CASTING OUR PROBLEMS INTO SPACE: EXPLORING THE INTERSECTION OF SCIENCE FICTION AND POSSIBLE WORLDS THEORY

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ABSTRACT

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Science fiction is a genre that is centered around the exploration of new or complex ideas within the unique testing landscape of the worlds imagined in these novels. Possible worlds theory is a subset of narrative theory, which suggests that literature creates intentional parallels between our actual world and possible worlds through relational accessibility and the principle of minimal departure in order to allow possible worlds to comment on the actual world. This thesis argues that when read through a possible worlds theory lens, science fiction novels can work as cautionary tales by utilizing the character's journeys for illuminating infection points for where the actual world could benefit from an alternative approach to the issues being discussed in the novel. A working definition of science fiction is created from theories by scholars such as John W. Campbell Jr., Darko Suvin, and Robert Scholes; this is then followed by explanation of possible worlds theory by theorists like David Lewis, Thomas Pavel, and Marie-Laure Ryan. After this, a thorough analysis of *The Moon is a Harsh Mistress*, *The Left Hand of* Darkness, and Parable of the Sower against possible worlds theory takes place to test my theory.

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INTRODUCTION

Science fiction is a genre that focuses on taking the reader to places they could only imagine as inhabitants of our present day planet Earth. These fictional worlds often provide readers an escape from the real world, building a world of fantasy and fiction to escape into as they please. Science fiction writers regularly use these imaginary worlds as a vehicle for exploring the more complex issues of our present day Earth. The futuristic setting of novels in this genre allows the reader a safe enough separation from their own reality on planet Earth to afford them the ability to suspend their disbelief and explore the complexities of some of the more challenging ideas often presented by science fiction writers in their texts. Themes regarding race and racism, capitalism, gender inequalities, and other systems engaged in suppressing certain groups of marginalized people all present quite often in this genre of writing. Though they may be fictionalized, the introduction of issues we are intimately familiar with in our present day — such as government control, sexism, and racism — into this genre can lead one to wonder how far speculative fiction is really distanced from our own world and if it has the ability to teach us anything about our actual world. Using these fictional worlds as a testing landscape for new ideas and innovations lets writers explore ways to address these issues that have not yet been approached in the actual world. In order to uncover what more

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these novels aim to teach us, we must first discover what it is about them that creates this parallel between our world and theirs. Then, we must decode what these parallels seek to teach us as readers on the plane the novels are meant to mimic. While it may seem like a difficult task to accomplish at first, when read using the possible worlds theory lens, the answers to these questions becomes quite clear.

This thesis explores science fiction literature's ability to comment on and highlight alternative approaches to mitigating the harm caused by social and political issues regularly being faced in our actual world regarding race, gender, and government control. These are some of the most commonly addressed problems within the science fiction genre due to this particular genre's ability to dream up and explore new futures without consequence, something that is difficult to do in the actual world. To do this, I explore the ways the worlds in such novels create parallels with our world in order to justify their ability to provide useful commentary for the actual world. Following this, I discuss the differences between the actual world and possible worlds and how this assists with providing room to imagine the alternative routes they suggest. To conclude, I will discuss ways that this approach to science fiction literature could prove to be beneficial to understanding our world in a fuller sense and encourage exploration of the various ways that our world could operate when taken in different directions. Before I can do this, it is necessary to elaborate on the lens through which I plan to examine these novels to make this possible.

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Science Fiction's Capabilities

The term *science fiction* will often appear throughout this thesis, and while it seems like a straightforward genre with direct goals, there are quite a few important notes that should be made on the origin of this phrase and what the novels under this umbrella are capable of. The debate over a universal definition for science fiction has been going on for nearly a century. In 1947, Robert A. Heinlein, popular science fiction writer and researcher, tried his hand at defining the genre in his essay "On the Writing of Speculative Fiction" by providing a list of criteria which he saw as necessary elements of science fiction. The list is composed of five main points as follows:

1. The conditions must be, in some respect, different from here-and-now, although the difference may lie only in an invention made in the course of the story.

2. The new conditions must be an essential part of the story.

3. The problem itself—the "plot"—must be a *human* problem.

4. The human problem must be one which is created by, or indispensably affected by, the new conditions.

5. And lastly, no established fact shall be violated, and, furthermore, when the story requires that a theory contrary to present accepted theory be used, the new theory should be rendered reasonably plausible and it must include and explain

established facts as satisfactorily as the one the author saw fit to junk. (Eshbach 91)

From this definition, we can see that Heinlein mainly sees the genre as a way to parse and seek solutions for human issues. Due to this, his main qualifiers of science fiction writing revolve around the fact that it largely hinges on our actual reality and that any problems or issues being faced throughout should be ones that can actually affect the human reader. Heinlein later makes this even clearer in a 1959 essay of his titled "Science Fiction: Its Nature, Faults and Virtues," when he says that science fiction is "realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present" (Knight 9). As Heinlein sees it, the worlds in created in these novels and the actual world are already intrinsically linked.

Robert Scholes, a literary theorist, introduced the idea of *structural fabulation* into conversations about science fiction. Structural fabulation suggests that science fiction should be approached with the mindset that the actual world and worlds created in science fiction are intrinsically linked through a "system of systems, a structure of structures" and that the "insights of the past century of science are accepted as fictional points of departure" within these stories (Scholes 54). He claims that science fiction "offers us a world clearly and radically discontinued from the one we know, yet returns to confront that known world in some cognitive way" (Scholes 29). He is acknowledging that these stories do not have to focus on creating a world or systems that will be fully

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recognizable to humans, but that they should still be able to connect with and comment on the human world in some way, shape, or form with the lessons it plans to teach.

John W. Campbell Jr., editor of the prominent science fiction magazine *Analog Science Fiction and Fact*, begins doing the work of differentiating speculative fiction types from one another by mentioning that "to be science fiction, not fantasy, an honest effort at prophets extrapolation from the known must be made" (Eshbach 91). Similarly to Heinlein, Campbell believes that works within this genre can and should be able to somewhat predict the future, not only within the story, but in ways that could be applicable to human living in the actual, present day world as well.

Darko Suvin, a lifelong academic in the study of science fiction, expands on this in his work. He notes that science fiction is "a literary genre or verbal construct whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment" (Suvin 4). In other words, Suvin follows a line of thinking that sees science fiction as requiring distance from the author's actual world in order to be successful. Throughout the years, Suvin's definition of science fiction has been recognized as one of the most enduring and useful approaches. Many other definitions build off of this and it is still seen as one of the most prominent explications of the genre and its abilities.

In the late twentieth century and early twenty-first century, science fiction began to gain popularity as one of the most read literary genres of the time. Along with this boom came an onslaught of scholars seeking to contribute their ideas to the foundation of the definition created by early and mid-twentieth century science fiction scholars, like the ones listed above. Adam Roberts, science fiction scholar, parses offers his own conclusion that science fiction "is better defined as technology fiction, provided we take technology not as a synonym for gadgetry but in a Heideggerean sense as a mode of enframing the world, a manifestation of a fundamental philosophical outlook" (1). The earlier contributions to the genre's formation was overwhelmingly white and male, but as the kinds of people contributing to the genre diversified and included more women and Black and brown scholars, so did the scholarly contributions. Isaiah Lavender, a science fiction scholar focused on discussing race in the genre, notes that the genre has "significant cultural effect for the twenty-first century because it can assist our understanding of the social changes occurring as the Western world ceases to be dominated by the white majority" (6).

The genre of science fiction has taken many years to find a somewhat solid ground to stand on, but the important defining factors of science fiction help distinguish it from other fiction genres. These are somewhat competing theories that can each be used to define science fiction, but they also show how deeply muddled the history of the word's usage is. For the purposes of this thesis, I will combine pieces of theory from Heinlein, Scholes, and Suvin to recognize science fiction as a genre with the ability to create testing landscapes for human issues and behaviors in worlds that are distinct from the actual world, while still being able to find common ground and provide commentary on the actual world.

Theory and Methodology

In order to properly examine the idea that worlds can be interconnected, it was important to select a theory that recognized literature's ability to connect with the real world, as opposed to viewing these stories as strictly fictional, singular narrative worlds that cannot do much beyond provide simple escapism for the reader. The theory of possible worlds, formed over many years by scholars such as David Lewis, Thomas Pavel, and Marie-Laure Ryan does just that, which is why it works so well as the lens through which I analyze these novels. In applying this theory, this thesis will be able to further underscore the ways fictional literature can be a tool in understanding and building our world rather than existing as mere entertainment. There are a number of ways that possible worlds theory can be understood and applied to literature in an effort to better understand the actual world. While each approach is slightly different, they each hinge on the idea that the actual world does not follow a specific trajectory resulting in a singular future and that the possible worlds created are able to speak on what these futures could look like.

