

**REPUBLIC OF TURKEY
ERCIYES UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF ENGLISH LANGUAGE
AND LITERATURE**

**TRACING THE CRISES: QUESTIONING THE ECO-
ETHICS OF FUTURE COLONIALISM AND
TERRAFORMING OF MARS IN KIM STANLEY
ROBINSON'S MARS TRILOGY**

**By
Seher ÖZSERT**

**Supervisor
Assoc. Prof. Dr. İfakat Banu AKÇEŞME**

Doctoral Dissertation

**November 2019
KAYSERİ**

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The Doctoral Dissertation, entitled as “Tracing the Crises: Questioning the Eco-ethics of Future Colonialism and Terraforming of Mars in Kim Stanley Robinson’s Mars Trilogy” has been prepared according to the postgraduate thesis proposal and thesis writing guidelines of Erciyes University.

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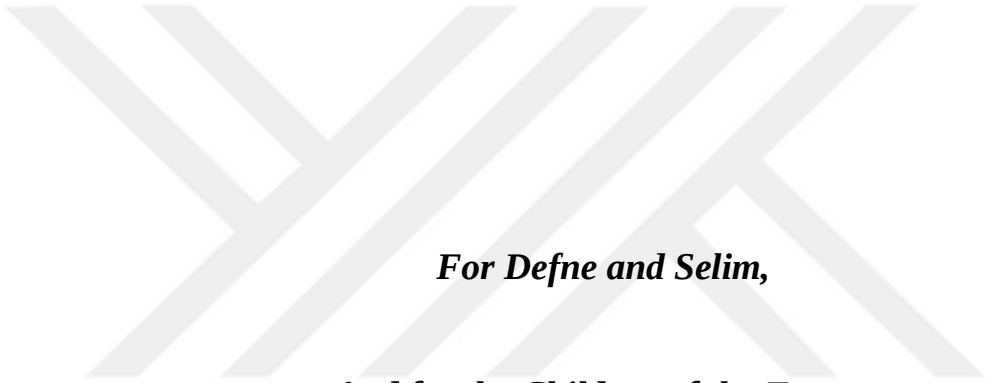
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Seher Özsert

Kayseri, November 2019



For Defne and Selim,

And for the Children of the Future

**TRACING THE CRISES: QUESTIONING THE ECO-ETHICS OF FUTURE
COLONIALISM AND TERRAFORMING OF MARS IN KIM STANLEY
ROBINSON'S MARS TRILOGY**

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ABSTRACT

This dissertation aims at exploring the causes of the existing current crises in both human and non-human worlds and searching for convenient solutions to find a way out of these catastrophes. The paper, firstly, draws on the theoretical background of the issue of ecological and social crises from eco-ethical, eco-philosophical, eco-Marxist and eco-socialist perspectives. The study, with reference to postcolonial and postmodern theories as well as Kim Stanley Robinson's Mars trilogy, the representative narrative allegories dealing with the terraforming of Mars, argues that escape from the apocalyptic future foreseen on Earth and terraformation of another planet is the future colonization, doomed to another apocalypse on another planet. The significance of this study is that it incorporates a variety of literary theories for the analysis of the diversified perspectives. The analysis indicates that the dialogical formation and the richness of the topics distinctively covered throughout the three books, *Red Mars* (1992), *Green Mars* (1993) and *Blue Mars* (1996), make it inevitable to use multiple theories for the inquiry. This study, foregrounding the distinctive tenets on the eco-ethical questioning of colonizing and terraforming of Mars through the multiple perspectives in the trilogy, reveals that the economic and political systems are identified as controlling forces of the relationship between culture and nature in the terraforming process as represented in Robinson's abovementioned narratives. Therefore, the study implies that the capitalist system is observed as the root of catastrophes and conceived as superannuated to be replaced with ecosocialism, a form of ecologically conscious system. The study additionally explores the issues of postcolonial scapegoating of "the Other" for the existing problems and discusses the inhuman solutions such as Neo-Malthusian logic. Finally, the study investigates the reflections of ecological science fiction narratives on reality, as in the Mars trilogy, from different topics such as utopian ideals and simulations of human transfer to another planet. According to the analyses, the dissertation concludes that the underlying ideology of the Mars trilogy presents a natural hope of Gaia theory and suggestions for a better future life for all living things promised to come with the radical social change of ecosocialism.

Key Words: crises, Mars, colonialism, terraforming, eco-ethics, utopia, Gaia, ecosocialism.

**KRİZLERİN İZİNDEN: KİM STANLEY ROBINSON’UN MARS
ÜÇLEMESİNDE MARS’IN GELECEKTEKİ KOLONİLETİRİLMESİ VE
DÜNYALAŞTIRILMASININ EKO-ETİK ANLAYIŞI ÇERÇEVESİNDE
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ÖZET

Bu tez hem insan ve hem de insan dışı dünyalarda var olan güncel krizlerin sebeplerini keşfetmeyi ve bu felaketlerden bir çıkış yolu bulmak için makul çözümler araştırmayı hedeflemektedir. Çalışma öncelikle eko-etiksel, eko-felsefi, eco-Marxist ve eco-sosyalist perspektiflerden ekolojik ve sosyal kriz konusunun teorik altyapısına dikkat çekmektedir. Marxism’in ekolojik incelenmesine kadar farklı izahı için teorik altyapıyı verir. Araştırma, Mars’ın dünyalaştırılması ile ilgili olan temsili öykü alegorilerinden Kim Stanley Robinson’un Mars üçlemesinin yanı sıra, postkolonyel ve postmodern teorilere de ilişkin olarak, dünyada öngörülen kıyametten kaçmanın ve başka bir gezegeni dünyalaştırmanın, başka bir gezegende başka bir kıyamete mahkum, gelecekteki kolonizasyon olduğunu tartışmaktadır. Bu çalışmanın önemi, farklı perspektiflerin analizi için çeşitli teorileri bünyesinde barındırmasıdır. İnceleme, üç kitap, *Red Mars* (1992), *Green Mars* (1993) and *Blue Mars* (1996), boyunca ayırt edici bir şekilde işlenen konuların diyalojik yapısının ve zenginliğinin araştırma için birden çok teorisinin kullanımını kaçınılmaz kıldığını göstermektedir. Bu çalışma, üçlemedeki çok sayıdaki bakış açıları aracılığıyla Mars’ın kolonileştirilmesi ve dünyalaştırılmasını eko-etik açıdan sorgulanması üzerine farklı görüşleri ön plana alarak, ekonomik ve politik sistemlerin Robinson’un yukarıda bahsedilen öykülerinde temsil edildiği gibi dünyalaştırma sürecinde medeniyet ve doğa arasındaki ilişkiyi kontrol eden güçler olarak tanımlandığını ortaya çıkarmıştır. Bu sebeple, bu çalışma kapitalist sistemin tüm felaketlerin kaynağı olarak gözlemlendiğini ve ekolojik açıdan daha bilinçli bir sistem olan ekososyalizm ile yer değiştirilmek üzere miadı dolmuş olarak tasarlandığını belirtmektedir. Bu çalışma ayrıca var olan problemler için “Diğeri” ni postkolonyel olarak günah keçisi ilan etmeyi araştırmakta ve Neo-Malthusyan mantıkta olduğu gibi insanlık dışı çözümleri tartışmaktadır. Son olarak, bu çalışma, Mars üçlemesinde de olduğu gibi, ekolojik bilim kurgu öykülerinin gerçek yaşam üzerinde yansımalarını, ütopyan idealleri ve başka bir gezegene insan transferinin simülasyonları gibi farklı konulardan incelemektedir. Analizlere göre, bu tez, Mars üçlemesinin altında yatan ideolojinin Gaia teorisinden olağan bir umut ve ekososyalizmin radikal sosyal değişimi ile birlikte geleceği vaat edilen tüm yaşayan canlılar için gelecekte daha iyi bir hayat için tavsiyeler sunduğu sonucuna varmıştır.

Anahtar Kelimeler: krizler, Mars, sömürgecilik, dünyalaştırma, eko-etikler, ütopya, Gaia, ekososyalizm

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CHAPTER I

INTRODUCTION

There exist crises in almost every part of our lives including political, economic, social, cultural, ecological, philosophical, and psychological spheres. The main concern of this dissertation is to analyze and provide insights into the roots of ecological crises that are both the reasons and the outcomes of the catastrophes. This dissertation adopts a holistic and comprehensive approach and examines the causes that brought about the ecological destruction from philosophical, phenomenological, Marxist, postcolonial, and postmodern perspectives, which are indeed closely connected. Such a multidimensional and interdisciplinary approach is useful for a better understanding of the true nature of ecological crisis.

Joel Kovel argues that ecological crisis are “*structured by forces that systematically degrade and finally exceed the buffering capacity of nature with respect to human production, thereby setting into motion an unpredictable yet interacting and expanding set of ecosystemic breakdowns*” (23). Kovel maintains that humans are not only the creators but also the victims of ecological crisis. As a result of the disunity and breakdown in the relation between human and non-human world, we witness “the desynchronization of life cycles and the disjoint of species and individuals, resulting in the fragmentation of ecosystems human as well as non-human, along with vast changes in species composition, as well as the more formal environmental aspect of things” (23).

Kim Stanley Robinson sets out to present the inevitability of an upcoming universal crisis in his novels: “The coming century will bring to one degree or another a global ecological crisis, but it will be playing out at planetary scales of space and time, and it’s possible that except in big storms, or food shortages, things won’t happen at the right scales to be subjectively experienced as crisis” (*Green Planet*, 243). The crises are inescapable for our future, but the exact time and amount are not definite as it depends on human activities. Slavoj Žižek also points out to the strong possibility of disaster in the future: “We have to accept that, at the level of possibilities, our future is doomed,

that the catastrophe will take place, that it is our destiny — and then, against the background of this acceptance, mobilize ourselves to perform the act that will change destiny itself and thereby insert a new possibility into the past” (*First as Tragedy, Then as Farce*, 151). He gives a warning to make us rethink our decisions and actions. There are two possible versions of the future waiting for us, as Robinson clearly states: “This coming century looks like the moment in human history when we will either invent a civilization that nurtures the biosphere while it supports us, or else we will damage it quite badly, perhaps even to the point of causing a mass extinction event and endangering ourselves” (*Green Planets*, 244). Robinson is not pessimistic about the future of the world. He insists that we should strive for a better future and urgent action is required: “Since we know now that we can greatly improve the situation by what we do, we should start now, and shoulder the frustrations of how long it will take without too much whining or quitting” (247).

