuve's *Blade Runner 2049* has roots in the cyberpunk aesthetic portrayed by the previous film—a vast cityscape dominated by corporate logos and holographic advertisements, dizzying shots from the perspective of flying cars, a soundtrack heavy with synthesizers and pulsing electronic drums—and yet the film proves markedly different from the original *Blade Runner* film with regards to visual style. Whereas the original film shows a world dominated by capitalism and technology, *2049* shows a world destroyed by it, with the advertisements of the corporations responsible standing proudly over the rubble. *2049*'s title sequence informs viewers of a "collapse of ecosystems in the mid 2020s" which places the film as ecologically self-aware before the first image is even shown. Once the visual evidence of this ecocide is provided, though, it proves to be a core component of the film's cinematography. Mountains of garbage continually grow outside the city, vast walls have been erected to slow the rising seas, Las Vegas is completely abandoned after being destroyed by nuclear bombs—nearly every scene includes some trace of manmade planetary destruction. To further drive home the hopelessness of this world, there are even advertisements for people to abandon Earth altogether and settle on one of the colony planets. The life that remains on Earth can only survive within the cities that still stand, in tucked away worlds that feed on scraps of consumerism, distraction, and artificiality.

These isolated cities present the film's core identification with the cyberpunk genre, albeit one of an even darker future than William Gibson offered. Unlike the citizens of *Neuromancer*, who mostly had no interest in the world outside of cities, the people of *Blade Runner 2049* are physically unable to explore the natural world due to there being no nature to

explore. It is not a world that has been invaded by technology but irredeemably ruined by it, something that makes the characters' exploration of nature even more difficult than in *Neuromancer.* Despite this, *2049* features multiple scenes away from civilization in landscapes that are barren of consumer life. The film's opening scenes, where viewers are first introduced to the protagonist, involves protagonist K traveling to a desolate grubworm farm far outside the city, and the journey that follows leads him to abandoned cities crumbling into a rising sea, the empty ghost town of Las Vegas, and even into the ocean just outside Los Angeles' seawall. It is immediately made clear through Villeneuve's visual choices in these scenes that the majority of nature has been either destroyed or irreversibly altered by human intervention, but the film includes countless themes of an unspoken desire for nature that heavily contrasts with the otherwise high-tech aesthetic of *Blade Runner*'s cyberpunk universe. By frequently portraying nature throughout dead ecosystems, Villeneuve provides the primary source of society's despair and places nature as the best medicine for a society suffering from the cyberpunk Anthropocene.

Through the film's cinematography, Villeneuve portrays the main negative state of mind experienced by the people of his world: solitude. In his article, "Solitude and Ecocritical Settings: *Blade Runner 2049*," Antonio Sanna analyzes how Villeneuve uses cinematography to portray feelings of loneliness throughout the film. Sanna writes, "Characteristic of *Blade Runner 2049* is the presentation of the main characters as affected by solitude," which he argues is evident from the "representation of the settings as inhospitable and alienating," a result of natural spaces that are colorless and devoid of life (Sanna 190-191). The sense of solitude is achieved by "bird's-eye" camera angles from the perspective of flying cars or in slow pans that reveal expansively empty landscapes, but it is equally achieved in ground level shots that portray "blue-filtered streets as filled with holographic, gigantic advertising" that show humans interacting

with commercial images and automated kiosks more than with each other (191). These streets are filled with people who are together and yet alone, demonstrated in one scene showing K eating alone in a crowded public square. The tables to either side of him feature individual diners sitting by themselves, with an equally lonely K placed between them. When the camera shows interior scenes such as K's apartment or Lieutenant Joshi's office, Sanna notes that the settings are "claustrophobic, unadorned, plastic and metallic spaces" that "reveal no human warmth, no touch of life" (191). Even the soundtrack, scored by Hans Zimmer and Benjamin Wallfisch, proves to be "one of melancholy, either for the pejorative future represented in the film and the characters' loneliness, or for the loss of lives represented and recounted on the film" (192). Villeneuve relays the thoughts and emotions of his characters in the way he frames a shot, and it is clear from both a visual and aural interpretation that most of these characters are ruled by solitude and dissatisfaction derived in part from an ecologically bankrupt planet.

Concepts related to ecopsychology become particularly relevant to the world of *Blade Runner 2049,* as this world features an ecology in much worse condition than that of *Neuromancer*. The people living in the aftermath of *2049*'s ecological collapse are exposed to more of the negative mental effects ecopsychology associates with the loss of natural spaces, resulting in poorer mental health overall. In their article titled, "Psychology in an Age of Ecological Crisis," Daniel Stokols and other researchers examine how peoples' mental states are influenced by climate change, noting increasing evidence that "individuals' worries about environmental health threats take a toll on their subjective well-being" (Stokols et. al 181). They write that even being exposed to fears of "air pollution, nuclear contamination, tainted food, extreme weather events, random violence, and terrorist attacks" is associated with an increase in "chronic stress and feelings of insecurity" (188). Each of these concerns is abundantly present in

the world of *Blade Runner 2049.* The helplessness and despair caused by a perceived inability to prevent climate change, which Thoma et al. refer to as "eco-paralysis," would undoubtedly be magnified for the people of a Los Angeles experiencing the worst outcomes of the climate crisis, people who have abandoned all attempts to save the planet and instead moved to off-world colonies (Thoma et. al 9). The people left behind know nothing will stop the ecological collapse from worsening, so the feelings of "apathy, numbness, loss of control, [and] powerlessness" that Thoma et al. attributes to eco-paralysis become much more significant, as does the degradation of their mental health (9).

These hopeless people attempt to cope with the unpleasant reality of their dying world through highly superficial means rooted in consumerism. In one of the first ground-level shots of an active city street, the scene focuses on a wall of buttons advertising various products. Painkillers, various meals, virtual experiences, and instant fixes fill the screen as faceless hands enter from out of frame and press the buttons to get their selected product. Shopping has literally lost its human touch, as customers now need only to touch a machine to retrieve their purchases instead of interacting with another person. In their article "On Nature and the Tactility of the Senses in *Blade Runner 2049,*" Catherine Payne and Alexandria Pitsis write that "Tactility is used in *Blade Runner 2049* to highlight points of incremental awareness" and that the "sensation of touch in the rain and snow" works to change a replicant's mind from a "technological state to consciousness through nature" (Payne and Pitsis 64). While their article focuses primarily on interactions with weather, one can expand this analysis of touch further and conclude that the people within the city, through Villeneuve's focus on hands touching the vending machines, achieve an opposite effect that reveals a disconnect from nature. Replicants gain a deeper sense of humanity from a physical connection to snow and rain, but humans lose theirs from a

connection to consumer-based technology. Companies like the Wallace Corporation capitalize on this social void by selling humanity back to people who fail to interact with their fellow citizens in the form of artificial intelligence. Wallace sells a virtual girlfriend as a holographic partner to fill the loneliness of citizens' homes, and even names her Joi as if to emphasize her ability to produce happiness in customers. Despite these attempts to mend their minds with mass-marketed artificiality and technology, the people of Los Angeles remain disconnected from one another and focused only on the holographic distractions in front of them.