Marie-Laure Ryan explains that "the foundation of PW theory is the idea that reality—conceived as the sum of the imaginable rather than the sum of what exists physically—is a universe composed of a plurality of distinct worlds" or, in other words, that the world we live in is actually composed of and adjacent to many, simultaneously existing worlds instead of the one, singular reality humans believe exists (Ryan). Not all imagined worlds can be possible, though. One of the major pillars of the theory of possible worlds is that in order for a "world to be possible, it must be linked to the actual world by a relation of accessibility" (Ryan). This means that if there is no way for the actual world to connect with and relate to the imagined world, then it is unable to be considered a possible world. After this connection has been established, examination of the features of the possible world in contrast to our actual world can take place. Ryan also argues that

on the basis of this model, we can define a proposition as necessary if it is true in all worlds linked to the actual world (including this actual world itself); as possible if it is true in only some of the worlds; as impossible (e.g. contradictory) if it is false in all of them; and as true, without being necessary, if it is verified in the actual world of the system but not in some other possible world" (Ryan)

For example, racism exists in both the actual world (Earth as consensus reality) and in many other possible worlds (those created in science fiction novels), but it does not appear in all of these worlds (some are grand Utopias where racism does not and has not ever existed); which means that it is true, but not necessary according to this theory. According to this reasoning, while something may be true, as long as it is not a necessary element in the creation of the actual world it is able to be eliminated or altered in the possible world, which results in the type of exploration done in science fiction novels.

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In "Truth in Fiction," David Lewis posits that possible worlds theory can be applied to literature in order to assist with defining what statements said about a text, that doesn't explicitly appear in the text, can be taken as "true" according to the setup of the fictional world. Basically, this approach helps readers to fill in the gaps in storytelling with information that is not directly stated, but can be inferred based on the known elements of the world. To do this, Lewis explains that "if p then q" operators work as measurements for determining the factuality of a statement in terms of the textual world, and in turn, our actual world. For example, if we read "there was fresh snowfall on the ground" as a true statement, then the statement that "snow is white" would also be regarded as true while "snow is blue" would be false. Even though neither statement appears in the text, the second statement is too far from the reality of the actual world in question to be regarded as true and the text does not mention the snow being any other color. The reason this works is thanks to what Ryan describes as "the principle of minimal departure," which "states that we reconstrue the central world of a textual universe in the same way we reconstrue the alternate possible worlds of nonfactual statement: as conforming as far as possible to our representation of AW [actual world]" and that "we will make only the adjustments dictated by the text" (Ryan 51). This application of possible worlds theory is especially helpful for analysis of science fiction because it assists with making connections between the actual world and the story world. If the reader only departs from the known when they are told, they will be able to make more connections to the actual world than if they were to go in blind, imagining the world as a blank slate.

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Thomas Pavel provides another approach to the theory in his journal article titled "Possible Worlds in Literary Semantics," exploring how possible worlds theory can be used to focus on "the relationship between the literary work and the real world" (Pavel 165). Pavel's approach supposes that the possible worlds constructed in texts are unique worlds that follow their own rules, leaving the reader to fully immerse themselves in the logistics of the story and adjust their understanding of what is real and what is not. In doing this, the fictional worlds can be seen as autonomous, but still capable of critiquing the actual world, though "any such comparison is logically secondary to the exploration of the unique ontological perspective posited by the work" (Pavel 175). He aims to steer away from the idea these texts can only comment on themselves, or what takes places in their pages, "because it fails to see that each literary works contains its own ontological perspective" so he places actual world comparisons and commentary as an inherent function of these unique worlds (Pavel 175). However, in his explication, Pavel does warn against creating fictional worlds that are too specialized, because then readers will be unable to connect them with the actual world; thus robbing them of their literary ability to provide cultural value. Pavel's application helps with providing the framework necessary for science fiction to connect with and make commentary on the actual world.

Possible worlds theory is a valuable tool for analyzing science fiction since it is a theory that is invested in exploring connections with futures beyond the one we have already envisioned. Investigating the similarities and differences in these worlds and finding those areas where knowledge from the possible world can be applied to the actual world is a way science fiction can influence reality. With science fiction, it may appear that the worlds being created in the stories are far off and fully unique from what we consider the actual world. However, they are often merely versions of our current world, whether they are set on our world but years in the future or simply share certain systems or histories there are always ways in which the worlds manage to overlap. This string of interconnectedness that each of the worlds imagined in the science fiction genre, either to one another or to our current world, allows for the application of possible worlds theory in order to illuminate the ways in which they are speaking on the state of our current world.

In an effort to discover what science fiction novels are aiming to teach us with their close proximity to our real world, I will apply possible worlds theory to three novels—*The Moon is a Harsh Mistress* (1966), *The Left Hand of Darkness* (1969), and *Parable of the Sower* (1993)—to showcase how these stories can and do mimic facets of our real world in order to suggest alternative approaches for the ways in which we are dealing with issues like capitalism, discrimination based on gender, and racism in our world. The main reason that these issues were selected is because they are the ones suggested by the novels and their authors when being read through this lens. Instead of searching for particular issues, like racism, in texts where it is not the main focus, I turn my attention to parsing what the novel has to say about the central issues they are already exploring. The more personal reason for the selection comes from the fact that as a working class, Black, non-binary individual born and raised in America, these issues of racism, sexism, and capitalism personally affect me throughout my life, mostly in a negative manner. While these systems have the ability to positively impact some, this has never been the case for me. This has undoubtedly helped to spark my curiosity in understanding and exposing these systems for what they are and finding ways to either abolish them or make them less harmful for people that move through the world similarly to myself.

Close examination into these novels through possible worlds theory will make it clear that these stories do not exist solely to show how what we experience now could manifest in the future, but they also work as cautionary tales illuminating points when we could deal with these issues now and not in the future, when it is too late. If we tie these fictional worlds to ours using possible worlds theory before analyzing the way they deal with issues surrounding race, gender, or government control, what can we learn from the ways that the author chooses to have the characters approach these issues? My thesis aims to answer this question. I argue that while these experimental stories do not provide exact, instantly applicable solutions or answers for the issues we are up against today, they do help readers to see potential changes that could be made to our world. What these novels are able to do through this thin separation of worlds is provide commentary on our present day world and provide readers with points of *inflection*, or moments that can highlight what next steps we could have taken to avoid a past problem or what steps we could still take to avoid future issues.

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Novels Selected

With such a wealth of available novels to choose from within the science fiction genre, it was crucial that I selected novels that best represented the issues I wanted to explore. There are many science fiction novels that explore the impact of race, gender, and government control, as these are the issues that most often come up, due to the nature of writing in the genre. However, there are a few writers in particular whose novels on these topics helped shape the genre. Robert A. Heinlein, Ursula K. Le Guin, and Octavia Butler are all authors that have won many awards for their work in the genre and have been considered some of the most important figures in science fiction throughout the years. Their respective achievements as well as their personal proximity to the issues they choose to discuss in their novels make their stories appropriate candidates for the exploration required in this thesis.

Robert A. Heinlein is an incredibly important and well-known figure within the science fiction universe. Many consider Heinlein one of the forefathers of science fiction, paving the way for the genre as we experience it today. The majority of science fiction scholars will agree that Heinlein's writing serves as a good demonstration of the genre's capabilities and is often credited with contributing to the "golden age" of science fiction writing. In 1974, he was even afforded the honor of being named the "Grand Master" of science fiction by the Science Fiction and Fantasy Writers of America for his contributions. Heinlein most notably has used his writing and platform to explore political and social ideas to see the ways these issues could possibly shape the future.

Some of his most popular works to do this include *Stranger in a Strange Land* (1961), *Starship Troopers* (1959), and, of course, *The Moon is a Harsh Mistress*. His work has been so influential to the genre that a number of his pieces that were published before the existence of the Hugo award have even won "Retro Hugos" for their impact. His incredibly high regard in the community as a pioneer of the genre encouraged selection of one of his novels for examination against possible worlds theory, as they are good models for science fiction's capabilities. As his last novel to win the highly esteemed Hugo award, I felt *The Moon is a Harsh Mistress* would best resemble his abilities.

The Moon is a Harsh Mistress is Heinlein's most recent Hugo award winning novel that explores the future of human society after making life possible on the moon. The story follows Mannie, a computer repair tech, on an incredible journey to launch a revolution on Luna (the moon) after learning of its impending doom due to dwindling resources and the lack of positive government intervention there has been to prevent it. In launching this revolution, Mannie and the Loonies explore what life after the demise of capitalistic systems and the rise of a free state that focuses on the needs and wants of the general population, not governing bodies, would look like. Conversations surrounding *The Moon is a Harsh Mistress* heavily focus on the politics at play within the novel and their ability to mimic actual human society or the rise of artificial intelligence. Donna Glee Williams critiques the novel for not fully painting the picture of what a free market would look like by addressing how "no mention is made of the possibility (the high probability) of the rise of thug-enforced price-fixing, monopolies, exploitation of labor, or despoliation of the environment in a developing anarchistic society" (Williams 168). Ian Campbell turns his attention to the novel's ability to provide a "complex critique of a libertarian society" (Campbell 43). These form interesting takes on the novel's content, but the next step of connecting these ideas to analyze the implications of what's taking place in the story being able to be paralleled in our actual world is still missing from this scholarship.