Stewart Brand also suggests that a “shit storm” is approaching in the near future, which is “Not a nice clean earthquake or satisfying revolution, but pain in new dimensions: world pain, sub-continents that starve and sub-continents that eat unable to avoid each other” (*The Last Whole Earth Catalog*, 34). Bill McKibben draws attention to the fact that the end of the world is closely tied to the end of nature: “We have built a greenhouse, a human creation, where once there bloomed a sweet and wild garden” (*The End of Nature*, 78). Concerned about the effects of global warming, which is an inconvenient truth for the capitalist mentality, Kovel maintains that we have to make a choice between the end of capitalism and the end of the world. As Kovel states, “The ecological crisis is a great and proliferating set of eco-systemic splits, both natural and human, subjective as well as objective – a fraying of the fabric of the ecosphere” (116). It is fraying but it is also possible to mend what is frayed. He suggests that the damaged ecosystems can be cured by creating “a flourishing ecosystemic boundedness” (116).

It is not just the existence of the capitalist production but it is also a human desire to intervene in the processes of natural life that encourage humans to manipulate nature. According to Kovel, even human beings who lived in ancient times cannot be claimed to have lived in harmony with nature. They were not kind towards nature, and they caused the extinction of some species unknowingly: “That under original conditions, the human being is not merely capable of living in ‘harmony with nature’ (118).

Kovel argues that neither science nor technology nor industry alone can be held responsible for ecological crisis. Especially capitalism leads to eco-destruction along with Christianity, which is absolutely not eco-friendly. Kovel quotes from Genesis which depicts how Yahweh gives Adam “dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the earth, and over every creeping thing that creeps upon the earth” (1-27). This attained dominion over the creatures comes from the belief that “God created man in his own image, in the image of God he created him”; thus humans assume themselves as Godlike creatures mastering the universe by the right given by God directly.

Kovel urges us to free ourselves from the delusion of the capitalist master and of claiming a private ownership over the universe. When we realize this delusion, we will hold on to the reality of usufruction, in this way, we will enjoy living on another’s property like a guest but improving it, as it is our home. James Lovelock also supports the view that the biggest problem is our greedy usage of land for agricultural or some other means. However, besides taking precautions for banning the chemicals or cutting back emissions of greenhouse gases, “we have also to stop using the land surface as if it was ours alone. It is not: it belongs to the community of ecosystems that serve all life by regulating the climate and chemical composition of the Earth” (*The Revenge of Gaia*, 139). As Kovel asks, why not enjoy the earth as the principle of usufruct says, and at the same time why not take pleasure in letting the earth free from its captivity under human domination? This way of thinking will bring improvement:

The underlying feeling may be that anything would be better than now, and that only a big break will free us from the chains we have forged and wrapped around ourselves. But this is mostly hoping for an easy way out, an alternative to revolution where we don’t have to do anything. These dystopian scenarios would break the hold of the present order, yes, but they would also make things even worse. We would be freed of some constraints, but worse ones would replace them” (*Green Planets*, 255).

Undoubtedly, it is argued that it is necessary to be free from chains on us, on earth or any on any celestial body in the universe before the ultimate outcome within the period of existence comes for all. The message is given here that there will be an end for all creatures, species, planets, and space whether we see it or not. However, it is implied that we have a role to create a destiny for our end, and as Kovel says, “we should not allow the exit to occur under the cold, cruel hand of capital; it is an ending

unworthy of the beauty of the world” (279). William Blake once wrote at the end of his *Jerusalem*:

ALL Human Forms identified, even Tree, Metal, Earth, and Stone; all
Human Forms identified, living, going forth and returning wearied
Into the Planetary lives of Years, Months, Days and Hours; reposing,
And then awaking into His bosom in the Life of Immortality.¹

The message within these lines is that all mortal beings will vanish one day, and after we are gone, even the traces of our existence might be erased. The ideology of the works that have been analyzed in this dissertation also comply with this view. It is directly or indirectly referred in the works covered in this study that generations after generations, the only trace of our existence would be our contributions to the universe and our story should be a worthy one devoted to save the planet, not like a king lived in prosperity but only a broken gravestone is left in despair in a desert as in Percy Bysshe Shelley’s poem, *Ozymandias*:

My name is Ozymandias, King of Kings;
Look on my Works, ye Mighty, and despair!
Nothing beside remains. Round the decay
Of that colossal Wreck, boundless and bare
The lone and level sands stretch far away.”²

The implication is obviously gives the idea that what we all have to do is to make peace with the planet and exploiting it to the hilt does not bring any good but only harm to the whole existence. As the father of Gaia Theory, which will be deeply discussed later in this dissertation, Lovelock, believing in the magnificent power of living Earth, repeatedly underlines this idea:

Gaia is an evolutionary system in which any species, including humans, that persists with changes to the environment that lessen the survival of its progeny is doomed to extinction. By massively taking land to feed people and by fouling the air and water we are hampering Gaia’s ability to regulate the Earth’s climate and chemistry, and if we continue to do it we are in danger of extinction. We have in a sense stumbled into a war with Gaia, a war that we have no hope of winning. All that we can do is to make peace while we are still strong and not a broken rabble. (*The Revenge of Gaia*, 139-140)

¹ <https://www.bartleby.com/235/334.html> Accessed on July 30th, 2019.

² <https://www.poetryfoundation.org/poems/46565/ozymandias> Accessed on April 15th, 2019.

Lovelock explains that Gaia is a perfect evolutionary system, nevertheless, interfering with self-regulations of all living things causes great damages and we have to stop before it is too late. For a peaceful process of nature without changing or damaging the surface or the atmosphere of the Earth, Lovelock proposes a need for a constraining oath, like Hippocratic Oath that physicians recite “Do nothing that would harm the patient”. Similarly, he suggests that there should be a warning sign on every large energy-using device or on any vehicles used to change the land saying “Do nothing that would harm the Earth” (*The Revenge of Gaia*, 168-69).

As a person once worked at NASA, Lovelock praises the successes of American scientists while he also criticizes their “straight-forward successful and reductionist way, seeing the Earth as something that they could improve or manage” because they “seemed to see it as no more than a ball of rock moistened by the oceans and sitting within a tenuous sphere of air. They even seemed to see Mars as a planet to be developed when the Earth is no longer habitable. They do not yet see the Earth as a live planet that regulates itself” (*The Vanishing Face of Gaia*, 21). Lovelock proposes that the best solution for saving the environment is to supply our needs from nuclear energy, which is feared by many, but for him, there is no logical basis for that fear. He insists that the fear of nuclear power was created intentionally by the energy lobbies in order not to lose their power. He criticizes those ignoring the living Earth and using it for the survival of humanity:

By putting humanity first, and neglecting Gaia, too many environmentalists have sown the seeds of their own destruction and, if they persist, ours as well; they could mitigate their error by dropping their delaying tactics against nuclear energy. More importantly, they would then be helping to power the lifeboat not, as now, sabotaging its engine. (*The Vanishing Face of Gaia*, 26)

Lovelock thinks that it is our duty to do something for the living Earth, as “we are the intelligent elite among animal life on Earth and whatever our mistakes, Gaia needs us” (28). Overall, he suggests the humanity to take firm steps for the sustainability of life on Earth. His ideas actually derive from the environmental philosophy that requires equal treatments for every living unity in the ecological system. This can be explained as “environmental justice”, which is defined and explained in a manifesto at “The First National People of Color Environmental Leadership Summit” (1991, Washington D.C.) as such:

Environmental justice:

Affirms the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction.

Mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things. [...]

Opposes the destructive operations of multinational corporations...military occupation, repression and exploitation of lands, peoples and cultures, and other life forms.

Requires that we, as individuals, make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and reprioritize our lifestyles to insure the health of the natural world for present and future generations. (qtd in Harvey, 344)

In the same direction, Robinson's Mars trilogy tries to strengthen humans' eco-ethical stance to create a more conscious and promising future for all living bodies in the universe. The aim of all plans and dreams of going to Mars both in the trilogy and in reality is not just escaping from the apocalyptic disasters on Earth, but also the pursuit of another dream, as the slogan of SpaceX corporation suggests, "Making life multiplanetary". The founder Elon Musk mentions these projects: "You want to wake up in the morning and think the future is going to be great - and that's what being a spacefaring civilization is all about. It's about believing in the future and thinking that the future will be better than the past. And I can't think of anything more exciting than going out there and being among the stars."³ Believing this future among the stars, many scientists work really hard to create this possible wonderful future on Mars, as the characters in Robinson's Mars trilogy do.

Carol Franko refers to the scientists on the Martian settlement as "Mortal Gods" creating a Utopian history: "Humans create and mold the Martian environment – are chased by some of those creations – and are capable of political commitments, civic action, and love. Utopia is near, death is near" (554). They are not just creating small stations on Mars but their plans aim to cover the whole planet, they are content with what they are doing and at the end of each day before they sleep, they feel weary with "the oh-so-interesting work of building a town and a world" (*Blue Mars*, 718). They are building an advanced version of Earth together with some ancient values that are also carried there.

³ <https://www.spacex.com/mars> . Accessed on July 9th, 2019.

The Mars trilogy focuses on the issues of how to live on Mars, but it is actually more about Earth. It aims to develop awareness towards the communal existence of humans and ecology in harmony. In this respect, Eric Otto suggests that we, as the intelligent beings, must “not draw traditional distinctions between life and the land”, but instead, we should “shift our ontological paradigms to include the being of the land, to see community not in anthropocentric terms, but as a complex ecology of ideas, of people, and of places” and Robinson’s ecotopian world is an “ever-evolving, ecological state” (254). Through his trilogy, Robinson expects us to envision something similar to Aldo Leopold’s land ethic, as J. Baird Callicott asserts: “(i) that *we* are members of a human community (not grown from the savage clan to the ‘family of Man’, and in reference to which we have evolved ethical limitations upon our conduct), (ii) that *we* are also members of a biotic, or land, or ecological community, and (iii) that accordingly, we should evolve or assume environmental ethical limitations upon *our* conduct” (qtd. in Otto, 254). Otto recommends that, like the utopian hero John Boone who is a social engineer fighting to synthesize the paradigms of divergent communities on Mars, as active participant readers, we can also “become utopian ecological engineers by reaching into Robinson’s crucible and pulling out a fully synthesized vision of an eco-economic/areophonic/Blue, and altogether Leopoldian, land ethic” (254).

Frederic Jameson asserts that the Mars trilogy does not just present a picture of scientific world with many problems but it also offers solutions and possibilities for different scenarios: “Not only are ‘problems’ – crises, dilemmas, catastrophes (has Sax thought about what to do if Burroughs was flooded?) – more dramatic than classic unresolved issues in theoretical science; but they also potentially give free rein to a different kind of imagination and a wilder set of propositions and puzzle-solutions” (“If I Find One Good City, I Will Spare the Man”, 49). Imagining Mars as one whole gigantic laboratory, Jameson states that it is a “unique laboratory in which the variables can never be isolated in the ordinary ways, but always coexist in a multiplicity which can scarcely be mastered by equations let alone by the computer itself” (50). Furthermore, Jameson adds that “all of the scientific problems described in the novel, without exception, offer an allegory, by way of the form of overdetermination, of social, political, and historical problems also faced by the inhabitants of Mars” (50) This means that science and politics are not dealt with separately in the trilogy, but they are

intertwined forces influencing one another during the socio-political and ecological construction process.