The Search for Joy: Agent K

The first of *2049*'s characters who benefit from nature is Detective KD6-3.7, or simply K, a replicant played by Ryan Gosling who works for the Los Angeles Police Department as a blade runner tasked with hunting and killing rogue replicants. K proves to be a reluctantly lonesome character throughout the film primarily due to his status as a replicant, as most of the humans he interacts with view him as inferior simply because he was created instead of born. Villeneuve emphasizes K's struggle for identity in this prejudiced world through the mistrustful and often aggressive ways society treats replicants, which echoes the idea that "the world is built on a wall that separates kind," a line said to K by Lieutenant Joshi. Despite humanity's unwavering acceptance of this ideological wall, it ultimately proves to have negative consequences for both humans and replicants by inducing anxious paranoia in the former and social ostracization in the latter. For K, it leads to his seclusion from society despite living in the middle of Los Angeles, but on a deeper level it leads to a host of mental health issues that are revealed in how Gosling portrays K's character.

K is introduced as his vehicle flies on autopilot over a sun-bleached desert of solar panels and grubworm farms, and in this crucial moment of first impressions, the protagonist of the film is asleep at the wheel. The car startles him to consciousness when it approaches the destination and K woken from his slumber, and from this relatively boring first encounter with the central character of the film, Villeneuve offers immediate insight into K's state of mind. Throughout the film, K consistently appears locked in a state of unending exhaustion, portrayed by his tonally flat responses, a lack of changing expression, and the almost lethargic way with which he navigates the world. In his introductory fight with Sapper at the protein farm, K's expression remains stoic even when he is thrown through a wall, and he has no reaction at all when Sapper stabs him in the arm with a scalpel in the middle of their struggle. K's emotional detachment from the world could be the result of dozens of different mental illnesses, but the summation of his symptoms seems to point to a diagnosis of depression.

The American Psychiatric Association defines major depressive disorder with a range of symptoms, some of which are listed as "diminished interest . . . in activities" and "fatigue or loss of energy" (American Psychiatric Association 160-161). They note that some individuals experience "increased daytime sleep" in addition to their fatigue, as well as "psychomotor changes" that include "speech that is decreased in volume, inflection," both of which apply to K. It is noted that environmental factors can lead to the development of depression, such as "adverse childhood experiences" and "stressful life events," both of which K has experienced in the form of an implanted but still traumatic childhood memory and the daily abuse he receives from the people around him (166). K distinctly recalls being chased by a group of children who wanted his toy horse and being beaten by them for not giving it up. While the memory has been implanted, it becomes a real influence on the development of K's consciousness. Dr. Stelline, a

memory fabricator, tells K that the purpose of implanted memories in replicants is to "maintain a stable product," as by having "authentic memories, you have real human responses." Because the memory of the toy horse actually happened to Dr. Stelline, she undoubtedly imbues it with a stronger emotional impact that has a greater effect on K's mental development as a replicant. This makes the memory an artificially real aspect of K's personality that furthers the severity of his depressed mentality.

To make matters more difficult, K has almost no access to nature and the potential benefits of ecotherapy. Despite this, he interacts with elements of the natural world in several scenes throughout the film and appears to have positive reactions to the presence of nature. After killing Sapper, K hesitates before leaving and approaches a dead tree outside, where he finds a single yellow flower on the ground. The flower is in striking contrast to the lifeless landscape surrounding the bone-white tree, and as K picks it up and smells the petals, his expression slightly softens. Later, K is approached by a replicant sex worker named Mariette while examining photographs of the tree. She asks him about the images and says that she has "never seen a tree before," but calls it "pretty." K almost mournfully tells her that "it's dead," to which Mariette asks, "Who would keep a dead tree?" While his loyalty to Joi is the main reason for the conversation's awkward turn, Mariette's casual dismissal of the tree also plays a role in the tension, and as soon as she leaves, K returns to looking at the photographs. When K later prepares to burn down Sapper's house at Lieutenant Joshi's request to destroy evidence, he first returns to the dead tree outside, removes his glove, and places a bare hand against its trunk. This intimate contact with the tree suggests the biophilic longing for a closeness to nature and offers a contrast to the focus on pedestrian hands touching the self-serve product dispensers in the scene on the street, as if K seeks intimacy with the natural world rather than the technological. In the

same way K secretly desires to be the replicant child born of Rachel, he also desires to connect with nature on a deeper level, but he finds only death; he sees both the bones of his potential mother, Rachel, and the bones of a decimated Mother Nature in the dead tree.

Regardless of this acceptance of nature's death, K continues to seek it out whenever he can. After learning that the memory of the toy horse is real, K comes to believe it is *his* memory despite the plot twist that it belongs to Dr. Stelline. When Stelline tells him the memory is real, K explodes in anger and throws his chair back before storming out of the facility. He pauses outside and calmly watches snow fall onto his outstretched hand, his rage cooled by the falling flakes. Like with the flower and the tree, K demonstrates a desire to be closer to elements of nature by coming into physical contact with them. This hands-on approach to interacting with nature is repeated when K discovers Deckard's beehives in Las Vegas and places his bare hand inside the hive. Villeneuve places added emphasis on K's touching nature in how the camera remains focused on his bee-covered hand after K stands up. Interestingly, Payne and Pitsis' article on the relationship of touch and natural elements includes no mention of this scene, but the same growth in consciousness is present in K's interaction with the bees. The most impactful of K's tactile moments is in the moments before his death. Fatally wounded, K accompanies Deckard to meet his and Rachel's daughter, Stelline, at the memory facility. Deckard goes inside, leaving K by himself just outside the door. Knowing his death is near, K sits on the steps and holds out his hand to catch the snowflakes just as he did before, and he appears to be comforted by it in a similar way. Payne and Pitsis describe this scene as K's final moment of tactile enlightenment, the achievement of a new "state of awareness" that ends his journey with "personal epiphanies and a quiet and beautiful death in the snow" (Payne and Pitsis 68). By touching the snow, K physically connects himself to nature, or as Payne and Pitsis write,

connects to “the perception of something larger and uncontrollable” (68). From an ecopsychological view, K’s “state of awareness” is achieved through the fulfillment of biophilic attractions to nature that allow his death to be peaceful (68). His desire to come into contact with nature throughout the film reveals how strong his admiration of the natural world is and emphasizes the idea of replicants having human minds through an inherent attraction to natural imagery, an attraction that exists within the minds of all human beings.

K’s gravitation toward snow, flowers, and bees gives him a desire that not only reinforces the mentally healing benefits of nature, but also highlights *Blade Runner 2049*’s core question of whether or not artificial life is actually alive. Psychologically, replicants and other forms of artificial intelligence portray the same biophilic attraction expected of living humans and animals, and it is unlikely that this was intentional when one considers why a manufacturer would program a desire for nature in a world entirely devoid of it. K’s biophilic responses and the stress reduction he experiences in viewing natural images, then, upset the idea that he is not alive and ultimately add to his humanity. Like any other human, K’s unconscious mind is aware of the emotional need to be close to nature and leads him to quite literally reach out for it.