With an incredibly expansive catalog of over 100 short stories and 20 novels, Ursula K. Le Guin has made sizable contributions to the science fiction genre. Le Guin is known for writing her novels from a feminist framework and addressing difficult topics like race and gender consistently throughout her works. She is also credited for coming up with the widely used science fiction term *ansible*, which refers to a high-tech communication device that can operate at quick rates through long distances. Many of her novels have received awards and critical acclaim for their ability to address these issues in a way that sparked further conversation outside of the text. In fact, her novel *The Left* Hand of Darkness won both the Hugo and Nebula awards, making her the first woman to be recipient of these awards, and cementing the novel's status in the essential canon of science fiction stories. The popularity of this novel also assisted in boosting Le Guin's career and works into more mainstream, or popular, science fiction. Since then, she has won a total of eight Hugos and was even awarded the title of "Grand Master," just like Heinlein. Though she tends to stray from making political statements that are too apparent, stories in which she does make big claims about war and politics, such as in her

novel *The Word for World is Forest* (1972), still do so successfully and have also won a number of awards for their influence. To ensure a varied amount of viewpoints and approaches to science fiction, selecting a novel from a well-respected, woman pioneer of science fiction was crucial for this thesis. As a novel that played such a large role in her career, I decided to further examine *The Left Hand of Darkness* for this thesis.

The Left Hand of Darkness by Ursula K. Le Guin follows a story set on the faraway, icy, expansive, genderless planet of Gethen. Throughout the story Genly Ai, main character and human-adjacent male, struggles to understand the way of life for the Gethians and instead tries to force his own gendered views onto their society. This backfires and Ai is exiled and forced to take up alliance with Estraven, a Genthian outcast, and spend an extended time unlearning his relationship to gender while they navigate their way back to society. However, this lesson does not fully sink in until after Estraven sacrifices themselves to protect Ai at the close of the story. Scholarship on The *Left Hand of Darkness* is expansive and often analyzes the roles gender and politics play in the story. Lewis Call focuses on arguing how "the internal politics of the Ekumen are essentially anarchistic" and how that inspires the turmoil in the story (92). Lisa Hammond Rashley keeps their discussion of the book pointed on how Le Guin's "ongoing effort to reconceptualize gender" within the pages of her novels (22). John Pennington goes so far as to critique the genderless society depicted in the story by noting how "it attempts to expose or escape patriarchy while simultaneously using traditional gender patterns familiar to readers" (352). These are important topics of

discussion for the novel, though the scholarship available could benefit from more conversations about how this parallels our actual world and what kind of commentary it is providing through this.

Octavia Butler is a Black American science fiction writer who has won many awards for her work and was the first science fiction writer to receive a MacArthur Fellowship. During her lifetime, Butler was a big advocate of questioning the systems in place and creating new ones that better suit the needs of the people and many of her novels and essays are written with this in mind. She is often praised for her ability to amplify human nature and flaws realistically in her writing and her inclusion of marginalized stories and viewpoints. Butler has a rather extensive catalog of work that often deals with matters of race, gender, and systemic violence towards minorities. Just a few of her other popular titles of hers on these matters include *Kindred* (1979), Bloodchild and Other Stories (1995), and the Xenogenesis trilogy. She also gave many interviews and wrote a number of essays, such as "A World Without Racism," that deal with addressing these matters in the real world and not just on fictional planes. Butler's status as an important contributor to science fiction, her ability to write with such realism, and her identity as a Black woman makes her work an important addition to this thesis. As one of her most realistic novels, with a landscape that manages to so closely resemble the actual world, *Parable of the Sower* shone as the choice for analysis.

Parable of the Sower by Octavia Butler is a very popular speculative fiction novel which takes place in a not-so-distant post-apocalyptic California during the years 2024 to

2027. This novel focuses on telling the tale of Lauren Olamina, a young Black girl who is seeking to better understand the world around her and adapt to the constantly evolving ways of living. She spends most of the novel learning the ways in which the world is set up to make her fail and developing ways to work against them to have a better life. Through the building of her new community and religion, Earthseed, Lauren eventually finds the comfort she has been seeking. When discussing this novel, scholars place a focus on discussing the realism the story is able to achieve as well as various conversations revolving around race. Vincent Lloyd discusses the intersection of religion, race, and politics in the novel and how it helps to create the landscape of the novel. Anna Hinton examines Butler's "representation of disabled Black motherhood" and how it "incorporates conversations of Black motherhood by presenting Black mothers as complex" (443). Elijah Drzata adds to the discussion by noting how the novel approaches gender in a complex way by showcasing how Lauren is "complying with binary gender in order to survive," not because she is heterosexual (19). Current scholarship certainly helps with understanding the novel, though scholars have not yet asked if the story is just meant to mimic reality for the sake of relatability or if there is a deeper lesson to be learned from this relational accessibility.

Limitations

As this thesis is not a complete covering of all intersections of science fiction and oppression that exist, there are a few moves the thesis is unable to make. Since it is a limited length document, it has to be understood that I am unable to discuss the full scope

of every possible related worldly issue that is presented in speculative fiction and the solution a novel within the genre may have for it. I have selected the topics that I have because they are of interest to me, affect me personally, and often appear together when in discussion—it is difficult to address racism without discussing sexism or capitalism and vice-versa. While I may quickly allude to other issues, I plan to remain hyperfocused on the issues I have selected for this particular paper. This is not to say other problems are less important, just that they are not my focus within these pages. I also plan to specifically exclude, or deeply limit, my discussion of the recent trend in *afrofuturism* within my thesis. Since a frofuturistic novels mainly focus on creating futuristic worlds by and for people of African descent and less on interacting with racist entities, it would just be a bit too far off track to include in discussion as it will greatly narrow the scope of my discussion of racism to emphasizing the effects of racism on just one race and not multiple minorities, which is unrealistic. While *Parable of the Sower* may focus mainly on Black people and their plight, the story is about the larger effects of racism on people of all colors. This broader distinction makes it possible to follow the principle of minimal departure while reading in order to make the necessary connections for possible worlds theory to work as an analyzing tool. There is potential for much further study on the intersection of possible worlds theory, science fiction, and oppression that could come from this research into a frofuturism, however, mine is focused on these novels and the moves they make.

THE MOON IS A HARSH MISTRESS AND POSSIBLE WORLDS THEORY

The Moon is a Harsh Mistress by Robert Heinlein is a science fiction novel that, when read through a possible worlds theory lens, provides critiques of the necessity of government and capitalism in the average person's life and highlights the harm these systems are responsible for causing. The story takes place on a moon colony known as Luna and follows Mannie, an earthling repair technician, and his comrades on a mission to free Luna from the oppressive hands of the Authority, Luna's governing body.

The novel starts by introducing the reader to Mannie, a repair tech with firm opinions of the Authority and their involvement in the day to day lives of those they govern. It becomes clear that even though he maintains contracts with the Authority for work, he does not support them or want to be associated with them. Readers are then introduced to Mike, the sentient robot Mannie is currently trying to help understand the ins and outs of human behaviors for his job. As part of this learning, Mannie and Mike attend a rally organized by revolutionary Loonies who are seeking to remove the hold that the Authority has on them. However, the meeting does not go as planned when agents of the Authority break it up by inciting violence.

Shortly after this incident, Mike is able to inform Mannie and the two people he escaped the rally with, Wyoming Knott and Professor Bernardo de la Paz, or Prof, of the fact that, due to Authority negligence, soon the Luna will be drained of their resources

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and life on Luna will become impossible. The Authority and their representatives clearly do not respect the Loonies and they do not try to hide it. This does not sit well with the group, so they vow to free Luna from Authority control so that they are able to begin selfgoverning and ensuring that the needs of the people are being met properly. After a group of Authority guards break one of the unspoken rules of Luna, that women are sacred and protected, by raping and murdering a Loonie woman the Loonies go wild and end up murdering the Warden, Luna's Authority representative, in retaliation.

The revolution that this sparks is difficult, long, and far from bloodless. After murdering the Warden, Mannie and Prof travel back down to Earth in an attempt to convince the Federated Nations to grant Luna status as a Free State. They reject their plea and Mannie is wrongfully jailed, forcing them to find a way to escape back to Luna. Soon after their return, they are greeted by soldiers of the Federated Nations, who are obviously displeased by the escape and search for freedom. An all out war ensues between the Loonies and the Federated nations. The Loonies fight with all their might against the forces and eventually win thanks to their special weapon: a moon rock launching catapult.

The world depicted in the story faintly resembles the world which we are already familiar, but still sets itself at enough distance from it to represent a possible version of our actual world. The connections established between worlds as well as the apparent differences help to link these worlds together so that the possible world can help with realizing how to deal with government control related issues in the actual world.

Actual World Accessibility

The world of *The Moon is a Harsh Mistress* is distanced from our plane in many ways, as it operates by a different set of rules and has advanced technologically, even developing the ability to travel to the moon. Our actual plane may still be a bit behind Luna, but there are still enough moments of relational accessibility throughout the story that tie together Luna and present day Earth.

The largest indication that the possible world of *The Moon is a Harsh Mistress* and our actual world are tied together is the existence and discussion of planet Earth. The story is set mainly on Earth's moon, but the link between them does not stop there. The Loonies also actively acknowledges the "Earthside" plane and will, at times, use it as a way to reference how strange life on Luna is compared to what readers are used to, such as when describing the marriage customs on Luna it is explained how their "circumstances are very different from those on Earth" (Heinlein, ch. 18). The concept of gravity and other allusions to Earth as we know it are also sprinkled throughout to help connect the worlds.