In an interview, Robinson states that “when it works right, science fiction is an enjambment of facts and values in a way that our culture desperately needs right now. The fact-value problem is specifically relevant to today’s world because we have a culture that is making developments and cultural changes without much regard for the underlying values that are going to be thereby expressed” (53). For Robinson, science fiction is combining the scientific facts and cultural values and he does this in his Mars trilogy by creating an ecological consciousness with the combination of facts and values concerning environmental issues centered around the discussions on the terraforming of Mars. Otto reflects this in his reading of the trilogy:

By critiquing the economic view of the land held by transnational and metanational corporations, demonstrating the complexity of ecological systems, emphasizing the mystical side of the land ethic, and contrasting opposing views of science, Robinson’s books promote a critical synthesis of ideas, leading to an ecological consciousness and a view of the land as part of the community. (“The Mars Trilogy and the Leopoldian Land Ethic”, 244)

Robinson maintains the idea that Earth is our “home” that will be “the only place we’ll ever know”, and thus, he illustrates the possibility of life in the whole vast universe: “our solar system exists at human distances and constitutes our home, or our potential home — Earth our home, the solar system a potential home — while the universe beyond the solar system exists beyond human distances and will forever remain a backdrop only, to be observed but not visited” (*Green Planets*, 248).

Kierkegaard notes in an epigram echoed by Darko Suvin that “We literally do not want to be what we are” (qtd. in “Defined by a Hollow, Ralahine”, 218). He implies that it is our innate desire to change our stance hoping for the better. While writing about the future of our planet, Robinson does not forget the history, on the contrary, he repeatedly presents it in order to help to shift it onto a utopian path as Jameson notes: “the attempt repeatedly to begin history over again [...] is the very subject of [Robinson’s Mars trilogy]” (*Archaeologies of the Future*, 227). Morrissey also writes, Robinson, in his Mars trilogy, engages the readers in a “search for a vision that can sustain us in the future” (386). Robinson imagines the possibility of having a galaxy within reach; he states that it is something “like the land of Cockaigne” (*Green Planets*, 248). Rather than thinking the morality of the action, he thinks that we would only save

the environment to keep ourselves alive; “I suppose if we had entire galaxies to play in, we could be more careless about housekeeping without killing ourselves. That would shift ecological thinking and morality both, I’m sure. But it is too much of a hypothetical” (*Green Planets*, 249).

When it comes to discussing the project of the terraforming of Mars, there has been a great variety of views and ideologies for decades on the scientific research. First of all, it is useful to note that Mars has no visible features eligible for human life according to the scientific measurements: “Mars’s atmosphere is 95 percent carbon dioxide; its atmospheric pressure is about six millibars (little less than one per cent of Earth’s), its mean surface temperature is -56 degrees centigrade, it has no surface water, and because it has only trace amounts of oxygen, it has no ozone layer, so the surface is bathed in ultraviolet radiation” (Markley, “Falling into Theory”, 127). However, it is an interesting fact that it has been at the center of many debates for a few decades among the scientists and planetary engineers who have come up with various strategies as to how to create a biosphere for human life on this barren landscape. According to Robert Markley, the emerging thought experiments at literary and scientific level “envision massive technological interventions to terraform Mars, their rhetoric invokes seemingly antithetical myths of humankind’s relation to a terrestrial Nature: the idealized visions of restoration ecology and the endless generation of wealth through exploitation” (128). On the other hand, Chris McKay handles the human struggle for mastering the planet through the help of technology and engineering from a postmodern allusion of quasi-fairy tale in which Mars can be restored back to its very ancient form by human touch: “Mars lived fast, died young, and left a beautiful body – the Sylvia Plath approach to planetary science. We could play Ted and just ignore it, or we could do something better and bring it back to life” (Shirley; “Terraforming Mars: Experts Debate How, Why, and Whether”, 2004) Jeremiah Creedon sees terraformation as an extravagant fantasy that “belongs to a special kind of American virtual reality – a make-believe world full of things the public pays for but never sees” (qtd. in Markley, “Falling into Theory”, 129). On the other hand, the astronomer David Grinspoon observes the process as a teaching experience at an intellectual level: “terraforming will remain a purely intellectual exercise for the foreseeable future” (qtd. in Markley, “Falling into Theory”, 130)

Enlightened by all these divergent ideas on the issue of terraforming, this dissertation aims to discuss the required eco-ethical stance for a better future to avoid any possible catastrophes in the light of different theories and philosophies applied on Robinson's Mars trilogy. First of all, Chapter 1 gives a basic theoretical background to set up the framework on which this dissertation is based. The chapter starts discussing the prevailing ecological and eco-philosophical views on the relationship between the human and nature for centuries from the anthropocentric writings of Bacon to more cosmical ideas of Einstein, Bohm, and Naess. Rather than holding the ancient master-slave version of the hegemonic binary structures, the perfect harmony of the universe with each interconnected part equally contributing to the whole system is appreciated at the grounds of the ecophilosophy of this dissertation. Husserl and Heidegger's views are presented to highlight the existential point of view. Their phenomenological insights help to understand our "being" from the philosophical concepts, which is the key to many man-related and man-inflicted problems and solutions. Then, Marxist analyses are introduced to explain the economic and political reasons behind the crises in nature and the human world. Primarily, Karl Marx and Frederick Engels' provocative doctrines are argued in search of a more ecologically considerate system. Said's postcolonial approach is also examined to comprehend the colonizer's mentality dominant in Western thought. As a postmodern text, Jean Baudrillard's ideas on the simulations are also examined to explain the effects of modeling narrations on reality. The theory chapter concludes with the two possible outcomes for the future depending on the choice of humanity as analyzed in the literary texts: either preserving a Neo-Malthusian worldview trying to save only a few out of the approaching apocalypse or believing the power of Gaia by taking firm steps to protect it.

Chapter 2 basically discusses the process of terraformation on Mars from a variety of perspectives presented throughout the Mars trilogy. The conservative approaches of the Reds are analyzed to understand Ann's "mineral ethic" valuing the rock more than the fast scientific interruption on the Martian surface. In contrast to them, the enthusiastic terraformers, the Greens led by Sax and their colonial and capitalist ideology carried on Mars are examined. As a spiritual attitude towards the planet, Hiroko's "viriditas" is also reviewed from philosophical connections to the land. In the second part of this chapter, the natural areoforming process on the Martian bodies which finally leads to the consensus of the opposing views of the Reds and the Greens,

and creating the third color representing the whole. As a result of evolving bodies, ideas, and concerns; the color blue is created as the third uniting color of all considerations on the living and non-living worlds in the universe.

Chapter 3 focuses on economic and political systems as controlling forces of cultural and social developments in the Mars trilogy. The primary analysis of this chapter is done according to Marx's theory of Marxism. The inquiry based on Marx's ideas shows that capitalism is responsible for the desires of turning Mars into a colony of Earth after the colonization of different locations on Earth. As David Harvey points out, "Capitalism came into the world, as Marx once put it, bathed in blood and fire" (250), that is, capitalism is the source of destruction and death wherever it enters. Discussing the detrimental effects of the hegemony of the capital, the chapter tries to explain the relationship between the ecology and the economy of Mars and Earth together with the politics at work in the two planets in terms of the eco-ethics concerning the colonization of Mars. As a solution to the corrupted existing economic system, the necessity of the emergence of a new system, eco-economics, is discussed and suggested for its promising ideology. Finally, in this chapter, the reasons of some failures such as revolutions and wars will be argued in order to refrain from repeating the same mistakes again. Edward Said's identification of "the other" to blame for the catastrophes is discussed in the light of the attitudes causing conflicts, hatred, and enmity among people by producing great problems. Thomas Malthus' logic of Malthusianism is also mentioned to discuss the reasons that bring about the present catastrophes.

Chapter 4 is more like a comparison of the given science fiction narration in the Mars trilogy and the reality, besides Mars and Earth. It starts with the discussion of the relationship between the science fiction writings and environmental concerns in them. As one of the key subjects of the genre, the ideal of creating a utopia on Mars is observed with radical intentions, which turn out to be a failure with the collapse of certain ideologies followed by the revolutions and wars. In the second part of this chapter, the future possibilities of human transfer to settle on a different planet as reflections of the science fiction imaginations are discussed. Baudrillard's simulations are mentioned to evaluate the effects of media. The last part of this dissertation includes the ideas to solve the existing and approaching catastrophes from a multigenerational perspective as given in the Mars trilogy. From the analyzed works, it is observed that

Gaia Theory is suggested as an evolutionary force to save the future of the whole planet together with the humanity's duties towards the planet. From a more radical perspective, the urgency of a systemic change in economic, political and social spheres is also presented as a concrete solution to the existing conflicts primarily caused by the capitalist system. The message through the analysis of the primary texts indicates that ecosocialism is observed to be the best option for the existing situation of the present world.

The dissertation concludes upon the critical examination of the Mars trilogy that building a better future depends on the willingness and determination of humanity to tear down the old values and systems to render a completely bright possible future. Robinson emphasizes his purpose for writing science-fiction and his hopes for having a more scientifically oriented community for the sake of future generations: "We're still allowing capitalism to shape our actions and wreck the Earth, meaning our bio-infrastructure, meaning ourselves. So our culture is not yet scientific enough; when it becomes so, we will be making more rapid progress toward both justice and sustainability, as the two are stranded parts of the same project" (*Green Planets*, 260). The Mars trilogy serves to the purpose that Robinson's this struggle towards justice and sustainable futures should not only be his story but followed by many for a better future for all living things.