It is important to note that while studies on the theory of biophilia typically involve larger physical interactions with nature such as walking through a forest or completely immersing oneself in a natural environment, these are not the only way to encounter its benefits. Grinde and Patil write in their article “Biophilia: Does Visual Contact with Nature Impact on Health and Well-Being?” that “A visual presence of plants” and other images of natural elements, even when behind a window or on a painting, is enough to induce calmer minds and healthier lives,” which becomes a vital factor to an analysis of *2049*’s ecologically dead world (Grinde and Patil 2334). It is not required to stand in a real forest to improve one’s mindset as a result of biophilia,

in many cases something as small as a more natural aesthetic can have a meaningful impact on the mind. Grinde and Patil write, “Beauty has been defined as visual input that gives pleasure to the mind, thus [natural] aesthetics offer per definition a positive experience,” and this beneficial appreciation of nature’s beauty is repeated throughout *2049,* such as when K watches the snow or holds the yellow flower (2334). Many of the film’s positive interactions with nature are based on the character’s recognition of its beauty, which aligns with Grinde and Patil’s findings that a large aspect of ecoetherapeutic benefits derive from nature being “‘pleasing to the eye’” (2336). K’s benefits from natural elements manifest from his mind’s ability to perceive beauty, something that suggests his consciousness is becoming more alive.

Just out of Reach: Joi and Dr. Stelline’s Attempts to Touch Nature

An awareness of nature’s beauty occurs in many of the replicants portrayed in *Blade Runner 2049,* which interestingly outnumbers the awareness shown by non-synthetic humans. Joi, K’s holographic partner, has a scene in which she attempts to make physical contact with the natural world in the same way as K. After being transferred onto a portable device, K says, “You can go anywhere you want in the world now. Where do you want to go first?” and the scene transitions to a rainy rooftop. Joi emerges from the doorway, her expression one of cautious wonder, and walks into the rain while framed by the hazy glow of green-tinted lights, the green color providing a further visual reference to nature. She holds out her hand to feel the rain and, when the drops pass through her holographic form, she alters her appearance to give the illusion that the rain splashes onto her skin. Joi’s desire for contact with nature is clear from her decision to recreate the splashes; she doesn’t feel the rain and there is no real purpose to altering her form,

but in doing so she imagines herself closer to nature. Payne and Pitsis write that Joi "touches the rain as if to connect to a life current and experience something outside her own 'body'" in order to strengthen her developing consciousness (Payne and Pitsis 65). The camera's focus on her hand connects the image to the focus on K's hand as he catches the snowflakes, suggesting that she experiences the same psychological reactions to nature despite the differences in their creations. Through an intimacy with nature, artificial minds show biophilic responses that imply a deeper sense of life than the people of Los Angeles; replicants and holograms prove to be more connected to nature than humanity.

Of all the replicants, however, Dr. Stelline proves to be the one who acts on her biophilia with the most success, despite being imprisoned in a sealed room due to a compromised immune system. Her introduction is preceded by the first and only images of a complete and healthy ecosystem in the entire film, with sunlight streaming through leaves of a green forest filled with insects. The camera closes in on a beetle shifting through various designs, then cuts to the device Stelline uses to manipulate the virtual forest projected over her room. Villeneuve provides psychological insight into Stelline's character by situating her as a caretaker of nature in her first scene. Her admiration of nature is revealed from the incredible amount of detail shown in the forest compared to her other virtual creations. The birthday party Stelline creates is comparatively bland, consisting only of a cake and children, while the forest contains endless details that are emphasized by how the camera cuts to closer shots of the scene, ending with a macroscopic view of the beetle's eyes. This ecological reverence also exists in the final scene of the film when Deckard interrupts her as she stands in the column of holographic snow. The shot opens with a close-up of Stelline's hand as holographic snowflakes pass through her palm, mirroring the same shots used with Joi and K and concluding a biophilic spectrum that includes

three different forms of computer programs demonstrating the same human attraction to elements of nature. Payne and Pitsis write that the interactions with natural weather are "indicative of the replicants' capacity to feel and love," and while the article does not discuss the holographic snow, Stelline's desire to touch the snowflakes undoubtedly demonstrates a biophilic response that signifies her humanity (Payne and Pitsis 70). Before turning from the snow to greet Deckard, Stelline says, "Beautiful, isn't it?" in reference to the snow, her recognition of beauty echoing Grinde and Patil's thoughts on biophilic attraction. Observing and caring for the creation of virtual nature becomes something similar to hydroponics or horticulture—a virtual form of restorative ecotherapy that allows mental healing through artificial immersion in the natural world.

The ability to engage with natural imagery whenever she wants proves to have positive benefits, as Stelline displays signs of a stable mental health compared to many of the other characters. After her work on the beetle, she approaches K and the camera cuts to the first image of her face, which is marked by a smile, an image that contrasts K's opening emotion of exhaustion. Throughout her conversation with K, Stelline is shown to be his emotional opposite by the range of feelings she expresses, such as fond happiness at creating memories and the tearful sadness at rewatching one of her own. Whereas K navigates his social interactions with guarded caution and flat emotions, Stelline embraces her feelings and seems to have no issues with expressing them. This seems unexpected when one considers her life, which is arguably more traumatic than K's; Stelline was not only abandoned by her parents who she believes left her behind on Earth, but she is unable to ever leave her sealed, windowless chamber to see the outside world. Stelline explains that her parents put her in the room and "filled it with everything they could to keep me happy, except company, of course," which would ordinarily be cause for a

myriad of mental illnesses to develop simply from the unending social isolation. Yet in her scenes of social interaction, Stelline appears to be a person of good mental health. The solitude she shares with other characters in *2049* is offset by the fact she "got very good at imagining" scenarios to distract her from her isolation, much in the same way K has Joi, but the difference lies in the access to nature her virtual reality grants her.

Since ecotherapy typically involves outside interactions with nature, it might seem problematic that Dr. Stelline never interacts with a natural environment at all. The restorative ecotherapies that do occur indoors tend to rely on potted plants, indoor gardens, or some other physical presence of nature to achieve their benefits, but there is growing research showing the potential benefits of an entirely digital experience with nature. In their article, "A Prescription for 'Nature' – The Potential of Using Virtual Nature in Therapeutics," Matthew White and several other researchers describe the mental health benefits of interacting with nature through virtual reality, and their findings support Stelline's mental stability in the face of her trauma and solitude. The article includes several studies that look at a variety of patients viewing virtual nature, and the results show decreases in anxiety and even "happier emotional states" because of their time in these artificial green spaces (White et al. 3003). Stelline's use of virtual forests and snowfall, then, are acceptable forms of ecotherapy supported by the scientific community, and her reliance on virtual nature provides her with an emotional stability not felt by many of the other characters in the film.

Living Deliberately in the Radioactive Exclusion Zone: Deckard

The character who exhibits the highest amount of solitude in *Blade Runner 2049* is Deckard, the protagonist of the previous film played by Harrison Ford. Sanna designates Deckard as "the epitome of loneliness," a man who "renounced the company of all human beings to live in the radioactive, abandoned environment of Las Vegas" (Sanna 190). As if to reinforce his social isolation, Deckard makes his first appearance nearly two hours into the film when K seeks him out to find answers about his birth. Despite the conditions outside, which Villeneuve portrays as a desolated sandy wasteland lit by a hellish orange glow, the interior of Deckard's home is warmly decorated with items preserved from the time before bombs destroyed the city. Sanna writes that Deckard's apartment is "the only exception" to the cinematographic solitude utilized by other scenes in the film due to the inclusion of "artefacts, books and photos recalling and embodying his memories," as if Deckard is able to create for himself the warmth other places are unable to maintain (Sanna 191). This comfort is only possible outside of the overcrowded city and its cramped apartments, in spacious abandoned buildings with the storage capacity for everything Deckard wants to hold on to. Though his desire to hide his child's identity is the initial reason for his retreat to Las Vegas, Deckard manages to create a solitary life for himself in the wastes that is markedly better than those of the other characters shown. He has access to music he enjoys, books to read, and space to simply be by himself following the death of Rachel. Gaff, a man who worked with Deckard in the past, confirms this willing self-isolation when he tells K that, by moving to the Las Vegas wastes, Deckard "got what he wanted. To be alone." His comparative joy comes not from holographic companions or financial domination, but from a humble embrace of nature.