The Authority's presence and involvement in personal affairs and their overwhelming greed can certainly be seen as another link between worlds. The way that the Authority seeks to privatize access to things people need to survive, like hospitals and schools, and consistently find ways to profit off the labor of its people is not an unfamiliar approach to governing, at least to Americans. In the actual world, this approach of putting private profits over personal well-being is reminiscent of the capitalistic system which we are currently living under in the actual world. The idea of capitalism is one that is a distinct feature of the actual world and its existence as it appears in the novel serves as a grounding element.

These similarities between the novel and our actual world make it much easier for the reader to envision this world as a version of our own. However, while these similarities exist, it is still a fictional novel that takes place on the moon, so there are marked differences that are also worth noting that can contribute to understanding of the lessons being presented.

Moments of Departure

Heinlein finds many ways to connect the world of Luna to ours in the novel, but this does not mean the worlds are devoid of differences. The world that we are exposed to in the novel opts to follow its own set of rules when it comes to designing the landscape and societal structure that are shown throughout. These differences help to create distance between the worlds, but keep in mind the principle of minimal departure so that the possible world is still able to comment on the actual world.

The most obvious thing setting these planes apart from one another is the fact that *The Moon is a Harsh Mistress* takes place on the moon. The creatively named "Loonies" have learned how to adapt their bodies and technology to life on the moon, so they are able to approach their way of living much differently than on our gravity-bound Earth. On our plane, we have managed a moon landing and even explored Mars; however, we

have not made strides as revolutionary as the Loonies have. Life on Luna could be a depiction of one of the possible Earth futures that exists with expansion to moon living, but is not yet a fully realized actuality yet.

The socially and morally acceptable norms that are followed on Luna are much different from those we are expected to follow on present day Earth. Luna is a much more violent place than Earth when it comes to dealing with problems. The Loonies are known to have duels to settle feuds and when Mannie is explaining their laws regarding murder he mentions that Loonies work on a scale of individual morality and that "if a man is killed, either he had it coming and everybody knows it—usual case—or his friends will take care of it by eliminating the man who did it" (Heinlein, ch. 11). Murder is essentially legal and without consequence on Luna, which is far from the case in our actual world where murder is punished by prison time or possibly execution. Luna also follows a more matriarchal hierarchy when it comes to family and relationships. Due to the fact that "women are scarce" this makes them the "most valuable thing in Luna, more precious than ice or air" and grants them higher status in society (Heinlein, ch. 11). Women are allowed to have multiple husbands, to decide family structures, and to make important decisions on behalf of their lineage. In our present day, the norm leans more towards a patriarchy where men are often at the center of these decisions.

The technology at the Loonies' disposal is also much more developed and impressive than what is currently available on our plane. Without making such strides, being able to sustain life on the moon would have been impossible. At various times within the novel the characters comment on the advancements made in their world and admit how "Loonies don't know how lucky [they] are" (Heinlein, ch. 16). There is also, of course, the matter of Mike, the sentient robot that assists our protagonists in the story. While we have made considerable steps forward in terms of artificial intelligence, we certainly have not made it to this level yet.

These differences do assist in setting the two planes a little further apart from one another, by creating this distinct and unique story world. The creation of these differences may set the worlds apart, but this distance is important for testing these new approaches to issues without consequence in our actual world. Even with these differences, the readers will be able to link the issues being faced in the story back to their actual world with ease with the help of the parallels made through their similarities.

Relatable Issues and Inflection Points

During the novel, the reader is able to follow the characters through life as they face similar problems to those we face in the actual world but opt for different approaches than we have taken, outlining the positives and negatives to a real life version of these problems. *The Moon is a Harsh Mistress* may take place on the moon, yet the inhabitants still have to navigate the effects of government rule and interference in their daily lives, much like we do daily in our actual world. Within the novel there are many driving forces of conflict; however, many of them all lead back to the toxic role that government plays in this society. Throughout the story, the ways that the government seeks to control the lives of everyday people in terms of everyday life, in business or

markets and in political or social decision-making, actively makes life more difficult for those living under its umbrella.

By regulating aspects of their personal, everyday life government control makes it nearly impossible for people to self-govern and decide what kind of life they want to live for themselves, and forces them to adhere to arbitrary "rules" that do not keep their best interests in mind. The Authority makes it clear many times that they do not see the Loonies as actual people, but as cogs in a profit turning machine for the government. A proposed "code of laws" presented by the Authority not only dehumanizes the Loonies by referring to them as "client-employees," but also tries to implement "civil and criminal courts" and a mandatory schooling system for all, in an effort to take away many of the Loonie's freedom and decide their most profitable future for them instead (Heinlein, ch. 19). The Authority has also tried to deceitfully dangle the possibility of "free schools, free hospitals, free this and that" in front of the Loonies when in reality these would actually all just be paid for by the Loonies through taxes (Heinlein, ch. 19). The combination of these things results in the creation of a faulty moral compass, imposed by the government through their laws. For the Loonies, abiding by this system means taking away their autonomy and individuality. This imposition of government in daily lives and decisions is reminiscent of life in our actual world, where citizens share the illusion of choice, but have their lives ruled by the government.

One such example is how government interference in the running and regulation of businesses and marketplaces makes it incredibly hard for the Loonies to make a living or sustain themselves. The way that the Authority decides to regulate trade and businesses throughout the story does not attempt to hide the fact that they are more concerned with government revenue than the ability for the Loonies to sustain life under these rules. In the very first paragraph of the book we are clued in to how the "Luna City Council has passed on first reading a bill to examine, license, inspect—and tax—public food vendors operating inside municipal pressure" (Heinlein, ch. 1). Though these vendors are not utilizing any government resources to run their businesses, the government still plans to find a way to make a profit off their labor, simply because they operate within the confines of their control. This actively makes profits for the government, while it does nothing to earn it, and takes away money from the Loonie doing the actual work. Mannie clues readers in to the harshness of life under this regime by saying how "[Loonies] were slaves I had known all my life—and nothing could be done about it" and further elaborating to add "we weren't bought and sold—but as long as Authority held monopoly over what we had to have and what we could see to buy it, we were slaves" (Heinlein, ch. 2). The Loonies quality of life is negatively affected by these laws and there seems to be no room for improvement—at least while still under Authority rule. The approach the Authority takes effectively parallels our own laws regarding taxation of small businesses and the issues of companies monopolizing markets and making it difficult for everyday people to access the products and services they need.

The Authority also robs the Loonies of their ability to make fully informed political and social decisions by limiting their access to information. In an attempt to force the Loonies to trust the government and become reliant on them, the Authority is very selective about the information they provide to the masses. When Prof and the Chairman finally sit down for a meeting to discuss Luna's status as a free state and Prof suggests that they "would welcome newsmen, video cameras, a gallery, anyone" in to view the meeting because "Luna Free State had nothing to hide," the Chairman quickly replies that the "so-called Free State did not control these hearings" and that "these sessions were closed, not to be discussed outside this room, and that it was so ordered" (Heinlein, ch. 17). The push to keep these meetings closed by the Authority shows that they want to be in control of the narrative and the information that is sent out to the people, purposefully keeping them under-informed or misinformed. Prof drives this idea home once more later in the story, saying even Mike controlling the news from the side of the revolution is bad because they "are not free yet nor will be as long as anyone even our ally Mike—controls our news" (Heinlein, ch. 18). By not allowing the Loonies adequate information about the happenings of Luna, the Authority denies them freedom and keeps them dependent on systems that do not benefit them. In our real world, we face this exact issue. There are constantly a large number of news sources reporting on a single topic from different political perspectives and omitting or adding information as they see fit, while government representatives only provides minimal commentary on the validity of any of these claims. This often causes confusion and makes it difficult for people to know what is truth and who to trust. This way the government only divulges as much information as they see necessary on a subject, often leaving constituents in the

dark on the reality of the event—convincing them that the government knows best and allowing them to make these decisions for them.

The parallels between worlds created in the novel combined with the imaginative science fiction setting of *The Moon is a Harsh Mistress* allows the reader to clearly identify with the impact of negative government intervention while also exploring the various ways to address this issue. In the novel, Heinlein uses the Loonies' resistance against the Authority to imply that the way to confront the issues faced in both worlds due to government control is by taking action against these systems when they refuse to serve our needs.

The Loonies are absolutely not under the illusion that their current way of life under Authority control is the best or the only way to live. As the Authority works to implement more laws that would damage Luna living, the people notice the problematic nature of them and begin organizing to find ways to rebel against the system. In making this decision, the Loonies' path forks away from our current one, creating a point of inflection. Though their resistance is not met kindly by the Authority, the Loonies continue to seek their freedom, even if it means they have to literally fight for it, inspiring the Loonie revolution we follow Mannie and Mike through in the story. The Loonies face a lot of pushback from the Authority, but they hold firm on their demands to be able to self-govern and make important personal decisions for themselves. Eventually, after a full blown battle, they are finally granted the freedom they seek. Through this, the novel proposes that the way to escape the harm from these systems is by taking active action against them and advocating for freedom.