Harvey suggests, "feasible future possibilities arise out of the existing state of relations between the different spheres" (229), that is, the differences are in the nature of human life, of course they have different reasons to be on Mars and there are different intentions of the people who send them, and all of them bear attainable future possibilities. Ideological, cultural and political differences cause conflicts and create big storms among this new society, but as John Boone, the protagonist in *Red Mars*, metaphorically explains in his last speech that these human conflicts are like meteor strikes "melting the permafrost at our social base, melting all those frozen institutions away and leaving us with the necessity of creation, the imperative to invent a new social order that is purely Martian" (*Red Mars*, 378-79). To explain more, it is in our genes partially distributed to different individuals in a handful of people, and it is like the genetic engineering they work on in the labs. The final words of John Boone as a hero are actually the last statement to the humanity to understand what we are made of and how we are going to realize the best by considering the future generations:

We have the DNA pieces of culture all made and broken and mixed by history, and we can choose and cut and clip together from what's best in that gene pool, knit it all together the way the Swiss did their constitution, or the Sufis their worship, or the way the Acheron group made their latest fast lichen, a bit from here and there, whatever's appropriate, keeping in mind the seven generation rule, thinking seven generations back and seven generations forward, and seven times seven if you ask me because now it's our lives we're talking about extending way off into the years, we don't know how that will affect us yet, but it's certainly true that altruism and self-interest have collapsed together more tightly than ever before. But also it's still and always our children's lives and our children's children and on down forever that we have to think of, we must act in a way that gives them just as many chances as we have been given and hopefully more, channeling the sun's energy in ever more ingenious ways to reverse the flow of entropy in this little pocket of the universal flow. (*Red Mars*, 379)

CHAPTER II

THE THEORETICAL BACKGROUND

Where nothing is in its place, lies disorder
Where in the desired place there is nothing, lies order

-Bertolt Brecht-

To give a brief outline of this chapter, it firstly discusses some of the main eco-ethical and eco-philosophical theories in order to have a broad perspective to analyze the nature of ecology, the problems in ecology together with the reasons behind them and the possible solutions that could be offered to them. In this first part, the Western anthropocentric approach towards nature is challenged through Deep Ecology⁴, which celebrates the intrinsic value of all creatures in the universe with a more ecocentric perspective. The dominant anthropocentric worldview, which is obvious in the classical literature placing man as the master of the universe with the duty to control the rest of creation as can be seen in Francis Bacon's *The New Atlantis*, is replaced by a more ecocentric and cosmocentric view considering the human interactions with the non-human world and the planets in the infinite universe not in terms of master-slave relationship but as intimately connected entities. In this sense, David Bohm's theory of "undivided wholeness" is a great help by opening a new horizon that overthrows the hegemonic power structure through the revelation of interconnectedness, oneness, and wholeness of all entities according to the New Physics that was introduced by Albert Einstein's theory of relativity. For the eco-philosophical considerations, Naess' concept of ecosophy is introduced as an enlightening view in every aspect of our lives through the reconsideration of our value systems in terms of ecology and philosophy. Secondly,

⁴ "Deep Ecology" is a term invented by Arne Naess in his 1973 article "The Shallow and the Deep, Long-Range Ecology Movement: A Summary" as a radical ecological worldview emerging against the Western anthropocentric approach towards non-human nature, in contrast to the dominant shallow worldview which he depicts to be the typical environmentalism as an extended approach of this Western human-centered instrumentalization of nature. (*Encyclopedia of Environmental Ethics and Philosophy*, 206)

how phenomenology is a key philosophy to understand the crisis of ecology will be analyzed through Husserl and Heidegger's views. It is also discussed in this section that Husserl's phenomenology provides a philosophical insight into the causes of and solutions for the crises. For the existential aspect of the problem and the solution, this part of the dissertation also focuses on Heidegger's fundamental inquiry into understanding the meaning of "Being" from an ecophilosophical perspective. The ecological Marxist analyses of Hegel, Marx and Engels also provide a different dimension to deal with ecological problems. In the fourth part, in order to evaluate the eco-ethical actions towards the new planet after all the crises in the world, Said's postcolonial approach is considered to observe the future colonialism of Mars. Later in this part, a postmodern representation of Baudrillard's "simulation" is also discussed, as Mars is a postmodern science-fictional simulacrum of the Earth. Finally, this chapter focuses on the two possibilities derived from the analyzed works; an apocalyptic Neo-Malthusian worldview and a regenerating perspective of Lovelock's Gaia Theory.

2. 1. Exploration of Eco-ethics and Eco-philosophy

Radical environmentalists claim that humans are a part of the global environment, thus our position is viewed as a subset of nature as J. M. Buchdahl and D. Raper point out: "Human needs, therefore, are secondary to the natural order of things, where equilibrium exists between life and death, growth and decay. Rather, we should strive for a sustainable harmony of nature" (93). It is argued that there are two basic views: one refers to anthropocentric and instrumental systems giving more significance to social and economic needs, and the other is an environmental view defending nonanthropocentrism and intrinsicism that gives the inherent value to nature. However, these models are not enough for the success of sustainable development, thus ethical values are necessary to be addressed such as "the object of environmental value, the nature of value, the source of value, the theory of value and the attribution of value" (Buchdahl and Raper, 92-93). In their analysis, Buchdahl and Raper reject the classical dichotomy of anthropocentrism and nonanthropocentrism through a reconciliation between them by emphasizing the distinction of the object of value and the source of value: "Having rejected anthropocentric perspectives of the object of ethical value, and an objectivist source of ethical value, we are left to consider the role of nonanthropocentric subjectivism as an alternative ethical doctrine for justifying

sustainability” (96). They are both distinct and independent at the same time. Buchdahl and Raper define the ethical dimensions of nonanthropocentric subjectivism as “ecocentric, inherentist, anthropogenic prescriptivist, subjectivist and hierarchical” by highlighting it as a builder of sustainable development:

The doctrine presupposes ecocentrism, because nonhuman entities, including inanimate objects, can be logically included within the Moral Club, inherentism (rather than instrumentalism or intrinsicism), because whilst value in nonhuman nature is dependent upon human consciousness, some of this value does not derive from traditional human values, anthropogenic prescriptivism, because the source of the ethical valuing experience is unique to humans, who engage in such behaviour through convention, therefore, subjectivism and finally, hierarchical attribution of value, since most people would presumably wish to rank the ethical status of themselves above other living species and inanimate objects. (96-97)

Humans and non-human nature are neither separate beings nor have they a Hegelian master/slave kind of relationship, as widely well-known in the classical literature such as Prospero and Caliban in Shakespeare’s *The Tempest*, but they are somehow interdependent. Thus, their mutual dependencies of needs show that they are actually parts of each other, which is the core of the development of sustainability. According to the interpretations of creation in religious books such as the Bible and the Quran, the dominant ideology that assumes man as “shepherd” and nature as “resources” creates “the competing demands of natural harmony and human welfare” (97). This idea could be seen in most of the literary sources for many centuries until modern times. Here it is important to acknowledge the double role of nature as fulfilling economic and social needs with an instrumental service and as holding an inherent value, apart from those humanitarian demands, which is a crucial moral action to achieve sustainable development for the future.

The reason for the dominance of this anthropocentric worldview, as reflected in culture and literature, is “rationalism” for some critics. Val Plumwood blames rationalist culture for the destruction of many dimensions of human life by stating that this reason-centered culture of the West is at the very root of the deepening ecological crisis. The temporary advantage of the dominant culture over the conquerable and oppressed ecologically-adapted cultures on Earth has brought us to the biophysical limits of this planet, and ironically it seems to be at the merciful hands of the capitalist powers to save us all. The success-oriented nature of this system holds other cultures, humans, and non-human nature under its domination. Plumwood declares that the

successful outcome of this capitalist system is closely connected to “our long term ecological and ethical failures”, and there are two possible options we are left with, “change this culture or face extinction” (5). Plumwood adds that it is not just reason alone to be accused of this ecological crisis, but impertinent and senseless forms transformed within “the framework of rationalism and its dominant narratives of reason’s mastery” (5) of the interrelated forces in nature are also responsible. This type of reasoning perceives physical and ecological world as unimportant, thus what we are supposed to do is to change this system of values for the better as Plumwood clearly states: “Reason has been made a vehicle for domination and death; it can and must become a vehicle for liberation and life” (5). If the reason is used rightly for the scientific and technical developments, it has the power of being the hero for the human race with better scenarios: “Science will save us, provided we do not lose our nerve or our faith in techno-reason and our will to continue along our current path” (Plumwood 6). According to Plumwood, we need to be engaged with critical self-philosophy in this anthropocentric culture and reconsider the restrictions by humans instead of the non-human natural part of the ethical relationship (11).

Apart from Plumwood’s radical accusation of rationalism for the ecological crisis, Greg Garrard presents “environmentalism” as a social, political and philosophical movement, a core element to solve all these crises, from which several distinct eco-philosophies emerged intimately related to environmentally-oriented disciplines in philosophy and social and political theories. Garrard defines “deep ecology” as the most influential radical form of environmentalism. Deep ecologists claim that a smaller human population is required for the flourishing of human and non-human life in the future because of the fact that rapid population growth is the root of all environmental problems. Deep ecologists distinguish themselves from the environmentalists in their position in that they do not hold an instrumental approach to nature that works for the protection of nature for the sake of humans. On the contrary, they defend the acknowledgment of the intrinsic value of nature for its own sake, as perfectly stated by the Russian poet Tiutchev:

Nature is not as you imagine her:
 She’s not a mold, nor yet a soulless mask-
 She is made up of soul and freedom
 She is made up of love and speech... ⁵

⁵ <https://allpoetry.com/--Nature-is-not-as-you-imagine-her...-> Accessed on July 9th, 2019.

In order to give the deserved right to nature, deep ecology claims a shift from an anthropocentric approach in Western philosophy, culture and religion and from a colonial view encouraging humans to claim they have discovered wild untouched nature as in Defoe's *Robinson Crusoe* or Conrad's *Heart of Darkness* to a nature-centered and biocentric system of values. This attitude suggests that all entities, species, and systems have their own rights. Similarly, cosmocentricism defends the view that the universe also has its own right of existence, and humans have no right to colonize and change the nature of any other planets. It rejects any human attempt to terraform uninhabited planets for the creation of human civilization and supports the preservation of untouched natural conditions of all existing planets and systems. From this perspective, Mars preserves its own right of existence as a planet, not for the sake of human beings according to ecocentric and cosmocentric views. The anthropocentric colonial view in Robinson's trilogy is rejected by deep ecologists as they claim that the universe is not human- but ecologically-centered and man does not have the whole authority to be the master to control non-human worlds and planets.

As one of the pioneers in environmental criticism and deep ecology, the Norwegian philosopher Arne Naess emphasizes the two choices human beings are faced with: "to contribute to the maintenance and development of the richness of life on Earth" or "to fritter away our chances, and leave development to blind forces" (23). He sadly states that the reason behind the catastrophic crisis in ecology lies in the fact that our ecological knowledge is crucially limited, and our ignorance of the significant facts bring ecopolitical consequences. He reveals that it might be surprising for many people, but "The scientific conclusions are often statements of ignorance: 'We do not know what long-range consequences the proposed interference in the ecosystem will beget, so we cannot make any hard and fast conclusions'" (Naess, 26). The "ecological doomsday prophecies" do not go any further than being catastrophic statements unless new policies are brought; however, we neither know the extent of these policies nor the critical time of this change either instantly or radically (27). He states that the more we study ecosystems, the more conscious we become about our ignorance, and this enables us to take conservation steps. He proposes two types of movements: The Shallow Ecology Movement that requires a "fight against pollution and resource depletion. Central objective: the health and affluence of people in the developed countries" and

The Deep Ecology Movement which involves the “rejection of the man-in-environment image in favour of the relational, total-field image.” (qtd. in Naess, 28) The Deep Ecology Movement observes the organisms as “knots in the field of intrinsic relations”, supporting a kind of “biospherical egalitarianism - in principle. The ‘in principle’ clause is inserted because any realistic praxis necessitates some killing, exploitation, and suppression” (qtd. in Naess, 28).