Deckard's social isolation began after the replicant he was in love with, Rachel, died in childbirth, something that had been thought to be impossible for replicants. Rachel was buried at Sapper's farm and the child was sent to an orphanage, where she disappeared into the system after the "Blackout came, paved over everything." With the love of his life dead and no way to connect with his lost daughter, Deckard retreated into himself and chose to stay in Las Vegas alone, where he lived with grief and solitude for decades prior to *2049*. Ordinarily, the decision to become a solitary hermit following the loss of one's family would be an unhealthy method of coping with pain, but Deckard manages to occupy his time with activities that give him a sense of purpose while simultaneously bringing him elevated mental health. Despite living in a fallout zone that is extremely hostile to life, Deckard finds a way to connect with nature that grants him ecotherapeutic benefits.

Aesthetically, Deckard's home is filled with natural imagery. The apartment he lives in features floor to ceiling windows that dominate the room's design and provide both the external glow that illuminates the room and a bird's-eye view of the outside world. Deckard has amassed shelves filled with books, various paintings and music albums, and even a dog that K studies with curious surprise. Deckard's home reflects a world that is noticeably less cyberpunk than that of Los Angeles. The blue lighting present in city shots is replaced by the warmer orange, and the marbled walls offer a much more natural aesthetic than metal or plastic. In addition to the presence of an animal companion, Deckard's apartment also features rows of hydroponic jars along the windows on at least two different floors, which draws further similarities between Deckard and the people of *Neuromancer*'s Zion. The hydroponics, in addition to the beehives, suggest that Deckard is able to produce his own food, and the act of gardening provides him the same ecotherapeutic benefits enjoyed by the Zionites and their hydroponic farms of vegetables.

These mental benefits also extend to others, as one scene shows K peacefully lounging in a chair outside on the balcony, his eyes closed in the meditative quiet. Joi also finds comfort in the apartment, at one point kneeling in front of the hydroponic jars and peering at the plants growing inside with curious fascination. Deckard's apartment stands as a noticeable break in the tension created by the film's conflict, an oasis in the Las Vegas desert that gives all who visit the chance to get away from the chaos of city life and restore their minds. By establishing his home far away from human society, Deckard discovers a chance at a blank slate for nature to possibly take root in. In abandoning the city and embracing nature, he reveals the cyberpunk genre's underlying idea of the natural world as a vastly more important place than the neon city streets.

When K first arrives in Las Vegas in search of Deckard, he scans the ruined city through the eyes of a drone and discovers small heat signatures moving through the air between crumbling statues of giant people. He says to Joi, "Life," and then sets out on foot to investigate the source. Upon reaching the statues, K glances down and finds his answer in the form of a honeybee that has landed on his hand, and a closer look reveals a collection of beehives situated between the statues. When one considers that bees are vital to the success of healthy ecosystems and agriculture, the ecological collapse that caused mass extinctions of plants and animals in *Blade Runner 2049* undoubtedly involved the decimation of the global bee population. This is suggested by K's confusion at seeing a bee as well as the fact plant life, which relies on pollination by insects like bees, is nonexistent in every scene of the film. Despite this, hundreds of bees fly around the hives in Las Vegas, maintained and kept alive by the only person still living there: Deckard. Villeneuve's placement of the hives in the middle of destroyed statues of giant humans is a beautifully symbolic suggestion that honeybees, that *life* itself, can only make its return in the fall of a humanity that has become larger than it was ever meant to be. The bees

are only able to survive in these wastes because of one man, Deckard, who takes it upon himself to manage the hives in an attempt to restore their numbers and improve the quality of his own life. Karin Alton and Francis Ratnieks discuss the mental benefits of beekeeping in their article, "Can Beekeeping Improve Mental Wellbeing during Times of Crisis?," in which they describe beekeeping as a meditative activity that becomes a "valuable tool in alleviating mental health problems such as depression, trauma and anxiety," especially during periods of social isolation (Alton and Ratnieks 2). The study's findings are similar to the results found by the researchers analyzing the mental benefits of gardening discussed with *Neuromancer'*s Zionites, as both involve caring for forms of nature. Deckard's care for bees proves that he is able to overcome his eco-paralysis in the face of ecological collapse and restore his mind alongside the environment, a feat that creates an ecopsychological feedback loop that heals his mood as he heals the land.

Deckard's ability to push past the hopelessness of the climate crisis by caring for bees also suggests he is still hopeful in the face of environmental collapse. By caring for the insects most responsible for the pollination of plants and stability of ecosystems, Deckard becomes perhaps the only character shown in the film with the desire and ability to introduce flowering plants back into the world, which would be the first step in reviving the collapsed ecosystems around him. While the film does not elaborate on this point, it brings to mind the question of who left the yellow flower at Rachel's grave, as Deckard's emotional attachment to Rachel coupled with his access to pollinating insects could suggest the flower was grown by him and taken to her place of rest. If this is true, Deckard's solitary life in nature not only allows him to find his own peace, but spread that tranquility to K, who only discovered Rachel's body after noticing the flower. Without even realizing it, Deckard's humble embrace of nature could very well be what indirectly leads to a chain reaction of replicants benefiting from the natural world.

Throughout *Blade Runner 2049*, humans and replicants alike are shown to be united in their benefit from ecotherapeutic practices. Whether this comes in the form of caring for bees, spending time in virtual nature, or simply reaching up to touch a falling snowflake, characters repeatedly demonstrate that the theory of biophilia guides them toward an intimacy with the natural world. The varying forms of natural interaction prove to have lasting positive effects on the minds of characters like Deckard, who heals himself as he heals an ecological wasteland, and Dr. Stelline, who combats her isolation with holographic simulations of nature. Others, like K and Joi, prove to not only find comfort and happiness in the natural world, but potentially further the development of their consciousness. The film is overwhelmingly laced with ecological criticism, but by applying a more psychological understanding, it reveals characters who react in line with the findings of ecotherapy once they open themselves to accepting its healing. By examining the film with this ecopsychological understanding in mind, the power and importance of the natural world is further solidified within cyberpunk fiction.

CHAPTER 4. ECOTHERAPY VS. THE PATRIARCHAL EGO IN JEANETTE WINTERSON'S *THE STONE GODS*

Jeanette Winterson's novel, *The Stone Gods*, offers a view of two worlds with drastically different ecological states and connects them by one core theme: humanity's search for progress will always result in the destruction of nature. The book opens in a cyberpunk world called Orbus, where technology has destroyed the planet's natural ecosystems and driven a now endangered humanity to seek salvation in the stars. Much like in *Blade Runner 2049*, the world is depicted as irreversibly destroyed by consumerism and pollution, though Winterson contrastingly paints her descriptions of life on Orbus with brighter colors and characters. The result of this relatively cheerful palette is a world that feels even more hopeless due to society's complete dismissal of the problem; rather than accepting the importance of nature and working to repair the damage done, people immerse themselves in extreme luxuries and distracting pleasures in an attempt to ignore the collapsing ecosystems around them. Unsurprisingly, this leads to both physical and mental consequences for the people living on Orbus. The characters of *The Stone Gods* are host to various mental illnesses that can be directly linked to the state of their environments, as the fluctuations in their moods and emotions only occur when an ecological change of scenery takes place. It is only when the main characters embrace the sanctity of a pristine natural environment that they begin to heal. *The Stone Gods* offers a clear view of the paradoxical idea of humanity's need for nature and the destructive methods used to find it, and by highlighting nature as a place of healing, Winterson places clear emphasis on nature's power against a cyberpunk society.