Luna, the moon home of the Loonies, is based in a possible world that is not too unrelated to our own. The ways that the Authority is set up and the impact that it has on the Loonies is almost directly representative of the issues that modern day Americans face in regards to their government in the present day. By imitating this system in the novel, Heinlein is able to amplify the ways that they are detrimental to everyday people and show that they do not have to be tolerated and maintained if they do not have the interest of those they represent in mind by demonstrating how to get away from them.

Conclusion

Almost every American in our present world has been raised under a capitalistic and overbearing government that often places itself before those it is meant to represent. Because of this, seeing the harm that it can cause may be difficult, which makes finding ways to mitigate said harm even harder. Unaware that there are ways to successfully push against the wrongs being done against them, many Americans just accept this as the only and correct way of living. The detail with which Heinlein describes the Loonie revolution showcases the injustices being faced while highlighting all of the important moves the revolution's leaders had to make in order to be successful. An uprising does not just happen overnight, but if more people began to realize what is currently taking place and begin taking pointed, organized efforts to dismantle the government through action instead of accepting what they have been given, then they may one day be able to achieve true freedom, like the Loonies.

THE LEFT HAND OF DARKNESS AND POSSIBLE WORLDS THEORY

In this section I will parse the way that Ursula K. Le Guin's science fiction novel *The Left Hand of Darkness* proposes that the gender binary is destructive. The novel mainly takes place on the alien planet of Gethen, where the inhabitants known as Gethenians exist as genderless beings. Throughout the story, we follow Genly Ai, a human male from the neighboring planet Terra, on his quest to convince the Gethen government to join a space version of the United Nations, known as the Ekumen. His journey is long and hard fought, as he faces a number of hardships due to his gendered appearance and his lack of comprehension regarding the Gethenian way.

After being invited by a Gethenian representative named Estraven to discuss business with King Argaven of Karhide, a country in Gethen, Genly Ai travels to their planet to begin negotiations. However, he is not as well received by the Gethenian folk as he had expected to be. Due to his inability to overlook their lack of pronounced gender, Ai has much difficulty communicating and understanding the Gethenians, their way of life, and, most important to his mission, their politics. Regardless, he still attempts to continue with his mission so he does not have to return to Terra empty-handed.

The same day Ai is finally able to meet with King Argaven to discuss his proposal, his connection, Estraven, is suddenly and conspicuously run out of town. His meeting does not go well, as the King denies his proposal. However, after meeting with a

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"foreteller," this world's version of a fortuneteller or psychic, he learns that Gethen will give in and join the Ekumen in the next few years, so he decides to stay and wait to fulfill his mission. In the meantime, he travels to Orgoreyn, Karhides neighboring country, to attempt to convince them to join the Ekumen as well.

Things seem to be going well for Ai in Orgoreyn; the government welcomes him in happily and he is set up with a comfortable living space upon his arrival. Estraven has also recently travelled to Orgoreyn following his removal from Karhide; he attempts to warn Ai of the nefarious ways of their government, but is ignored. Shortly after this warning, Ai is kidnapped in the middle of the night and imprisoned in what the Gethenians refer to as a "volunteer farm" where he is forced to do slave labor and is unable to leave. Luckily, Estraven expected this would happen and assists Ai with escaping just as Ai starts to lose energy from being overworked and isolated and begins to come to terms with his imminent death.

Now both outcasts of Gethen, Estraven and Ai team up and traverse the harsh landscape for an eight hundred mile journey on foot back to the Karhide border, so that Ai may complete his mission as intended. The journey takes almost eighty days, during which Ai begins to unlearn his ideas about gender and understand the Gethenian way through this bond with Estraven. They finally make it to the Karhide border, where Estraven sacrifices himself to save Ai by running at armed Karhide guards who were seeking to execute Estraven and preventing Ai's entry into the country. After watching his friend sacrifice themself so selflessly for him, Ai finally comprehends the Gethen folk and realizes that his inflexible ideas on gender have been detrimental to seeing these beings for who they really are.

As Le Guin is known to do, she creates an expansive and unique world for readers to get lost in while still making calculated references to our actual world in order to be able to provide important commentary on it. To better understand the ways that Le Guin is speaking on our actual world through the novel, one must first explore the ways the worlds reinforce or contradict one another. After this, the moments that are meant to comment on the actual world's overly gendered outlook and suggest different ways to address them will become apparent.

Moments of Departure

While Le Guin manages to make many references to the actual world throughout the novel, there are clear differences that set the world created in *The Left Hand of Darkness* apart from ours. The list of differences is actually much longer than the list of similarities in this case, but with the help of the principle of minimal departure, readers are still able to maintain footing in the actual world by only shifting their understanding of the world being created when absolutely necessary.

The landscape and planetary design presented in *The Left Hand of Darkness* is one of the main indicators of difference between these two planes. Le Guin takes her time detailing the new world she creates in the story, making sure that the reader is able to fully imagine and immerse themselves within the happenings of the Gethenian plane. Gethen is an almost uninhabitable and barren planet that faces extremely cold

temperatures consistently. At one point during their journey, Ai describes just how harsh the conditions of this never-ending winter are when he notes that "it was necessary to keep the mouth closed and breathe through the nose, at least when the air was forty or fifty degrees below freezing" and chalks this up as the reason why people "seldom talked while on the march or at lunch, for our lips were sore, and when one's mouth was open the cold got inside, hurting teeth and throat and lungs" (Le Guin, ch. 18). The depletion of natural resources on Gethen had also reached a low much deeper than we have yet to reach on Earth. When describing the scarcity of these resources, Ai mentions how "even though [the] forest had been logged for centuries there were no waste places in it, no desolations of stumps, no eroded slopes" because in these times it was important that "every tree in it was accounted for, and that not one grain of sawdust from [the] mill went unused" due to the incredible shortage in availability for these resources (Le Guin, ch. 13). "There are no streets in Rer" and there certainly are not skyscrapers, luxury apartments, or bustling cities making up the composition of this foreign planet either (Le Guin, ch. 15). The world imagined in the novel is far-reaching and expansive, but ultimately contains a lot less materially when compared to the world readers are familiar with.

Even though the story is set in the future, they possess much slower technology than we currently have available in 2019 and it appears as though their society has yet to make it through an industrialization-adjacent era that would likely result in better tech becoming available. There are no cars, roads, and all of the cities are tightly packed together. However, "slow as their material and technological advances had been" and "how little they 'progress' in itself' the Gethenian people were able to figure out what tech they needed to survive in their extreme climates and had finally managed to get "a little ahead of Nature" and were not at the "absolute at the mercy of their merciless climate any longer" (Le Guin, ch. 8). The lack of technological advancements do not seem to hinder their way of living significantly; in fact, they have even managed to get so ahead on certain developments, which Ai admits when detailing how the Ekumen has "NAFAL ships and instantaneous transmission and mindspeech, but [they] haven't yet tamed hunch to run in harness; for that trick we must go to Gethen" (Le Guin, ch. 6). Present day America has made fairly large strides technologically and exists mostly as large, bustling cities with large populations, sprawling infrastructure, with dwindling, but still abundant amounts of forestry and natural resources—almost the complete opposite of what is experienced on Gethen.

Some science fiction novels take the approach of only minimally departing from our known reality in order to make the connection between worlds and the commentary on issues a bit clearer to locate, but this is not the case with *The Left Hand of Darkness*. The world envisioned in the novel and our actual world are two very distinct places, though their similarities are enough to keep them bound to one another.

Actual World Accessibility

In *The Left Hand of Darkness*, Ursula Le Guin dreams up a vast and descriptive land that is incredibly distinct from our actual world. The landscape looks different, the

weather is much harsher, and the planets' inhabitants aren't exactly human. Despite the distance between planes, Le Guin is still able to utilize the the concept of relational accessibility to tether the two worlds together.

The main way that Le Guin ties the two planes together is by adding and discussing the concept of gender roles and presentation, or lack thereof, to the story. The idea of gender and gendered presentation are man made concepts, meaning that their existence on another plane is only possible with reference to our actual world. While the Gethenians are genderless, the introduction of Ai as a gendered being reinserts this very human concept into the story and ties Gethen to our present day Earth.

The two main religions of the Gethenians, Handdara and Yomeshta, closely follow principles that appear in Taoism and Christianity. They do not exactly replicate one another, but the core foundation of these fictional religions clearly hinge on ideas presented in the religions they are modeled after. The Handdara religion focuses deeply on the balances between light and dark or good and evil, connections to one another, and nature, which are the main pillars of Taoism. On the other hand, Yomeshta follows the line of thinking that there is an omniscient prophet which determines good from evil and assigns a set of rules for its followers to abide by, which is in close proximity with the values promoted by Christianity. Though they may go by different names, the story's religious designations bear undeniable connection with prominent religions in our actual world.