Deep ecology aims to end the master-slave relationship by declaring the intrinsic relation between the two things and the equal rights to live for every species. For a comprehensive understanding of his philosophy, Naess provides eight necessary formulations of the deep ecology. To summarize his points, the intrinsic value of human and nonhuman life forms are distinctively appreciated in their richness and diversity that will contribute to flourish more life forms, humans have no right to reduce this except satisfying their vital needs, the human interference to the nature is enormous and getting worse day by day, the flourishing of human and non-human life necessitates a substantial decrease in human population, there is an urgent need for a radical change in economic, ideological and technological policies, the ideological change is only possible through the recognition of the intrinsic value of things with the awareness of having a reasonable standard of living away from the excessiveness and those who recognize the aforementioned points are obliged to participate in the attempts of carrying out the necessary changes (29). These formulations can be taken into consideration to prevent the ecological crisis in our world and any possible worlds in our universe like Mars in Robinson’s narration, and to escape a future catastrophic scenario foretold to us through science fiction. Deep ecology not only saves humans from this crisis but also helps them to increase the value of their lives. Naess categorizes the ultimate goals in human life under three main sorts: pleasure, happiness, and perfection. He further adds that it is extremely difficult not to fall into the third category that is the core of the crises in our world through the help of science. Nevertheless, he states that within the deep ecology, the personal quality of life holds the primary place, which is up to the fulfillment of basic objectives (84). Naess states that the future of deep ecology both reserves hopes and fears on account of the conscious change about ecology:

It is my hope that beings endowed with a brain like ours, developed through hundreds of millions of years in close interaction with all kinds of life will inevitably support a way of life not only narrowly favourable to this species,

but favourable to the whole ecosphere in all its diversity and complexity. A uniquely endowed part of this ecosphere will not turn into its eternal enemy. (212)

On the other hand, Robinson argues, “Deep ecology seemed to be suggesting that humanity was a planetary disease that would run its course and then die back or die out. This did considerable harm to the environmental cause, thus ultimately to the environment” (*Green Planets*, 256). For Robinson, deep ecology obviously makes it visible the reason why “environmentalism needs Marxist critical theory” as Marxism mostly uses a great immersion of “ecological thinking” (256). Even though Robinson approves some of the initial observations of Naess to be scientifically accurate and to be praiseworthy within their context, he still thinks that “adding the adjective “deep” was a mistake” because for him, “the point should have been that plain old ecology was already at the right depth to be very helpful” (256).

The hope for a diverse universe depends on the usage of science and technology in a considerate way for the good of the human and non-human world. As Bertolt Brecht reflects the function of science through his character Galileo in his *Life of Galileo*, “One of the main reasons for the poverty of science is that it is supposed to be so rich. The aim of science is not to open the door to everlasting wisdom, but to set a limit to everlasting error” (43), and he adds, “the only purpose of science is to lighten the toil of human existence” (64). Thus, the new science is practiced for the sake of human existence together with the non-human world. Quantum Mechanics and The New Physics, through Einstein’s theory of relativity, opened the gates of a completely new perspective to understand the universe by deconstructing the mechanistic worldview of nature as obvious in the narrations such as *Moby Dick*, *Robinson Crusoe*, and *The New Atlantis* etc. The theory reveals the constant interaction between matter and energy, space and time as a part of a larger whole rather than the old mechanistic worldview that categorizes all organisms as separate particles and orients humans as observers and controllers:

Relativity theory calls for this sort of way of looking at the atomic particles, which constitute all matter, including of course human beings, with their brains, nervous systems, and the observing instruments that they have built and that they use in their laboratories. So, approaching the question in different ways, relativity and quantum theory agree, in that they both imply the need to look on the world as an undivided whole, in which all parts of the universe, including the observer and his instruments, merge and unite in one totality. (Bohm, 13)

There is a harmony of the unity of all things in one and undivided whole. Bohm calls this “undivided universe” in which every particle is intrinsically interconnected with each other and acts interdependently as a particle of “undivided wholeness and implicate order”, which suggests that the universe is an unbroken whole and everything is interrelated to everything else:

Nowhere is there a break or a division. Thus, the classical idea of the separability of the world into distinct but interacting parts is no longer valid or relevant. Rather, we have to regard the universe as an undivided and unbroken whole. Division into particles, or into particles and fields, is only a crude abstraction and approximation. Thus, we come to an order that is radically different from that of Galileo and Newton – the order of undivided wholeness. (158)

Bohm’s emphasis is that the observed instrument is not quite distinct from the observer; they exist in interaction, which also destroys the dualistic analysis creating hegemonic structures. It is a direct reference to the old scientific methods in which scientists proclaimed themselves as the master observers who were free to do whatever they desired with the non-human world by justifying their oppression through the scientific method which sees the world as a clockwork machine and by defending their invasion as a God-given right. Bohm emphasizes the equal existence of all particles and creatures: “Ultimately, the entire universe (with all its ‘particles’, including those constituting human beings, their laboratories, observing instruments, etc.) has to be understood as a single undivided whole, in which analysis into separately and independently existent parts has no fundamental status” (221).

Bohm and Hiley’s analysis of “participatory universe” connects the human and non-human world to the rest of the universe, and human nature always seeks for that wholeness (134). When this wholeness is broken, the destruction, crisis, and war, as in Robinson’s trilogy, are inescapable, because he claims that fragmentation causes confusion and creates huge problems, which is the root of pollution, disruption of the natural balance, overpopulation and economic and political disorder around the world. Accordingly, the universe is a complete whole, and each living/nonliving organism is a part of this “participatory universe”, which refers to the interactions between Mars and the Earth. Quantum contextualism explains that there is no separation but an essential bond between the worlds of human and non-human. It shows the existence of correlated non-local connections between the seemingly separate particles. Similarly, Robinson’s

character Hiroko mentions that the possible connections can be established with the soul of the place if the people arrived on Mars listen and wait tenderly, as we are all participants of the perfect universe, not separate entities.

Bohm's analysis on the interconnectedness of human and nature leads us to a deeper philosophical analysis in ecology as can be observed in Naess' portrayal of "ecophilosophy" as "the study of common problems to ecology and philosophy" and when "the questions involving ourselves and nature" are concerned, the meaning of the world "philosophy" becomes "ecosophy" (36). He defines ecosophy as "a philosophical world-view or system inspired by the conditions of life in the ecosphere" (38). As Serpil Oppermann discusses, Naess' argument applies the basic principle of our unique universe: "all are intimately interconnected" without any boundaries in this "organic wholeness", everything is naturally interrelated through rhizomes (connections) in the postmodern analysis of ecology (24). Naess specifies his own explanation, "Ecophy T", a philosophical view point "inspired by ecology, but it cannot be derived from ecology or any other science" (39). Ecosophy T appreciates "unity and diversity" in life by suggesting basic ecologically conscious changes affecting every aspect of human life faced with the increasing environmental problems day by day. Its philosophy touches on almost every kind of problem in the basic areas such as technology, economy and politics. The main goal of Ecosophy T is "to emphasize the responsibility of any integrated person to work out his or her reaction to contemporary environmental problems on the basis of a total view" (Naess, 163). It ties life and nature together in order to give "the universal right to self-unfolding and the correlative intrinsic value of every life form" (164). The development of an individual's sense of self and self-respect is developed through the constant interaction with organic and inorganic bodies strengthening his identity of "belonging", "having a home" and "living". There is no complete isolated social unit; one cannot distance himself/herself from nature, as it is a part of everyone's identity.

Ecosophy T also defends the equal rights for all life forms: "The right of all the forms to live is a universal right which cannot be quantified. No single species of living being has more of this particular right to live and unfold than any other species" (166). Nonetheless, Naess warns us against the misunderstanding that the biospheric egalitarianism defending equal rights does not mean that "human needs should never have priority over non-human needs" and he underlines the fact that the uniqueness of

humankind should never be underestimated as the only present living one among almost a hundred million extinct species since the beginning of life on Earth (169-170). Ecosophy values this uniqueness while protecting the rights of the other species as well: “The uniqueness of Homo sapiens, its special capacities among millions of kinds of other living beings, has been used as a premise for domination and mistreatment. Ecosophy uses it as a premise for a universal care that other species can neither understand nor afford” (Naess, 171). Ecosophy suggests a kind of empathy based on identification towards the other creatures through self-realization of oneness, wholeness, and diversity in our universe, from that aspect; it is necessary to take a distinct approach of four fields of phenomena:

- (1) Identification with living beings individually (distributively) and within limited life situations;
- (2) Identification with living beings collectively or in their essence (life itself, ecosystems, species);
- (3) Ethical judgement (by different scales) of the individual beings in specific situations;
- (4) Ethical judgement of life collectively or in its essence. (Naess, 181)

Naess also provides proofs for his argument in the oneness of the whole creatures through the examples from the religious accounts, the Bible and the Quran. He refutes the interpretation of man’s placement as the lord of the other creatures that are told to be created to serve him. He is against the view that religion is in conflict with ecology by claiming that the privilege mentioned to be given to humans by God as stated in many parts of Holy Scriptures is misinterpreted by humans:

God blesses all equally: each thing is blessed separately and referred to as good. ‘And God saw that this was good.’ A strong value judgement was made even before He created Adam. The individual parts of the creation seem to be afforded intrinsic value. Nothing of that which is created has value only as means. Nothing is created only for the sake of human beings alone or solely for any other earthly being. A principal point in ‘egalitarianism in the biosphere’ is thereby won: every living being is equal to all others to the extent that it has intrinsic value. (Naess, 184)

He emphasizes the fact that the Earth does not belong to mankind as it belongs to God, and all creatures share the universe within the limits of their individual spaces.

Naess favors the slogan “everything hangs together” appreciating the interrelatedness of everything in the universe and he stresses that the limits in ecopolitics are multidimensional, which can be interpreted for every life possibility in our universe, on Earth, on Mars, etc. He suggests an ecosophical lifestyle and

consciousness with a central slogan, “Simple in means, rich in ends”, which celebrates “opulence, richness, luxury, affluence” (Naess, 88). Naess underlines the necessity of having an ecological consciousness on the level of personal lifestyles through ways of living and having organizations for people working upon the alternative ways to help each other like the movement “The Future in Our Hands” whose main principles are “preservation of the natural and whole biological environment, with humans as an integrated part, is a necessary condition for the development of the life quality of mankind, and its maintenance in the future” (88-89). The first aim is to change the consciousness and lifestyles of people both inside and outside simultaneously for better futures, instead of blaming the system, the change in the mentality is essential in many fields such as technology, lifestyle, politics, and economy in order to find a solution to resolve the environmental crisis.