The Stone Gods is divided into four sections across time and space, and as a result, only the first section, titled "Planet Blue," is relevant to a discussion of cyberpunk settings. To briefly summarize the relevant plot points of this section, the ecology of Orbus is dying as a result of climate change. Society sees no value in the natural world, with only the protagonist Billie Crusoe appreciating nature on her farm. When scientists discover a new world, Planet Blue, that could provide humanity a second chance with its pristine ecosystems, the world places their hope in the stars. Before the government can begin to colonize this world, they argue that it must first be made suitable for the people of a high-tech world to live on, which involves killing the more dangerous native lifeforms and setting up infrastructure for cities. A man named Captain Handsome is tasked with hunting the native dinosaurs, and while flying Billie and others to Planet Blue he has the idea to redirect an asteroid to more efficiently solve the problem. His plan backfires, though, and Handsome accidentally causes an ice age that results in mass extinctions on the new world as well as the first deaths of the novel's recurring protagonists.

Orbus' Search for Ecological Dominance

Despite having mere decades of habitability left in their dying world, the people of Orbus do not appear concerned with attempting to solve the problem. Instead, they exist in a distracted world of complacency built on the idea that the problem is not theirs to worry about, or as Pink McMurphy says, "The techies will fix it—they always do" (Winterson 71). Due to their inability to accept the blame, the people of Central Power express no despair or solitude in the way the society of *Blade Runner 2049* demonstrated. The cyberpunk citizens of *The Stone Gods* have blindfolded themselves from seeing that their actions have caused nature to collapse, but they do

not feel remorse simply because they have become so obsessed with themselves that they are unable to see the reality around them. Through her descriptions, Winterson's society is shown to be hedonistic, self-centered, and obsessed with distractions, a world where pedophilia and child sex trafficking is a socially acceptable business model and keeping up to date on the latest celebrities is the most important form of news. As with most cyberpunk works, this society is ruled by an unbalanced democracy that "never claimed to be a democracy," one where "leaders look like star-gods and the rest look like shit-shovellers" (Winterson 19).

Consumerism runs rampant on Orbus and no one seems willing to accept that this excessive production and consumption is the source of their planet's problems, something made especially clear in a scene where citizens compete for a ticket to Planet Blue on a televised contest. To win, the contestants must provide ideas for what they would first do upon arriving to the planet that are then voted on by the audience. Contestants' suggestions are entirely limited to continuing their current lifestyles on Planet Blue. One participant wishes to build a shopping center, another suggests an online celebrity-chasing startup company, and one even offers to solve the "number-one issue facing the world today" by creating better parking lots on Planet Blue (Winterson 35). Despite the impracticability of these ideas on a world with no infrastructure, the audience cheers for each suggestion. The only contestant they fail to applaud is one named Nomad, who says "I'm frightened that the world is ending. I don't want to die" (35). To this, the host apologizes to his audience and has Nomad escorted off the stage. Although they are the only contestant to consider the gravity of their planet's situation, Nomad is dismissed because their words introduce anxiety into an audience that desires only the pleasures of their cyberpunk lifestyle. The people of Orbus have become completely preoccupied with themselves to the point that no one is willing to accept that their primary reason for leaving

Orbus is one of survival over luxury. This deliberate forgetfulness prevents them from considering a future lived in harmony with the natural world, even when the alternative is to repeat the same mistakes that destroyed their world.

Only Billie and Spike, the two recurring characters throughout the novel's jumping timeline, seem capable of understanding the need to live with nature in order to survive on Planet Blue. Having lived in the only healthy ecosystem described on Orbus, Billie has intimate firsthand knowledge of the importance of natural spaces. Spike, the Robo *sapiens* who becomes romantically involved with Billie, also has experience with the natural world after being a member of the first party who traveled to Planet Blue prior to the novel's opening. Both demonstrate their belief that humanity is the problem and that the solution to ecological destruction is to abandon past ways of living. In an address to the public, Billie answers questions about Planet Blue and remarks that it "offers us the opportunity to do things differently" and develop a civilization able to "learn from our mistakes," yet she appears to be mostly alone when it comes to this line of thinking (6). Immediately after she delivers these lines, the President of the Central Power gives a speech in which he notes that all of Central Power's space discoveries "belong to us" in the same way "the Indies, the Americas, the Arctic Circle" belong to the ones who found those lands (5). In addition to this destructive colonial mindset and the negative associations it calls to mind, he also vows that the dominant inhabitants of the planet, the dinosaurs, will be "humanely destroyed" apart from a handful of species to be kept in a zoo (5). By proudly giving such a speech to the world, the President acknowledges that they will carry out the colonizing mission exactly as previous nations did in the past—possessively and with no respect for the life that already lives there. The ideological contrast between Billie and her nation's leader is blatant and suggests that the desire people claim to have

for starting over is built on empty ambition. Humanity will do what it has done for centuries: destroy new lands in the name of progress.

Theodore Roszak writes about mankind's abuse of the environment throughout history in his book, *The Voice of the Earth*, where he attempts to explain human psychology's effect on the natural world as well as the natural world's effect on the mind. He argues that the destruction of natural environments is ultimately the result of narcissism and overinflated egos that drive humanity to feel like gods of the world, with the establishment of cities the result of a mankind that has become "corrupted to their core by patriarchal values" centered on dominating nature (Roszak 234). According to Roszak, today's ecological crisis is largely the result of this transition to the more destructive male forces of civilization, toward a disregard of Mother Earth in favor of kings and patriarchy. He notes that much of early history was inhabited by societies that were "matrilineal, relatively egalitarian, nonmilitaristic" and "based on the cult of the goddess," something that explains the historical tendency for nature's tendency to be characterized as feminine (234). Once humanity established itself as reliant on itself more than nature, it began its charge toward a more forceful, male-dominated civilization. Throughout *The Stone Gods*, this patriarchal mindset held by society takes Roszak's ideas to the extreme, eventually leading to the destruction of Planet Blue at the hands of men seeking to control nature.