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The idea that even though they have made substantial strides towards it, Gethen is not meant to be seen as a utopia also assists with tying the story to reality. The lack of gender roles and their subsequent impact on society thanks being genderless beings has helped to shape their world positively in many ways; there's never been a war, citizens of the plane are allowed to contribute to society in ways they see fulfilling and not just according to gender roles, and "burden and privilege are shared out pretty equally," but this does not make them immune to imperfection in other areas (Le Guin, ch. 7). Specifically, the Gethen planet faces a lot of issues regarding their flawed political and governing systems, from those in power not always looking out for their constituents to disagreeing on policy with other nations, which are large problems that occur in the actual world as well.

When it comes to similarities between these planes, they are few and far between. The basic rules of the planet are the same: we abide by the same laws of physics, there is government, and humans as we know them do still exist, but the circumstances of the world are certainly different from that of the actual world. At first glance it may seem as though there would be no way for this universe to be able to comment on ours. By using less obvious elements to connect the worlds, Le Guin is able to create a scenery that feels fantastical, but is still rooted in very real world problems and their impact on society to allow exploration of these ideas in a setting that does not feel too close to home for the reader.

Relatable Issues and Inflection Points

The Gethen world imagined and explained in *The Left Hand of Darkness* and our actual world may seem incredibly different from one another in setting and structure, but there are a number of issues that the story addresses that exist on our plane as well. Unlike science fiction novels based slightly closer to the actual world, like *Parable of the Sower*, Ursula Le Guin opts to create a world foreign from ours in appearance to allow for a bit more distance between worlds to allow her to explore the solution to the problems presented in a way that was not too political or pointed. This alien landscape which the story takes place in does not absolve the story of its ability to tackle very human problems, which is why the main stress points in the novel revolve around gender and the negative impact that forcing gendered societal roles on a people can cause. In order to do this, Le Guin uses instances in the novel to showcase how this forceful gendering can lead to difficulty understanding others, creating a breakdown in communication that could lead to violence for one or both parties.

On the Gethenian planet, which is devoid of gender, Ai's arrival and inability to understand the planet's people while simultaneously trying to force his understanding of gender onto them leads to unrest. Ai is sent to a foreign planet of which he has no prior knowledge of in order to conduct a mission; but instead of working to understand this new way of living, he instead tries to force them to fit his own rigid and binary concept of gender. Continuously during his time on this planet, Ai makes remarks about the people around him, refusing to acknowledge their lack of gender and actively mocking it. He can

be seen doing this when making a joke of the Gethenian who houses him by offhandedly referring to them as his "landlady" and then again immediately as "a voluble man" (Le Guin, ch. 5). While the Gethenians do not directly react to Ai as he makes these repeated inappropriate comments, they do talk amongst themselves and make note of the behaviors, which causes problems for him down the line. Ai's unwillingness to attempt to understand the inhabitants of this planet makes it difficult for him to complete his mission easily because he is unable to form the necessary bonds. He clearly views his hosts as strange and alien and considers himself to have superior understanding on gender and gendered presentation, without attempting to see things from their perspective. This not only hinders his mission, but it leads the Gethenian people to distrust him and what may come from accepting his proposal. This conflict between Ai and the Gethenians resembles a very similar issue on our plane where cisgender people refuse to acknowledge or understand transgender and non-binary people and instead cling to the binary because it feels familiar to them. Like it does in the story, when this takes place on our world it often results in tension and distrust from both parties, and even violence against the misunderstood.

Gender presents as a problem once again with Ai's presentation as male and his repeated, intentional misunderstanding of the Gethenians, which cause them to distrust him and his motives. Upon his arrival, the Gethenian people are already unlikely to partner with Ai on his mission, but accept his presence and treat him with relative kindness for most of his stay there. Though their way of living may seem strange to outsiders, like Ai and the reader, the Gethenians seem to have discovered how to navigate the world without the need for gender roles or bias and, in turn, the concept of sexism never had a place in their society. Since gender plays no role in their society, Ai's appearance causes much confusion for the Gethenian people. The norm on this plane is a lack of gender, so when Ai shows up and is only able to present as masculine, the Gethenians view this as an anomaly and begin to single him out as strange and perverted. He notes how easily he sticks out in a crowd and how the Gethenian folk see him as "a spy from Karhide, a pervert, an agent, a sorry little political Unit" and do not allow him to blend or be accepted into their society (Le Guin, ch. 11). Eventually, this fear of the unknown combined with Ai's less than appropriate behavior towards the planet's people leads him to be marked as an unsafe threat to the livelihood of Gethen and he is collected and sent away to a volunteer camp, the planet's version of prison. The Gethenian reaction to Ai's gender presentation echoes the way in which gender non-conforming folk face violent repercussions for not melding "well enough" with what the greater society has deemed "normal" or "acceptable" in terms of presentation. Though the retaliation in the actual world is normally much more violent, often resulting in death for the singled out party.

In the real world and in Le Guin's story world, forceful binary gendering results in trouble communicating with one another and, when escalated, violence. Even in a world which has already managed to thrive without explicit gendered presentation and societal roles ,when the issue of binary gender arises it quickly causes breaks in communication and outright violence. In our world, where binary gender presentation is the "norm," this process just occurs much quicker. By connecting these two planes, Le Guin is able to highlight the potential devastating effects of retaining this flawed and outdated method of attempting to understand and categorize people solely based on gender.

The worlds in question here feel foreign and unrelated, but the ways the characters respond to issues relating to gender in the story mimics our actual world very closely. By showing the way that Ai reacts to being put in a situation where he has to understand those who see gender outside of his rigid binary, Le Guin parallels the very familiar difficulty that exists around cisgender people's understanding of transgender and non-binary individuals. In showing the ways in which this lapse in understanding can cause harm to both parties and how full disposal of the concept of gender can create a much more peaceful and productive society, Le Guin is positing that the binary is harmful and detrimental to the progress of society.

This lesson is not one that is easily or quickly learned in the story. Ai arrives on foreign planet and clings very tightly to his ideas regarding binary gender and faces much difficulty communicating and comprehending the world around him. He continually tries to fit the genderless people of Gethen into these fixed boxes and it only results in hardship and division for both parties. Instead of simply accepting that this divide and lack of understanding was inevitable, Ai makes the choice to attempt connection and understanding, illuminating the novel's main point of inflection. After he realizes that his survival will depend on his understanding and partnership with a Gethenian, he spends their entire journey unlearning his ideas regarding gender before finally coming to the realization that they are whole, balanced individuals without the intervention of gender. He is able to finally connect with them, but only after it is too late and his companion has died. Estraven's death finally grants them enough humanity to Ai and allows him to finally be able to engage with the Gethenians as equals and complete his mission.

In making these connections between worlds, Le Guin is able to showcase what the negative impacts of adhering to a strict binary thinking when it comes to gender can cause. By crafting Ai's journey to finally understanding the Gethenian people, Le Guin suggests that a move towards accepting that each individual contains multitudes that do not necessarily have to conform to one worldview could result in a much kinder, easier to navigate world.

Conclusion

Critiquing a system or idea that has been so heavily ingrained since birth is far from simple. Most of the time we don't even realize the harm that is done due to such strict ways of thinking, because we have been preconditioned to believe that the gender binary is the one of the only "correct" ways to categorize and differentiate people. By distancing the world in which she discusses gendered thinking so far from our actual plane, Le Guin is able to vividly paint a picture of the issues that can and do arise thanks to this mindset in a way that allows the reader to consider how similar situations play out in our actual world. The shift to becoming a society that is completely genderless in order to address this issue is not something that could be done in our near future, but if more people were able to take after Ai and work to understand that which seems strange or unfamiliar to them ,we may be able to overcome the miscommunications and violence perpetuated due to the existence of binary thinking around gender. Eventually, we may even be able to exist in a society which does not weigh gender as part of a person's capabilities or worth.

PARABLE OF THE SOWER AND POSSIBLE WORLDS THEORY

In this section I will be discussing *Parable of the Sower*, a post-apocalyptic science fiction novel by Octavia Butler and how it utilizes possible worlds theory to suggest alternative approaches to mitigating the harm that comes from systemic racism. The novel takes place in a Californian town named Robledo, where a 15-year-old Black girl named Lauren Olamina and her friends and family reside. It is the year 2024 and the world as we know it has collapsed due to rampant corporate greed, racism, and environmental changes. Resources, work, and safe housing are scarce and corporations have majority control over who has access over these things by running "company-towns," which are a form of indentured servitude: the company town will feed, clothe, and house a person, but in turn they must provide uncapped labor until they are able to pay back large amounts of debt.

At the start of the story, Lauren resides in a fenced neighborhood with a population consisting mainly of minorities. Racism during this time can often spark physical violence, so safety is best in numbers and mingling with other races is discouraged. However, even following these precautions, the town often faces many acts of senseless violence from outsiders. Lauren sees the destruction taking place around her as a sign that things have to change, because the way they are currently living is not beneficial to the everyday person. Lauren tries to convince her family members and her

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friends of the importance of change in these times for a few years, but they largely ignore her cries, chalking it up to her being an emotional teenager. Lauren's hyperempathy syndrome, a disease passed down to her from her drug-addicted mother, only helps her family and friends follow this reasoning, since the illness makes her feel emotions, hers and others, very intensely. She decides to ignore her friends and family, trusting in her own ideas, and begins drafting the principles of a new way of life in what will come to be known as the book of Earthseed.