Furthermore, Naess proposes soft technology “to treat lightly on Earth” according to an ecosophical lifestyle and suggests diminishing the invasion of hard technology, especially in the industrial nations of the Third World. He points out that “change in technology implies change in culture” (102). Furthermore, it is also required for economics to consider eco-ethical concerns as they are also related according to ecosophers, as he states: “Humans’ gross interference in nature mirrors our economic activity. Protection of what is left of free nature depends largely on the way humans are willing and able to change their ways of production and consumption - and the ideologies justifying the present economic misuse of the planet” (Naess, 129). Similarly, Naess elaborates that ecological concerns cannot avoid politics as well. Again, an ecosophical consciousness is required for the basic ecopolitical areas such as pollution, population and resources. He implies that better social conditions depend on the development of self-determination in terms of ecopolitical considerations. Then an international consciousness is an obligation for the total in order to set the balance between the rich and the poor countries by changing the former’s policy towards the latter from exploitation to mutual aid (150). He underlines the vitality of green political activism and deep ecological movement for the prosperous future life conditions on the planet with the motto “there is no point of no return”, thus he gives the message that it is time to stop the accelerating devastation of life conditions in our present world wherever it applies.

2. 2. Ecological Insights of Phenomenology as the Key Philosophy to Understand the Crises of Our Lives

As human actions are actually directed by the strong force of psychological mind, it is vitally significant to understand the real motives behind the nature of the crises in our lives. Philosophy has a function to enlighten human lives for ages, and phenomenology is a key philosophy for human interactions with each other and with non-human world. Thus, a phenomenological approach might help to identify the reasons of ecological crisis and to find the possible solutions for them. The connection between Edmund Husserl's phenomenology and ecology is that the more we understand human nature, the better we comprehend our place in the universe in harmony with the other species and non-human worlds. The meaning of our experiences from a phenomenological perspective is closely related to the experiences with the true status of nature as Naess asserts: "Phenomenological viewpoints are valuable for the development of consciousness of a non-instrumental, non-utilitarian content of the immediate experience of nature" (51). If humans on Earth like the characters in Robinson's Mars trilogy had a phenomenological attitude towards the crises in their worlds and similarly in the possible future habitat Mars, all of their efforts would not end up with failure and more destruction. The phenomenological approach can prove to be efficient in the fight against the crises in different areas to save the life on Earth and to establish ethical and ecologically moral connections with the future life.

In order to understand the connection between phenomenology and the crises in ecology, it is important to acquire some basic ideas about Husserl, who is accepted as the father of phenomenology in the modern philosophical sense. His pure phenomenology basically studies how things in our universe appear to our conscious awareness and how the world seems to us depending on our subjective experiences. That is, phenomenology is about reflecting upon our everyday experiences in order to gain some sense of its underlying structure, order, and coherence. Husserl describes two basic attitudes in human life, the natural and the phenomenological one, and our choice of attitude affects the whole human and non-human life. Either we blindly destroy our world, or we tenderly approach everything, as we really understand the essence of them.

First of all, it is better to explain Husserl's analysis of the two basic types of human attitudes in order to comprehend the causes of different types of crises and to

find solutions for them. The first one is natural attitude, our common and usual behaviors through which we see the reality in our lives, as Moran explains:

The natural attitude is a complex constellation of attitudes which presents the world as pregiven and simply there for me, spread out in space and time, and so on. All sciences take place within the natural attitude; they simply assume the existence of the world. These sciences are “naïve”, as Husserl puts it, precisely because they accept the world as “present” or “on-hand” (vorhanden) and “actual” (wirklich). (69)

On the other hand, in a phenomenological attitude, we are bracketing our natural belief in the experiences by focusing on our consciousness, which is known as epoché/suspension. Husserl describes using epoché through the inquiry of the nature of reality from the perspective of the phenomenological attitude as “phenomenological reduction” and they are both crucial for Husserl: “the epoché and reduction are necessary gateways to this transcendental ‘field’ (Feld), which is a field of experience, a field of direct intuition, and, moreover, one of unlimited extent” (Moran, 276). According to Husserl, epoché in the transcendental philosophy has the power to make one free as Moran notes “free of the strongest and most universal, and at the same time most hidden internal bond, namely, of the pregivenness of the world” (279). Similarly, transcendental reduction opens the gate to a precisely new transcendental experience, and again a hidden bond is uncovered to this systematic process: “Through the transcendental reduction, absolute subjectivity, which functions everywhere in hiddenness is brought to light along with its whole transcendental life” (Moran 283). That is, in the first attitude, we are not really conscious about our actions, thus we might cause to create crises in every part of our lives, but if we take a phenomenological attitude, it is possible to choose an ecologically sensitive path for the future of human life.

It is our subjective experience in which the meaning of the things changes depending on whether we have a natural attitude or phenomenological attitude towards the incidences. Thus, we do not just take them for granted, but we become aware of the natural reality and consciousness of our lives by exploring them. In his *Ideas*, the way to explore consciousness undertakes a search, which is called eidos/essences, a different terminology used by Husserl as he stated his intention of keeping the Kantian concept of idea from the universal concept of essence (Husserl, *Ideas Pertaining to A Pure Phenomenological Philosophy, Introduction*, XXII). They are fundamental and

unchanging features of our experiences, which make them what they are: “The essence (Eidos) is a new sort of object. Just as the datum of individual or experiencing intuition is an individual object. So the datum of eidetic intuition is a pure essence” (Husserl, *Ideas Pertaining to A Pure Phenomenological Philosophy*, 9). After taking the phenomenological reduction on a subjective experience, we can use a second one, “eidetic reduction” to understand the essence of experiences. There is a very special moment called “intuition” brought by eidetic reduction to realize the essential nature of our consciousness, which is created by employing a method known as “imaginary variation”. In this method, the inquiry varies all the imaginable attributes of our subjective experience as a way of discovering what it required to be what it really is. Husserl identifies his project of experiencing the events rather than taking them for granted as “back to the things themselves”. According to him, our consciousness is an active continual process referring to a variety of things depending on our subjective experiences, therefore, both the cause and the solution of our ecological crisis are intimately connected to our consciousness as a directing force for our actions.

Husserl’s exploration of “the lifeworld” has also a crucial place for understanding our subjective experiences as it is “the surreptitious substitution of the mathematically substructured world of idealities for the only real world, the one that is actually given through perception, that is ever experienced and experienceable –our every-day life-world” (Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, 48-49). The life-world is the total world we know containing the social and inter-subjective spheres, which leads us to the existentialist phenomenology: “The life-world, as Husserl characterizes it, is the world of the pre-given, familiar, present, available surrounding world, including both ‘nature’ and ‘culture’ (however they may be defined), that envelops us and is always there as taken for granted. The life-world also provides a set of horizons for all human activity” (Moran, 6). As Moran indicates, Husserl’s lifeworld is fundamental for all human actions. It is everything that can be experienced, creates the horizon for all the experiences in human lives, including the world itself. Husserl indicates the distinction between “the idealized true world” and “the life world” on the accounts of experience, as we cannot experience the former, the latter is full of subjective experiences:

The contrast between the subjectivity of the life-world and the “objective,” the “true” world, lies in the fact that the latter is a theoretical-logical substruction, the substruction of something that is in principle not

perceivable, in principle not experienceable in its own proper being, whereas the subjective, in the life-world, is distinguished in all respects precisely by its being actually experienceable. (Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, 71)

Thus, Husserl's life-world involves not only individual but also communal experiences of the world in which there is the life of functioning subjects. Functioning subjectivity, "the kind of anonymous practical intentional life that is involved in the production of an intersubjective social world" (Moran 236), which keeps a crucial place in Husserl's life-world as a subjective and intersubjective world as he explains more:

The life-world is the natural world—in the attitude of natural life we are living functioning subjects together in an open circle of other functioning subjects. Everything objective about the life-world is subjective givenness, our possession, mine, the other's, and everyone's together. Subjects and possessions are not equal; the subjects are without qualification, what is not personal is surrounding world, what is lived is lived experience of surrounding world, and that holds also for what is seen and and thought, etc. (Husserl, *Ideas II*, 385)

Husserl explains the significance of a phenomenological analysis in terms of exploring our consciousness in subjective experiences and the questions of existence, being and reality. He states that philosophy, science and technology have proceeded on the basis of "natural attitude" by observing the reality through common behaviors rather than focusing on the consciousness through the suspension of natural belief described as "phenomenological attitude", and this creates crises at every field. Because of our failure to truly understand the nature of our existence, consciousness and subjective experiences; cultural, economic, philosophical and ecological crisis have emerged all around the world: "the crisis of philosophy implies the crisis of all modern sciences as members of the philosophical universe: at first a latent, then a more and more prominent crisis of European humanity itself in respect to the total meaningfulness of its cultural life, its total 'Existenz'" (Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, 12). Husserl explores that the modern world is full of chaos and destruction that can be observed both in societies and in individuals due to the fact that we do not really understand the real essence of our experiences. Our consciousness, our existence in the life-world and our experiences within that framework constitute the most significant elements of our lives, thus phenomenology aims at helping humanity to be fully aware of them by addressing this crisis in our modern world through the help of discussions on science, technology and philosophy. Moran identifies a number of these

interrelated crises in different areas of our world claimed by Husserl and offers the common solution: “transcendental phenomenology with its secure and grounded clarification of the concept of subjectivity offers a way out of these crises” (7). He defines the crisis in Husserl’s terms as “the failure of European rationality, despite the enormous advances of the sciences in the technological domination of the world and in the technical organization of society, to have supplied a cure for social and psychic illness of the time, because of the crucial neglect of the subjective contribution to the experience of the world” (Moran, 8). Furthermore, he reflects Husserl’s comparison of the folk medicine and scientific medicine with his wondering why there is no scientific equivalent of medicine for cultural illnesses, and he states that: “Phenomenology will provide that cultural medicine for our time” (8). This cultural medicine will help the humanity to take more considerate actions especially towards our ecological system of values for the healing of human and non-human worlds’ life sources.