The personification of patriarchal ego in the novel is a man named Captain Handsome, captain of the ship that takes Billie to Planet Blue and the man who accidentally destroys the planet. Handsome is introduced as a "space privateer" who "had been trophy-hunting the Jurassic equivalent of Big Game" on his previous trip to that world (Winterson 46-7). Interestingly, Roszak writes that the "matrifocal golden age" of ecological reverence that existed before

civilization was only able to exist “until the time of the big-game hunters,” when men’s egos drove them to hunt more for materialistic sport than sheer survival (Roszak 235-6). Handsome proves to follow Roszak’s explanation of the patriarchal ego quite literally in his status as a dinosaur hunter, standing as the violent, masculine counterpart to Billie and Spike’s more ecofeminist respect for nature. The similarities continue in a more active sense when Billie, Spike, and Pink are discussing poetry aboard the ship to Planet Blue and Handsome interrupts them with his solution for ridding the planet of dinosaurs: redirecting the “arch-mother of all asteroids” to collide with Planet Blue (Winterson 67). Winterson writes, “The men filed in behind him” as he explains the procedure to “destroy the larger lifeforms” on the planet, and between Handsome’s lines are discrete snippets of conversation between Spike and Billie about their love for one another (68). This scene echoes Roszak’s ideas on the ideological differences men and women have toward ecosystems, with men seeking dominance and violence while women gravitate toward art and love. Handsome describes his reward for killing the dinosaurs like a medieval lord establishing his kingdom, telling Billie, “I will take my share of a vast virgin country bounded by rivers. Dragon, kingdom, and . . . princess [Spike],” placing him alongside the men throughout history who originally conquered both nature and women through violence (48). Handsome aligns with Roszak’s descriptions of the patriarchal ego almost too well, and by establishing him as Billie and Spike’s moral opposites, Winterson places her hope for the future in the hands of ecofeminism.

Through characters like Handsome and the Central Power president, Winterson reveals the ecologically indifferent states of mind held by members of her patriarchal society. By not standing up against these values, the people of Orbus become a part of that corrupt mindset by choosing a life of extravagance over a respect for nature. They find comfort only in the

materialistic, consumerist possibilities of a future on Planet Blue, and their refusal to consider the negative effects that this lifestyle brings ultimately paints them as self-centered and narcissistic. The only way to avoid repeating the destructive mistakes of Orbus' past is to understand how the problem came into being and work toward solving it before it happens again, a solution Winterson suggests lies within the ideals of ecofeminist change. The people of Orbus, however, prove they do not want such an existence if it comes at the cost of their luxury, and this extension of the patriarchal mindset only accelerates their planet's destruction.

To Walk in the Woods: Billie's Bubble of Eden

Billie stands as one of the few characters who actively accepts that changing away from the patriarchal mindset is the only way to survive in the long term, and this understanding ostracizes her from the people around her. As an employee of Enhancement Services, Billie's job is similar to a counselor or therapist who strives to convince people to make decisions that are "good for them and good for the Community," something she does by carrying out home visits to individuals experiencing crises (Winterson 10). Despite being responsible for guiding peoples' decisions, Billie herself is dissatisfied with life on Orbus and the realization that the natural biosphere is coming to an end. Even outside of this apocalyptic awareness, Billie's feelings and beliefs about life do not align with those of the society around her. She appreciates all things natural, ecologically but also physiologically in her rejection of an implanted chip and genetic Fixing of the aging process, both of which are embraced by the world. Her home is a farm encased in a protective bio-dome far outside city limits, one of the last naturally pure places on the planet and an opposite to civilization. Billie clings to a way of life that no longer exists, and

her gravitation toward less technological objects, such as her refusal to use the SpeechPads to take notes and attraction toward the "old-fashioned charm" of a notebook and pencil, and this sets her far apart from the cyberpunk world she inhabits (8). Billie is the thematic opposite of *Neuromancer*'s cyberspace addicted Case, as she is presented as the total personification of the natural world. This perceived strangeness and inability to fit into her cyberpunk society drives Billie to live life as a sort of hermit in her bio-dome where she becomes Orbus' last guardian of natural ecosystems, and by placing her as the hero of the novel Winterson reveals another example of the cyberpunk genre's belief in a personal connection to nature as more important than one to technology.

In a cyberpunk society, though, Billie's differing perception of the world drives her to become isolated and depressed. Her depression needs no detective work to uncover, as she directly admits to it in the early pages of the novel. When Manfred orders her to go buy a better dress for a televised interview, Billie shows a sarcastic lack of interest in updating her appearance. She goes to the mall anyway, noting, "I should be glad to be shopping in work time, but I'm not glad about anything. In fact, I'm depressed, which is pretty much illegal" (23). This suggests not only that Billie differs from the world in that she finds no pleasure from self-image or consumerism, but also that the world as a whole is heavily discouraged from feeling any negative emotions whatsoever, which is supported by Manfred's insistence to only speak positively about the state of Orbus during interviews. Those with depressive thoughts are required to be "referred to someone from Enhancement" so that their lives may be evaluated and changed for the better, yet Billie ironically notes that she is "someone from Enhancement, and [she is] depressed" (23). As a worker for Enhancement, it is Billie's job to "explain to people that they really do want to live their lives in a way that is good for them and good for the

Community," placing Billie as a sort of counselor who helps people facing difficult decisions in life (10). That someone from Enhancement suffers from depression suggests that no one actually knows what they are doing with regards to the emotional maintenance of society. Emotions like joy are achieved through typical cyberpunk methods, the quick distractions of entertainment media or consumerism, but these moments of surface-level happiness only work to keep the attention away from the death of the biosphere. Remove the neon blindfold and one is able to see the smoke on the horizon. For Billie, though, she never put the blindfold on in the first place. She has watched the ecosystem collapse entirely without any real attempts to stop it, and because of this she experiences the symptoms of despair and hopelessness that typically accompanies the observation of environmental destruction, feelings that researchers refer to as ecological grief.

In their article, "Ecological Grief as a Mental Health Response to Climate Change-Related Loss," researchers Ashlee Cunsolo and Neville Ellis define ecological grief as "grief felt in response to experienced or anticipated losses in the natural world" (Cunsolo and Ellis 279). They write that witnessing ecological loss can lead to a range of negative emotional states "particularly for people who retain close living, working, and cultural relationships to the natural environment" (275). It follows that Billie, who cares for the last natural farm in the world, would understandably suffer the effects of ecological grief in *The Stone Gods* as the environmental destruction moves beyond the local and into the global. Billie is unable to find hope in the Anthropocene, an era where world leaders have entirely given up on saving the biosphere and settled on starting over on a new world, and adding to this hopelessness is the fact that she feels entirely alone in her suffering due to society's intentional ignorance of the danger. At one point, Manfred confronts Billie about her indifference toward fixing the planet and argues that there is still hope, but Billie dismisses his hope with responses full of apathy. Manfred suggests that she

should care about the state of Orbus, but Billie "[does]n't bother to answer" him and instead repeats Spike's observation that "It's too late" to change anything (Winterson 31). There is a reversal of roles here, with the ecologically-minded Billie indifferent to any effort to save Orbus and the cyberpunk-minded Manfred preaching that she should do her part to help, and this cynical inaction on the former's part is a perfect example of the "apathy, numbness, loss of control" and "eco-paralysis" mentioned by Thoma et al. that occur from witnessing the "global scale of the [climate] crisis" (Thoma et al. 9). Manfred, desperate for any chance of survival, believes in the false hope that Orbus can be saved, but Billie knows such a feat is impossible due to men like Manfred's own selfish interests over the past few centuries, the result of patriarchal values and a firm denial of a truth too socially disruptive to be accepted.

Billie manages to offset the pain of her ecological grief by returning to her farm and caring for the plants and animals there, but the small plot of natural purity becomes a reminder that Orbus is dying. Every time Billie sets foot outside her farm, she enters a world that is beyond saving, where nature is lost and the only hope for human survival is to abandon Orbus altogether. Seeing her own healthy bubble of nature every day prevents her from adapting to and normalizing the outside eco-catastrophe that society sees as everyday life, making every view of polluted nature just as jolting as the first view. This helps to explain Billie's depressive symptoms while outside of the farm; nature has aided her mental state, but at the same time it prevents her from mentally adjusting to the red dust and hazy smog that surrounds her.