Over the next few years, things within the neighborhood get much more intense. By 2025, there has been a suicide, a fire, and a murder all within a short period of time, causing a great deal of unrest in the community and forcing some families to leave and seek the safety provided by company-towns. Again, Lauren tries to warn those close to her of the danger and help them prepare for the possibility of more and larger scale attacks from the outside. Again, she is ignored and continues writing her declaration of change. Things continue on a decline this way, with more robberies, shootings, and deaths until eventually the entire town of Robledo is absolutely destroyed during an intense attack in 2027. All of Lauren's family and most of her friends die in this attack, save for Harry and Zahra, two surviving members of the neighborhood that she did not have much of a relationship with prior to the destruction.

Lauren is then finally able to put some of her principles of change she has been writing for the past few years into action. The three begin on a journey to find a new community, during which they see the harsh reality of being Black or brown during this era. While they experienced violence while living in the neighborhood, it was not something that Lauren or her travelling partners were tasked with dealing with firsthand—making this an especially difficult and eye-opening journey. They see mixed families being attacked, encounter a number of beggars and robbers, and are even forced to cleverly disguise themselves while they travel to avoid violence, as Harry is white and both Zahra and Lauren are Black. Though she is initially hesitant, Lauren begins allowing vetted strangers they come across to join them on their journey. Eventually they meet a man named Bankole who has land up north that he offers up as the new refuge for the group and the birthplace for Earthseed. Before agreeing to creating a new community, Lauren lays out her concept of Eathseed to the group, giving them the chance to leave or stay with them and commit to it. Everyone decides to stay and they continue their journey. By the end of the story, the group finally reaches Bankole's land and begins creating a new community, which they named Acorn, based on their own rules and the beliefs of Earthseed.

Like many of Butler's novels, *Parable of the Sower* maintains many familiar aspects of our actual world, from the landscape to the existence and success of oppressive systems, while still managing to be unique and distant enough to allow it to be seen as a world separate from our own. Establishing these similarities and differences is important for evaluating the connection between these worlds before being able to outline inflection points where the story departs from our actual world in the way they address the impact that corporate greed and racism has had on their society.

Actual World Accessibility

On the surface, Laurens world seems incredibly distant from the one we currently live in. Shouldering the burden of rebuilding community under a new religion is certainly not an everyday task for the average 15-year-old in our actual world. It is possible this could be the reality at some point, but we have not quite reached it yet. Even though the state of things in Lauren's version of the United States is much more dire than it is in 2020, readers are still able to connect to the actual world through the relation of accessibility.

The most glaring way in which the worlds overlap is through the setting of the novel. Very early on in the story the reader is clued in to details about the landscape that point to the story taking place in California. As the novel opens, Lauren sets the scene for readers by mentioning that they are "in Robledo—20 miles from Los Angeles" (Butler 10). The fact that the story takes place in California and is referred to by the characters as California and not something different means that the world that Lauren lives in shares a history with our current world— further tethering the two worlds together. This shared history and a link between worlds is further strengthened through the direct references to a number of historical figures throughout the story. When questioning the existence of God and whether or not they actually care about humans Lauren alludes to "deists like Benjamin Franklin and Thomas Jefferson" and how they "believed God was something that made us, then left us on our own" (Butler 15). By building these links between the

two worlds' histories the reader is then able to assume that both worlds followed similar steps to get to their current state, with one just being slightly further in the future.

The concept of race also exists on both planes. Not only does it exist, but it also works the same in both worlds as a way to systemically keep down minorities and enforce a class system. The neighborhoods Lauren, her family, and friends live in; the social status they hold; and the level of safety the characters in the story are afforded are all tied tightly to their race—with White people remaining at the top of the food chain. Often in science fiction novels there is an alien other, inhuman party, or evil overlord that plays opposite to the humans or species in question to provide tension. However, in this novel such a force does not exist; instead the conflict remains within one species, emphasizing a divide that already exists. The existence of race and racism as we most commonly understand it and see it manifest in our actual world is a huge indicator that these worlds are versions of one another.

Many other similarities exist, with the main differences being seen in the degree of destruction and years in which the story is set. As there are not too many defining magical or supernatural elements to Lauren's world that are would be too difficult to image in the actual world, aside from Lauren's hyperempathy syndrome, it appears to just be a version of our current world set in the years 2024 through 2027, due to the overwhelming amount of accessibility between the possible world and actual world. These examples of commonalities between Lauren's world and ours help to showcase the ways in which they are not separate and confined worlds, but they are in fact simply two versions of the same world, thus allowing Lauren's world the ability to reveal possible paths for ours.

Moments of Departure

Lauren's world and the actual world in 2020 share a wealth of similarities that help to tether them to one another, but there are clearly elements that exist in the story that do not translate to the actual world. The central element that separates these two planes of existence is the severity of destruction blatant racism and corporate greed that are present in both worlds, has managed to cause. The setting in Lauren's world is incredibly grim and post-apocalyptic, similar to the way that many dystopian novels such as *Dune, The Fifth Season*, and *The Handmaid's Tale* tend to create their landscapes. Butler keys readers into the difficulties that come with living in this world by doing things like describing how "poverty had made the streets cleaner" because "anything that would burn, people would use as fuel" and "anything that could be reused or sold had been gathered" (Butler 155). In the actual world's 2020, we face a similar situation where the lack of positive intervention from the government results in extreme poverty, but the physical landscape has not quite progressed completely to the barren wasteland depicted in the novel.

Another component of Lauren's world that does not exist on the present plane is her hyperempathy syndrome. Early on in the story, readers learn that Lauren possesses a disability due to her mother's drug usage, which doctors refer to as "an organic delusional syndrome" that allows her to "share pleasure and pain" with those that she encounters (Butler 12). Because of this disability, Lauren is able to feel the physical and emotional pleasure and pain, but mostly pain, of those she comes in contact with. While there are surely people in the actual world who experience emotions very similarly to the way that Lauren does, it is likely not in the same intense way in which she does. Much like alien species, extreme climates, and superpowers Lauren's hyperempathy syndrome is a way to distinguish our world from the worlds in science fiction novels.

As expected, there are distinctions that assist in setting each of these worlds apart, though the differences presented are not as fantastical as they are for many science fiction novels. In fact, in this story, the differences are quite minor compared to the similarities, making it even easier to envision the points where the possible world is able to provide commentary of the actual world.

Relatable Issues and Inflection Points

In the dystopian world of *Parable of the Sower*, the characters face a number of issues that we are currently facing in the actual world, allowing readers to note the potential future effects that may arise if these issues go unaddressed. The main theme surrounding the issues Lauren encounters is race and most of the secondary issues stem from this. The racism present in the story is one of the main catalysts for the turmoil that Lauren, her family, and friends are facing.

In their world, racism has gotten so out of control that a form of segregation has made a reappearance. The gated community that Lauren and her family lives in consists mainly of Black people, aside from the Balters and the Garfields, who are White. It is quickly noted that the existence of these two White families is purely strategic, though. Lauren does mention that Jay, the father of the Garfield family, is a "good guy and a good shot" showing that they have a friendly rapport with this particular White family, but their existence in the community is mostly a safety measure (Butler 36). She notes that "people are expected to fear and hate everyone but their own kind" so the fact that there are "armed and watchful" White people living in the town as well helps to keep them safe from looters and murderers (Butler 36). Much like in the actual world, simply living and being Black can be a death sentence for the characters, but Whiteness equates to purity and safety.

With the separation of races a critical means for survival at this time, fraternization of the races through romantic or sexual interracial relationships is frowned upon and can even incite violence. Early in the story when Lauren is describing the town of Robledo, she makes sure to highlight how each of these families consists of a single race, regardless of which it is. While there are White families amongst the majority Black town, there is no mixing of race within the families. To make it clear how serious the racism issue has become in her time, Lauren takes the time to explain the dangers that come with ignoring this or actively going against it when she details the story of Bianca and Jorge's pregnancy. After noting that "Jorge admits to being the father," Lauren appears relieved by this because "at least they're both Latino" so there will be "no interracial feud this time" (Butler 86). She then goes on to explain that "when Craig Dunn who's white and one of the saner members of the Dunn family was caught making love to Siti Moss who's black" she "thought someone was going to get killed" (Butler 36). As the only defining factors mentioned in this retelling are the races of those involved, it can be seen that race is clearly driving the turmoil in this particular relationship and how it is received by those around them.

This problem does not just exist within the walls of their community, either. When Lauren, Zahra, and Harry are looking for a place to start a new community after the attack they worry about their safety when traveling this way because "mixed couples catch hell," leading them to pretend that Lauren is a man and Zahra is her partner and Harry is simply a friend to hopefully avoid violence (Butler 171). This is similar to current issues in the actual world revolving around interracial relationships, where dating outside of your race can lead to harm. A very similar attitude to the one depicted in the novel was echoed regarding interracial relationships and seperation of the races prompted the Civil Rights Movement, and there is still uneasiness from some about it in the present, however the severity has not returned to the level depicted, yet.