Plumwood blames rationality for the environmental destruction, in the same direction, Husserl also questions rationality for the destructive outcomes with the technological developments and devastating changes within the societies, especially after the First World War: “The exclusiveness with which the total world-view of modern man...let itself be determined by the positive sciences and be blinded by the “prosperity” they produced, meant an indifferent turning-away from the questions which are decisive for a genuine humanity. Merely fact-minded sciences make merely fact-minded people” (Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, 5-6). Husserl points out that this “fact-minded” people bring the crises to ecology and culture with the failure of the new science after its quick success at the beginning. In order to bring a solution to these crises, Husserl underlines the necessity for an ideal universal philosophy:

Ultimately, all modern sciences drifted into a peculiar, increasingly puzzling crisis with regard to the meaning of their original founding as branches of philosophy, a meaning which they continued to bear within themselves. This is a crisis which does not encroach upon the theoretical and practical successes of the special sciences; yet it shakes to the foundations the whole meaning of their truth. This is not just a matter of a special form of culture-“science” or “philosophy” as one among others belonging to European mankind (12).

Husserl aims at reestablishing philosophy as a universal task for humanity in search of understanding mankind, which will be the cure for all kinds of cultural and

ecological problems. He sees modern philosophy as a struggle for man to find meaning in himself and in his actions (Husserl, *The Crisis of European Sciences and Transcendental Phenomenology*, 14). This present struggle is essential for mankind: “The true struggles of our time, the only ones which are significant, are struggles between humanity which has already collapsed and humanity which still has roots but is struggling to keep them or find new ones” (15). Husserl views philosophy and science as “the historical movement through which universal reason, ‘inborn’ in humanity as such, is revealed” (15-16). When our true humanity is revealed, our attitudes will turn out to be more sensitive towards human and non-human world at every level considering the cause-effect chain in nature and in culture. In this way, the fundamental solutions will be brought to all of the existing crises in our lives, primarily the ecological crisis. If the ecological crisis in our world reaches a solution, it will not be carried to the other planets like Mars in Robinson’s trilogy, and the universe will continue to exist as a complete whole in harmony with the interconnected human and non-human worlds.

Following Husserl’s phenomenological insight into understanding the philosophical reasons of the crises in our lives, the German philosopher Martin Heidegger also has a profound effect on environmental criticism in terms of the ecological connections with his existential philosophy. He differentiates the material existence and “being”, and questions our mastering projects on the Earth what we call “progress”. Heidegger claims that there is a mutual need for each other; the Earth provides a shelter for the entities from which human beings find a world within the surrounding link of worldless non-human beings. He believes in instrumentalism in the essence of existence: “Man is not the lord of beings. Man is the shepherd of Being” (qtd. in Garrard, 2004), against the master-slave relationship by preserving the protector role in nature. His phenomenological approach to understand the true relationship between man and nature expands the horizon of our world to perceive the things in a great variety of perspectives.

Naess observes that without phenomenological insight, one cannot escape from the influence of the “They” or “das Man” in Heidegger’s terms: “Without practice, one sees things as ‘das Man’ (Heidegger) sees things, in other words, in our society: a utility-conscious, average, or mean, way of seeing them. A joyful experiencing of nature is partially dependent upon a conscious or unconscious development of a

sensitivity” (51). This sensitivity can only be achieved by the recognition of the innate values of things in nature. Heidegger points out that some of the materials from nature accessible to us are “ready-to-hand” natural products and this readiness makes our awareness of them more difficult. Here, the important point he raises is that natural entities’ being accessible in our lives does not mean that they exist for the sake of man but they are intrinsically valuable in the place they belong to:

“Nature” is not to be understood as that which is just present-at-hand, nor as the power of Nature. The wood is a forest of timber, the mountain a quarry of rock; the river is water-power, the wind is wind ‘in the sails’. As the ‘environment’ is discovered, the ‘Nature’ thus discovered is encountered too. If its kind of Being as ready-to-hand is disregarded, this ‘Nature’ itself can be discovered and defined simply in its pure presence-at-hand. But when this happens, the Nature which ‘stirs and strives’, which assails us and enthralls us as landscape, remains hidden. The botanist’s plants are not the flowers of the hedgerow; the ‘source’ which the geographer establishes for a river is not the ‘springhead in the dale’. (Heidegger, 100)

Instead, Heidegger approaches nature as something hidden and open to discovery, not present at other beings’ hands. It preserves its own right as a separate being in the purest manner: “Nature is itself an entity which is encountered within the world and which can be discovered in various ways and at various stages (Heidegger, 92).

In order to fully acknowledge the position of nature in our lives and our position in the universe, Heidegger urges the necessity of a phenomenological understanding of “Being”. It is obviously certain that the significant part of our existence would be unclear without truly being aware of our “Being”, which makes the efforts of all the positive sciences and intellectual fields futile and meaningless for humans. Therefore, what has been achieved thanks to science and technology may be the opposite of what they have aimed to achieve. For instance, the purpose of all the developments is to increase welfare and happiness, however, the outcomes are horrifying such as mass genocide, nuclear bombing, environmental destruction through the usage of technology as can be seen in the struggle between the people on Earth and the Martians in Robinson’s novels. Heidegger’s perspective perfectly explains the reasons why the technology has turned out to be destructive; it is due to the fact that our intellectual sense proceeds without truly understanding of our natural “Being”. As our world is not guided by any genuine comprehension of our existence, it evolves by giving birth to chaos and destruction in devastating amounts. The destruction of nature, endless conflicts among nations, greedy applications in economics and politics,

separations within the societies etc. are all the results of the failure to understand the human existence, Dasein⁶ in Heidegger's terms, which brings the end of the Earth and other possible worlds of life as analyzed in Robinson's Mars trilogy.

Heidegger's fundamental question of "Being" is vitally crucial for understanding all these crises in our universe because it directly refers to the intellectual inquiries in the physical and social sciences, which are supposed to find solutions to save humanity and non-human entities. Metaphysics, psychology, philosophy and ecology are all related to "Being" of one kind or another, so the fundamentals of our lives. Heidegger reveals that being has not been handled from a philosophical point of view since the time of Greek philosophers Plato and Aristotle. Being as "the most universal and the emptiest of concepts" has been long neglected (21). Furthermore, he regrettably expresses that ontological inquiries of the positive sciences fail to discuss the meaning of "Being" in their research. In order to understand the real foundation of our existential condition, all ontological knowledge is primarily required to clarify what is really meant by the expression of "Being":

The question of Being aims therefore at ascertaining the a priori conditions not only for the possibility of the sciences which examine entities as entities of such and such a type, and, in so doing, already operate with an understanding of Being, but also for the possibility of those ontologies themselves which are prior to the ontical sciences and which provide their foundations. Basically, all ontology, no matter how rich and firmly compacted a system of categories it has at its disposal, remains blind and perverted from its own most aim, if it has not first adequately clarified the meaning of Being, and conceived this clarification as its fundamental task. (Heidegger, 31)

Heidegger tries to address this crucial long-ignored question of the meaning of "Being" in the world through his term "Dasein", which is a state of existence. "Dasein" is the combination of subjective experiences and objective world, the mutual interdependency of what we are, and what the world is without falling into dualistic separations. Heidegger himself is against the anthropocentrism, but he states that even the

⁶ In his *Being and Time*, Heidegger gives the definition of his term "Dasein":

The expression 'bin' is connected with 'bei', and so 'ich bin' ['I am'] means in its turn "I reside" or "dwell alongside" the world, as that which is familiar to me in such and such a way. "Being" [Sein], as the infinitive of 'ich bin' (that is to say, when it is understood as an existiale), signifies "to reside alongside . . .", "to be familiar with . . .". "Being-in" is thus the formal existential expression for the Being of Dasein, which has Being-in-the-world as its essential state. (80)

European languages we use are problematic as they put a barrier between the subject and the object.

The way to diminish the barriers between the creatures depends on having authentic experiences. Heidegger explains this in three interconnected dimensions that he calls the care structure: facticity, fallenness, and existentiality. These three categories are important to provide the explanation of our temporal existence on Earth: “in every ecstasis, temporality temporalizes itself as a whole; and this means that in the ecstatic unity with which temporality has fully temporalized itself currently, is grounded the totality of the structural whole of existence, facticity, and falling – that is, the unity of the care-structure” (Heidegger, 401). Facticity basically means the given things to our lives like our physical features or our living in a certain time period in a certain place. We do not have any control or choice; we are just thrown into the world, which Heidegger defines as one of the basic elements of facticity: “thrownness”. The second element “fallenness” is about how we live our lives inauthentically by doing what “they say”, by imitating others mostly by obeying them, thus no one actually acts freely. We regulate our lives according to what the others tell us to do, in this sense fallenness means falling from our destinies and capacities in our lives by an anonymous force “das man” translated as “the ‘they’”. The third element of the care structure is “existentiality” or authenticity, which is the complete potential of Dasein. It is one’s fulfilling the unique potentials in his life. Having the intellectual knowledge and background does not mean living authentically, but phenomenological ontology is required to have an authentic life. As the last circle of the chain, having an authentic life enables humans to stay away from chaos and from creating crises, which opens the gates of a peaceful existence of all creatures in harmony. These interconnected authentic experiences are the keys of our true existence free from illusion, which is accomplished with human resoluteness that “constitutes the loyalty of existence to its own Self” (443). As our history, present and future are all interrelated; our understanding of Being through authentic experiences will create history that will be repeated in a positive or negative way for the continuation of human race in the future. Heidegger notes that an entity’s being futural lies in the power of itself to “take over its thrownness and be in the moment of vision for ‘its time’” (437). As humans, it is our primary duty to live our present moment in an authentic way by truly acknowledging the meaning of our existence and our connection with the non-human world. In this way, we will

accomplish to fulfill our requirement to save the universe with all ecological systems in it.

2. 3. An Ecological Reading of Marxism

Marxism reminds most people of the oppression of the capitalist states which results in social and economic crises with a possible revolutionary outcome by the proletariat. Ecological Marxism is similarly against the domination of powerful forces, and humans over the defenseless ones, the nature and the non-human world. Ecological Marxists emphasize “the ways in which ecological theories and green social movements can help to transform people’s consciousness and practices toward nonhuman nature” (Merchant, 141). Even though Marx rejected the problematic mechanistic worldview, he also benefited from the ideas such as the dialectical process of change in the material world. Verifying Hegel, Marx also acknowledges that there is a progressive change in every event as there are both positive and negative contrasting forces. Even though Marx agrees with Hegelian notion of human culture’s following a dialectical pattern of evolution, he insists that economic forces basically shape this progress. Hegelian dialectic explains everything in the universe with the formula of “thesis-antithesis-synthesis”, which requires the presence, the absence and the result of production from these two opposing forces. He reminds us that the conflicting ideas might be the conception of an unborn idea. By this way, new things are created, which has composed the human history since the beginning of time. This is present in the conflicting ideas of the three scientists sent on the mission for the terraforming of Mars in Robinson’s trilogy. Sax Russell insists on the necessity of terraforming, Ann Clayborne strictly stands against his argument by telling that they have no such a right. Between these two opposing views, the third and unifying view of Hiroko Ai exists as a mediator between them with a peaceful and spiritual approach, who suggests waiting for hearing the land of Mars’ showing them the right way to do.