That said, the benefits Billie receives from her farm are undoubtedly worth her inability to become acclimated to her planet's approaching death. Winterson writes, "And in the middle of this hi-tech, hi-stress, hi-mess life, F is for Farm. My farm. . . . the last of its line–like an ancient ancestor everyone forgot. It's a bio-dome world, secret and sealed: a message in a bottle from

another time" (11). Taking the road to her farm, she notes, "whatever I say, whatever I feel, this is home, and I am going home" (39). Once she reaches her farmhouse, she sleeps "long and deep, like someone who does not dream because she is dreaming already," as if her small slice of nature stands in such stark contrast to the rest of the world it feels unreal and dreamlike (40). Billie's home, much like *Neuromancer*'s Zion Cluster and Deckard's solitary Las Vegas apartment in *Blade Runner 2049*, is an oasis in the ecologically collapsing Orbus, an island of nature disconnected from the futuristic aesthetics expected of cyberpunk. Her farm is the only example of a healthy, untouched ecosystem Winterson describes on the entire planet, and the fact that Billie chooses to live in such a natural environment reveals a closeness to nature not present in other members of society. The repeated interaction with nature also serves to alleviate her stresses, indicated by her deep sleep and the comfort she feels once inside the dome. By continuously immersing herself in this pristine natural world, Billie is able to reap the benefits of a form of ecotherapy known as Shinrin-yoku.

In their study, "Trends in Research Related to 'Shinrin-yoku' (taking in the forest atmosphere or forest bathing) in Japan," Yuko Tsunetsugu and other researchers point to Shinrin-yoku as "one of the most accessible ways to get in touch with the natural world" in a manner that triggers a positive biophilic response by merely being in a forest (Tsunetsugu et al. 28). They note that these effects are caused through immersion in the forest with the five senses, which separates it from being the result of only viewing natural images typically observed with other biophilic experiments. When one applies the concept of Shinrin-yoku to Billie and her farm, it becomes clear that she encounters a similar benefit. Winterson describes the farm as more than a simple plot of tilled soil, writing of "woodland belts that hold the fields," "blue violets that grow where the cattle go," and "carp dozing on the riverbed," indicating that the farm is better

described as a forest or grassland that includes a large stream filled with fish (Winterson 12). Roger Duncan's own section dedicated to Shinrin-yoku in his book, *Nature in Mind*, describes "open spaces, non-threatening wildlife, plants, and flowing water" as necessary to cause a biophilic reaction associated with the practice, and Billie's farm perfectly fits this description (Duncan 47). Every day of her life, Billie returns from the stressful and depressing world in which she works and rejuvenates her mind through her own bubble of preserved nature.

Camping on Planet Blue: Nature-Based Recreation Therapy

While forest bathing is a short-term dip into natural forests, Billie and her companions experience the ecotherapeutic benefits associated with a longer, more active retreat in nature after their arrival on Planet Blue. Each character experiences this natural getaway in their own ways, but all appear to benefit from their extended time in the jungles of Planet Blue. Several days after arriving, Billie, Pink, and Spike visit a lake near their landing spot and paddle canoes across its surface. Spike leads the group, having been to Planet Blue once before. While engaging with the lake, the characters talk with one another about the water's beauty and nature's importance, and although Billie becomes angry at Pink for overturning their canoes, the three come away from the experience with highly lifted mental states. Since the section is from Billie's perspective, she is the easiest character to observe an emotional shift in once the lake adventure has ended. Immediately after their time on the water, Winterson writes

> Back at the Ship, the mood was high. The beauty and strangeness of Planet Blue intoxicated everyone. We were happy. This was unbelievable luck. It felt like forgiveness. It felt like mercy. We had spoiled and ruined what we had been given, and

> now it had been given again. This was the fairytale, the happy ending. The buried treasure was really there. (Winterson 73)

This description of happiness, especially from the character who had admitted to her own depression earlier in the section, shows a clear emotional improvement compared to the time spent on Orbus. By being fully engaged with the natural world and actively taking part in social and physical activities, Billie and the others find a happiness they never experienced in the cyberpunk world of Orbus by participating in a form of ecotherapy referred to as nature-based recreational therapy.

In their article, "The Promise of River Running as a Therapeutic Medium for Veterans Coping with Post-Traumatic Stress Disorder," Daniel Dustin and other researchers studied the therapeutic effects a recreational stay at a river camp had on military veterans suffering PTSD and anxiety. The methods used by the researchers bear a striking similarity to Billie, Spike, and Pink's experience, as both are centered on being fully engaged with nature, paddling across water, and evenings spent eating together and talking. Dustin et al. emphasize the recreational aspect of the trip, writing, "We did not intend this to be a 'clinic on the woods,'" which can also be said of Billie's group (Dustin et al. 333). Yet both Billie and the veterans of this study find healing in their retreat. The anecdotal benefits from this experience point to nature-based recreation therapy as an effective aid for individuals with mental illnesses like PTSD, depression, and anxiety. Although Billie and her companions are not veterans, the study's results can still be applied to the group's experience on Planet Blue as a means of explaining their elevated emotional states in response to recreational activities in nature.

Of all the members of Billie's group, Pink McMurphy, winner of the previously mentioned contest awarding a trip to Planet Blue, appears to heal the most from her time in

nature. Though her psychological backstory is not explicitly provided, Pink suggests she suffers from an anxiety disorder when she tells Spike about "having a nervous breakdown" while on Orbus, and her desire to reverse her age presents the possibility of a struggle for identity (Winterson 64). When she first arrives at Planet Blue, she treats the place as one of danger and is reluctant to get in the primitive canoe. Once on the lake, she falls into the water after losing her wine to a giant fish and angrily says, "Nature's unpredictable - that's why we had to tame her. . . . I want to be able to go out for a drink without getting hassled by some gawp-eyed museum-quality cod" (Winterson 72). In saying this, Pink reveals the state of anxiety she feels at being in such a foreign land as well as her ingrained acceptance of the patriarchal mindset that led to Orbus' destruction. She is at first resistant to ecotherapy on Planet Blue because, much like *Neuromancer*'s Case, she does not initially feel safe to be there and responds to her environment with hostility. Fortunately, her outlook changes due to being accompanied by the best possible person to help her to see nature as less threatening and begin healing: the former farm owner and Enhancement counselor, Billie Crusoe.

Billie, with her experience working on Orbus as one who guides the well-being of others, fulfills the role of a therapist for Pink after arriving on Planet Blue. Dustin et al. note that recreational forms of ecotherapy typically involve a "three-way relationship between the client, therapist, and nature, where nature itself is considered a co-therapist and educator," and this relationship is abundantly clear in this section of the novel (Dustin et al. 330). With Billie as therapist and Planet Blue's ecosystem as co-therapist, Pink and Billie discuss the same issue Billie had initially been assigned by Enhancement to solve: Pink's age reversal. While Billie had been unsuccessful in convincing Pink to change her mind on Orbus, the ecotherapeutic experience of their unofficial recreation therapy results in a breakthrough for Pink. Following

their trip to the lake, Pink, who had previously praised lab-grown meat and high-tech artificiality, decides she wants to open a restaurant that serves "old-fashioned" natural food, her use of "old-fashioned" bringing to mind the "old-fashioned charm" Billie likes about using a pencil and paper, something that suggests Pink's mindset has become more like Billie's (Winterson 74, 8). Billie tells Pink the restaurant would "lack seriousness" given her intention to rewind her age to that of a twelve-year-old, but Pink says, "I might have to reconsider [the reversal]. Besides, I haven't missed Ted at all while I've been away" (74). The answer to Pink's identity crisis had been hidden from her while on Orbus, but it is revealed after a guided form of ecotherapy and her mental state is improved. By discussing the same struggle on two different worlds, Winterson suggests the power nature has over the city as well as the idea that disconnecting from the cyberpunk world and reconnecting to the natural world provides a more successful chance to heal.