In the novel, people's social status and the resources available to them are also highly influenced by race, forcing minorities to seek better living conditions akin toslavery under the guise of a better lifestyle. While the town that Lauren resides in has managed to create systems of its own that work to keep it thriving from day to day, this is not the case for many in her world. "Company-towns," cities run by corporations that provide housing and food in exchange for labor with the promise of an elevated lifestyle and safety that is hard to achieve outside of these towns, are mentioned many times

throughout the story. On the surface, this seems like an ideal situation for escaping the destruction and chaos of Lauren's world, but there is much hesitation from herself and others in her community about the viability of these towns. At one point Lauren explains that "anyone KSF hired would have a hard time living on the salary offered. In not very much time, I think the new hires would be in debt to the company. That's an old company-town trick — get people into debt, hang on to them, and work them harder" (Butler 121). She goes on to mention how "labor laws, state and federal, are not what they once were" which is why it has become possible for the world to revert back to indentured servitude without many people questioning it (Butler 121). While the characters are aware of this and try to avoid heading to one of these towns and ending up in this situation, it is nearly impossible; their options are seemingly limited to facing violence on the streets and in their neighborhoods for being Black or seeking safety to end up in debt slavery for the remainder of their lives. Debt slavery that targets minorities without means fighting for survival is a common occurrence in our actual world as well. Though there may not be towns dedicated to it and the conditions not as overtly stated, credit cards, student loans, predatory payday loans, and many other forms of debt slavery exist on our current plane and function in the same way.

The world depicted by Butler in *Parable of the Sower* initially seems foreign and far off, but readers will quickly realize it bears striking resemblance to America during the 1950s and 1960s Civil Rights Movement era. By incorporating elements such as segregation, overtly racist acts of violence, and fear of interracial relations, Butler paints

an all too familiar picture to demonstrate the way the world will deteriorate back to these violently racist and heavily segregated times. Butler shows how the unquestioned flourishing of systems that profit off of racism will ultimately lead to the erosion of society, suggesting that that our existing systems are no longer working and that breaking away from them and exploring change is the most sensible next step.

Lauren comes to this realization very early, and her reaction to this is where the main inflection point within the novel lies. She notices that the world around her is crashing due to its reliance on these failing systems and insistently preaches the need for change to anyone who will listen. In her Earthseed verses, she invests so strongly in the need for and impact of change that she repeatedly notes how "God is Change" throughout the verses (Butler 3). Those around her are not as quickly inclined to believe this idea, but Lauren still plots ways to leave her neighborhood and seek change; that is, until the town is attacked and she is forced to do so. In spite of her circumstances after the attack, Lauren still sees the value in this idea of change and sets out to establish a new and intentional community that focuses on denouncing those systems and creating a better, more fulfilling way of living. Instead of waiting for the systems to audit and repair themselves, the novel proposes addressing them head on, creating change, and distancing oneself from their harm.

Both in our world and throughout the story, race and systematic oppression as a result of corporate greed work to ensure that survival is especially difficult for minorities. Even in a distant and foreign landscape, arbitrary weight is given to the color of a

person's skin in ways that cause difficulty for those who are not of the "ideal" shade. The way that Octavia Butler makes these incredibly close parallels to our actual world throughout *Parable of the Sower* work to highlight the damaging effects these currently held systems and mindsets could have in a mere matter of years if they are not dealt with in a way that seeks to provide equality and balanced footing for all members of society, regardless of race.

Conclusion

The science fiction landscape of *Parable of the Sower* allows Octavia Butler to reimagine a new possible world that grants a fuller depiction of systemic racism and its impact for exploration by the reader. Through reading such a novel and making note of the parallels that appear, readers can uncover these lessons and commentary to bring back and apply to the actual world. While the option to uproot and search for abandoned land to build a new community on may not be quite plausible yet, the novel does present the importance of change and warns against inaction, which is an outlook that could prove to be beneficial if applied to our actual world. The possible changes could be slow moving, but, like Lauren warns, we should not wait for a traumatic experience or a plague to realize it is time for change or that change is even possible.

CONCLUSION

In this thesis, there were two main questions that I hoped to find answers for. The first of these questions is: Are the worlds created in science fiction novels distanced too far from our actual world to have correlation with it? Considering the nature of this genre, one may assume the answer to be yes, but this is not the case. The worlds imagined in these stories often consist of places, technologies, species, and rules that do not exist on our plane, which could cause some to categorize them as unique and separate from the actual world. However, according to the theory of possible worlds, fictional literature almost always forms an inherent connection with the actual world. Possible worlds theories, like Marie-Laure Ryan and David Lewis' concepts of the principle of minimal departure and relational accessibility, help to explain the various ways that literature is able to connect with our actual world. Through these we learn that while the worlds that are created in these stories feel foreign and distant, they are considerably shaped by our actual world and only differ from it in the very explicit ways that are denoted by the story. These ideas explain how readers can identify even with stories like The Left Hand of Darkness, which seem too eccentric to connect with our actual world.

The second of these questions is: Do these stories have the potential to provide commentary on our actual world? After establishing that possible worlds are connected to the actual world the next logical step was to figure out how these connections could be

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useful. Simply because the possible worlds depicted in these stories resemble ours does not answer the question of whether or not this connection can do more than just present a parallel. Thomas Pavel reminds us that while the story world is autonomous in its own right, its tether to the actual world assigns it the responsibility to provide cultural value to our actual world. So, not only are the stories able to comment on the actual world, but, in order to fulfill their responsibility under a possible worlds theory lens, they have to.

After finding adequate answers to these questions the real exploration could begin. Using this knowledge, I was able to identify the areas of accessibility, moments of departure, and inflection points where the paths followed in the possible world forks away from the reality of the actual world. Being able to identify these points helped to illuminate the way the stories were attempting to speak on actual world issues and behaviors. Science fiction literature's ability to serve as a testing landscape and possible worlds theory's ability to link the fictional and actual world come together proves to be an invaluable combination in literary analysis.

Application Beyond Science Fiction

The numerous explanations of science fiction's abilities by scholars such as Heinlein, Campbell, Suvin, and others helps to provide the framework for why the genre works so well for application of possible worlds theory. The combination of the ideas these scholars present all come to a consensus that science fiction is a genre that is meant for exploring human issues and behaviors. The focus on these types of issues make the application of possible worlds theory to science fiction especially useful because we can then use the parallels and the inflection points outlined in the stories as guidelines for possible reformation around these issues in our actual world. But is science fiction the only genre that could benefit from being explored through this lens?

As possible worlds theory is a subset of narrative theory, one would assume that it would be able to be applied to other fictional literary works and genres that follow a narrative structure as well. At the moment, most research done around the intersection of possible worlds theory and literature has revolved around the science fiction and fantasy genres, but that does not mean they are the only ones that could benefit from it. Mystery novels, horror novels, or even romance novels are just a few of the types of fictional literature that could benefit from further exploration through a possible worlds theory lens. The setup of these kinds of fictional novels is fairly similar to that of science fiction, where it details an autonomous world of its own, but is still attempting to connect back to problems in the actual world. Though their core commentary may not be as political as science fiction's it would be interesting to see what they have to say or suggest about our actual world when explored more explicitly alongside possible worlds theory.

There is also potential for possible worlds theory to be applied and used for analyzing outside of a literary scope. Since narratives can appear in places outside of literature, such as in movies or video games, it would make sense for the theory to be applicable there as well. Analyzing movies using possible worlds theory would function very similarly to doing so with literature. Denoting the moments of departure, areas of relational accessibility, and finding the inflection points could lead to some important realizations about human nature. As the reader (or player) in video games plays a more active role in the narrative than they do when reading a novel or watching a movie. This active role does not mean that application of the theory is impossible, though, it just means that it must be approached differently. For example, Umberto Eco's ideas of imagining worlds based on the model reader, characters, and the author would work well when applied to a video game with narration and character involvement, like the Bioshock series. Though we may not be able to approach analysis of narrative with possible worlds theory exactly the same for each medium, there is absolutely space for the conversation to expand beyond literature.

What's Next?

The connections have been made, the inflection points illuminated, and we have learned the lessons presented in these stories, so then we must ask: What now? If these stories are meant to be read this way and direct us to these moments, there must be something more that we can do after uncovering this information. The points of inflection in the novel do not suggest full, readily-applicable solutions to the real world problems that they address, so using them as playbooks for the upcoming revolution is not exactly an option. However, what we can do is use these stories as a way to evaluate our response to these issues when they manifest in the actual world. For example, *The Moon is a Harsh Mistress* is not a novel meant to serve as a step-by-step guide for overthrowing governing bodies in the actual world just because it connects to the actual world through relational accessibility. No, the main inflection point in this novel aims to point readers to

the importance of organizing and taking action against systems that intentionally cause harm. It does not outline how to do this, when to do this, or provide a comparison for effectiveness of multiple approaches, it simply suggests that if you want to see certain results, you must advocate for them. The lessons presented in these stories can function similarly to morality-focused stories by being able to broadly highlight and bring attention to an issue without directly providing the solution for the issue at hand. The application of this theory to science fiction has the potential to illuminate a lot about the world, showing the importance of science fiction both as a literary genre and as a tool for bettering our actual world. By reading these novels with a critical lens, we could stand to learn a lot about the way that our current world operates and learn new ways to confront various issues.

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