The Robo *sapiens* Spike's mental state also improves from nature, with her time in Planet Blue's jungles working to further develop her consciousness. Winterson takes a route similar to the one in *Blade Runner 2049* by having her artificially intelligent robots gain minds that seem more alive following time spent in nature. The line between man and machine is drawn at a biophilic response to natural environments, and Spike's adopted appreciation of nature suggests that she has crossed this boundary. When Billie interviews her following Spike's return from Planet Blue at the beginning of the section, Spike tells Billie she is "not a machine" anymore, that Robo *sapiens* have "broken those limits" that were placed on their mental evolution (Winterson 29). She then asks Billie to help her escape her impending dismantling, her desire to continue living and return to Planet Blue a direct result of her previous journey into the jungle. Nature has awakened Spike's consciousness, allowing her to evolve from an analytical computer

that studies atmospheric chemical compositions to a living mind who falls in love and recognizes beauty. Much like with the replicants of *Blade Runner 2049*, a biophilic response is the primary factor that drives Spike's transcendence of her programming. Though the intricacies of Robo *sapiens*' path to mental independence are uncertain, it is clear that Spike has discovered her own independent thinking after returning from her first experience with unmarred natural beauty on Planet Blue.

Spike's elevated state of mind is also tied to her and Billie's ecofeminist outlook on the new world. Artificial intelligences like Spike are able to see nature purely and without human imperfections like the patriarchal ego twisting their view, and this is demonstrated through Spike's eye color. When she meets Spike, Billie becomes "fully focused on those green liquid-crystal eyes," the image significant in its relationship to nature as well as its parallel to *Blade Runner 2049*'s opening close-up of a green eye (Winterson 30). Spike sees the world through green eyes, through eco-friendly eyes that reject the technology of her cyberpunk world in favor of nature. She has no need for Orbus technology at all in order to live on Planet Blue when she tells the others, "The one thing I need to survive is sunlight" to charge her solar powered batteries (Winterson 77). Like Billie, Spike understands that the only way to keep Planet Blue safe is by developing a "hi-tech, low-impact society," and Spike's solar batteries are a step away from electric chargers and toward a clean, natural energy source (32). Spike becomes the ultimate symbol of nature's power over technology. She is an android lifeform, one of the major tropes in cyberpunk fiction, who is turned against her cyberpunk lifestyle as a direct result of an exposure to nature. Once again, Winterson declares nature triumphant over the cyberpunk world, better not only as a source of power but also as a source of mental improvement.

Through an understanding of ecological concepts like patriarchal ego, Jeanette creates a world that has exploited nature to its death. Within this dying world is a society filled with self-obsessed people who refuse to accept that their lavish way of life is the cause of their planet's uninhabitability. Only a handful of characters, typically those who have been previously exposed to natural environments, admit that humanity's progression is to blame and express a willingness to change. Billie Crusoe, benefiting from the ecotherapy practice of Shinrin-yoku through her farm, is able to find peace of mind and a deeper respect for nature. She shares this appreciation with Spike, a Robo *sapiens* whose mind is further evolved by nature, and Pink McMurphy, who reluctantly comes to see nature as beneficial after arriving on Planet Blue. Together, these women offer a hopeful alternative to the ecologically destructive patriarchy that is so efficient at wrecking new lands, but this hope lasts only long enough for that male-dominated line of thinking to lay waste to Planet Blue and all the ecotherapeutic benefits offered by its pristine natural ecosystem. While mankind may always seek to destroy, Winterson suggests through her novel that nature will always offer the chance to heal.

CHAPTER 5. CONCLUSION

Cyberpunk science fiction has long been seen as a genre that excels at holding a critical mirror to society. Through settings that offer critiques on capitalism, the effects of unregulated technological growth, questions on what it means to be human, and countless other lines of thought, cyberpunk is able to paint a picture of a hopeless world with our own reality as its reference. While these themes are most generally centered on humanity's unhealthy obsession with technology through cybernetic augmentations, implants, and artificial intelligence, to name a few, there exists in the background of these neon cities a forgotten world of natural landscapes. These dying remnants of nature are the result of manmade climate change and runaway consumerism, concepts that become staples to the settings of cyberpunk fiction. Characters of the genre tend to interact with this natural world with unfamiliarity, the significance of these scenes generally to contrast to the aesthetic of high-tech cities, but a closer analysis of these interactions reveals a much greater impact. The psychological effects nature produces in the minds of cyberpunk characters align with findings of ecopsychology, and through the application of ecotherapy, the genre proves to critique humanity's relationship with nature as much as it does with technology.

Mankind's psychological relationship with nature has always existed and likely always will, even with urbanization and continued technological dependence moving us further away from our ecological origins. There are many ways a mind can heal through nature, but most are centered on humanity's biophilic attraction to natural spaces. Until recently, humanity has held a close bond to nature out of survival and necessity, and this past relationship left its mark on the human brain. Interacting with elements of nature, even something as small as observing a photograph of a forest, is enough to trigger this biophilic response and begin gradually

improving one's mental state. Practical applications of biophilia have been carried out over recent years, with more methods of ecotherapy being developed and better understood as more research is performed. Therapeutic effects have also been reported from activities like gardening, virtually experiencing natural environments, beekeeping, walking through a forest, and many others, and these practices will inevitably become more refined in the future. The findings of these studies can be directly applied to William Gibson's *Neuromancer*, Denis Villeneuve's *Blade Runner 2049*, and Jeanette Winterson's *The Stone Gods* to both offer insight into why characters benefit from ecotherapy and explain why other characters do not, opening the door for further literary analysis into the intersection of nature and the human mind within the cyberpunk genre.

Ecopsychology and ecotherapy are important to consider in order to appreciate cyberpunk's criticism of the many issues faced by the real world. Understanding how a cyberpunk citizen can benefit from nature is important at a literary level in that it introduces a new way to analyze characters' personal perceptions of the natural world, but it has the potential to be important at a more practical level. Cyberpunk societies, much like our own societies, define a thing's value by its profitability, and in these fictional futures nature is in short demand. By analyzing the genre to reveal nature's significance, it is possible to create a new way of reading it with the potential to cause change in the real world. Many images of the cyberpunk genre are extrapolations of what might happen should our own societies be allowed to progress in the directions they are currently headed. Landscapes glowing with the ghosts of nuclear bombs, cities falling into rising seas, mass extinctions at the hands of greedy corporations—these are all real-world concerns faced by societies around the world, and cyberpunk fiction highlights the necessity for change before it is too late. Showing that a healthy ecosystem is more than just

a contrasting aesthetic for a character to pass through, that it has the scientifically supported potential to change that character's state of mind for the better, might give nature enough perceived value to keep both it and our own minds thriving in the future.

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