Similar to this dialectic process of interaction, Marx acknowledges that humans and nature are mutually interdependent in many aspects. He asserts that nature is man’s inorganic body: “The universality of man is in practice manifested precisely in the universality which makes all nature his inorganic body – both inasmuch as nature is (1) his direct means of life, and (2) the material, the object, and the instrument of his life-activity. Nature is man's inorganic body – nature, that is, insofar as it is not itself the

human body” (Marx, *Economic and Philosophic Manuscripts*, 75-76). According to Marx, even though man is estranged from the labor he produces as a worker, he considers himself as a universal living species, thus a free being in contact with the other species. The lives of all species depend on a constant interaction with organic and inorganic bodies likewise; man continues his life by using products of nature. Marx is well aware of the fact that humans cannot produce anything for survival without nature: “Man lives on nature-means that nature is his body, with which he must remain in continuous intercourse if he is not to die. That man’s physical and spiritual life is linked to nature means simply that nature is linked to itself, for man is a part of nature” (*Economic and Philosophic Manuscripts*, 76). Therefore, “life activity and productive life itself” seems to be the satisfaction of the need for the continuing physical existence, and thanks to that production “nature appears as his work and his reality” (77).

Man is a living and active natural being, hitherto, the natural powers of life are present in him as impulses of abilities and tendencies. On the other hand, the objects of his impulses independently exist outside of him, and at the same time, they are indispensable essential objects. Both inside and outside, they are one and the same thing for Marx as he explains the situation with the sun and plant example: “The sun is the object of the plant, an indispensable object to it, confirming its life-just as the plant is an object of the sun, being an expression of the life-awakening power of the sun, of the sun’s objective essential power” (154). The sun and the plant, the man and nature, are indispensably bounded to each other. The only difference between humans and animals/plants, for Marx and Engels, refer to the instruments they use to produce fundamental energy and nurture in order to maintain being alive (Merchant, 143). Humans are also different from animals in terms of their intentions while dealing with nature as Engels states very clearly: “the animal merely uses external nature, and brings about changes in it simply by his presence; man by his changes makes it serve his ends, masters it. This is the final, essential distinction between man and other animals, and once again it is labor that brings about this distinction” (Engels, *Dialectics of Nature*, 90).

Engels examines the lifestyles of agricultural societies and finds out that they use nature for the necessities of sustaining their life within the pastoral setting; on the other hand, the capitalist societies approach the resources of nature to produce profit like ‘a great workshop’. He sadly reveals the fact that the free gifts of nature are sold

and purchased like private properties on the accounts of immediate and short term profits by causing long-term problems. Engels talks about the narrow-mindedness of the people as a part of capitalist societies that they are not aware of the disastrous consequences of their quick success as everything is related to everything else in this participatory nature like butterfly effect: “in nature nothing takes place in isolation. Everything affects every other thing and vice versa, and it is usually because this many-sided motion and interaction is forgotten that our natural scientists are prevented from clearly seeing the simplest things” (Engels, *Dialectics of Nature*, 89). They cut the trees and destroy the forests, which results in the floods of tropical rainfall leaving only bare rock behind as the upper part of the soil is left unprotected without the roots of strong trees: “each such conquest takes its revenge on us” (90). As Engels observes, the mastery over nature begins with these small gains of labor and continued to desire for more like conquerors. Engels invalidates the dualism of the ancient Greek philosophy and the Middle Age Christianity, which aims to put humans in the center of the universe as masters of all beings:

Thus at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature - but that we, with flesh, blood, and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other beings of being able to know and correctly apply its laws (90).

Engels tries to explain that we still do not know the exact consequences of our actions for the following generations on the Earth. Thus, according to his observation, every step we take must be considered twice for the continuation of existence on this planet or any other possible one.

Concerning the destruction of nature, Marx shares similar opinions with Engels and he explains how man, as a tool of capitalist system, changes the nature of soil for the sake of his own gain. In the third volume of his *Capital*, Marx explains the process in which capitalist agriculture artificially modifies the physical characteristics of nature upon the greater demands of production. At first, he explains that nature gives the products freely out of her own body, however, as the demand increases more than the produced, then there begins the artificial interference into the natural production, which at the same time increases the cost each time. This more expensive additional human assistance, human labor and other elements are described as “an incorporation of capital

into the soil” that changes the physical and chemical properties of the land. Interestingly, the rent of the free given land by nature is higher when this kind of artificial human interference is provided with capital investment, compared to the untouched/uninvested lands. In this case, labor decides the value of land, not nature. Marx indicates that the productivity of a land is immaterial either by nature or society, but when the capital costs labor, the cost of production increases with it despite the fact that it is all free with nature alone (Marx, *Capital-Volume III*, 880-81).

Marx also reveals the effects of the capital on agricultural production through the artificial interference with nature through fertilizers. He firstly explains that the natural fertility of a land depends on the chemical components of the soil differing from the climatic effects and nutrient elements. Agricultural applications in the mechanical and chemical level change the efficiency of the production, thus corrupts the nature of the soil:

All these influences on the differential fertility of different soils boil down to the fact that as far as economic fertility is concerned, the level of labor productivity, in this case the ability of agriculture directly to exploit the natural fertility of the soil - an ability that varies with different stages of development - is just as much a factor in the so-called natural fertility of the soil as its chemical composition and other natural properties. (Marx, *Capital-Volume III*, 790-91)

Moreover, Marx goes deeper on the effects of the capitalist system of industry as a destroying force for nature through the wastes produced in the process of production. Industrialization not only changes the nature of the soil but also leaves ecological pollution behind. There is very simple solution to help the ecosystem in this industrialized world of agriculture: reusing the wastes to sustain maximum benefit both for humans and nature, “The natural human waste products, remains of clothing in the form of rags, etc. are the refuse of consumption”, which Marx refers as “the greatest importance for agriculture” (195) to improve soil fertility. Marx exemplifies different industries in which human waste can be reused, such as agriculture, manufacturing of goods/clothes (like from cotton waste) and chemistry etc. By this way, the use of waste products can reduce the cost of raw material, and increase the rate of profit and most importantly help to save the environment by keeping nature clean from the pollution caused by the capitalist system.

According to the ecological reading of Marxist theory, the capitalist system is responsible for the ecological crisis:

Ecologically destructive methods of agriculture, forestry, and fishing raise the costs of raw materials that lead to the underproduction of goods and the underproduction of capital. Soils are depleted, waters are polluted, workers' health fails, yields of produce, meat, wood, and textiles decline. In its hunger for profits, capitalism thus destroys its own ecological conditions of production. (Merchant, 155)

Nature becomes an object of domination under the cruel applications of the capital economy as Merchant emphasizes: "Rather than leaving nature free and autonomous, capitalism recreates it as capitalized nature—a second nature treated as commodity and subjected to ecological abuse" (155) and he suggests the necessity of a social transformation through the ecological Marxism in the movements of "environmental health and safety, farm-workers' anti-pesticide coalitions, ecofeminist protests over groundwater toxins, left-wing green parties, and so on" (155). Merchant claims these kinds of crises and movements push the capital to act in a more socialist way to answer the demands "by introducing more environmental and natural resources planning—sustained yield forests, environmental health policies, toxic waste disposal practices, and so on" (155). By creating an ecologically conscious socialist society in which the nature will be treated as equally important as a part of the complete universe, the crisis in nature created by the capitalist exploitive system can be overcome: "In an ecological socialist society, nature will be recognized as autonomous, rather than humanized and capitalized. Ecological diversity, an ecological sensibility, and a science of survival based on the interrelatedness of living organisms and the environment will all be needed and valued" (156).

Lance Newman draws attention to the activity of nature and how we can contribute to its well-functioning with the goal "to foster a new sort of ethical consciousness at the core of which is the conviction that people should treat all things in nature as equals, as beings with ethical standing" (20). He adds that if this kind of consciousness is created, then "there will follow a paradigm shift that will go far toward reversing a continuing history of destruction" (20). Newman takes an optimistic view on our ability to change the future of ecology through our decisive and courageous actions: "These habits of thought, ethical individualism in short, derive quite directly from ecocriticism's dominant philosophical idealism: if ideas, or values, are the motor of history, then change the values and the history will change with them" (20). He focuses on the necessity of teaching "ecocentric consciousness" through a careful evaluation of

social, economic and natural systems, which create ecological crisis, together with the struggle to change the “ecosocial order founded on the oppression and exploitation of people and nature” (Newman, 21)

This ecologically conscious Marxist analysis is a requisite while discussing the ecological crisis, the destruction of environment and human shelters through the massacre of hundreds by the nuclear bomb, never-ending conflicts and wars among the nations, especially between the people on Earth and the Martians in Robinson’s Mars trilogy and successive revolutions mostly end up in the failures of the weak side along with the cruel economic and political regulations of hegemonic powers and the suffering of the planets, humans, nature and the whole universe under the capitalist systems.

2. 4. From Postcolonialism to Future Colonialism of the Non-Human World

Unless the necessary solutions are found for the ecological crisis in our world, searching for the new life forms through colonizing another planet as can be seen in Robinson’s Mars trilogy will be a possible future for humanity. In order to understand the eco-ethical approach of future colonialism, it is important to understand the postcolonial world with the intentions and the outcomes. As already mentioned, past, present and future should be seen all interrelated to take lessons and to change attitudes in order not to repeat the same mistakes over and over again. The failures in the world and on Mars drive us to analyze the postcolonial approach in this future colonization scenario.

Edward Said’s ideas about the colonization of any space and the view of “the Other” constitute the basic approach in this sense. In his analysis, Said describes the Orient as an idea, like the West itself, which is given reality and presence in Western eyes. The relationship between the two places is a “relationship of power, of domination, of varying degrees of a complex hegemony” (Said, *Orientalism*, 5), whether the names are the Occident, the Orient or any other location like Mars. Said states that Orientalism is all about “a political vision of reality whose structure promoted the difference between the familiar (Europe, the West, “us”) and the strange (the Orient, the East, ‘them’)” (43), as Plumwood observes:

The colonised Other is reduced to a means to the coloniser’s ends, their

blood and treasure, as Said notes, available to the coloniser and used as a means to increase central power. The coloniser, as the origin and source of 'civilised values', denies the Other's agency, social organisation and independence of ends, and subsumes them under his own. The Other is not the agent of their own cultural meanings, but it receives these from the home culture through the knowledgeable manipulations of the One. (105)

This rejection of the Other's agency is explained by Said through his discussion of space and the Other within the boundaries between the two lands: "this universal practice of designating in one's mind a familiar space which is 'ours' and an unfamiliar space beyond 'ours' which is 'theirs' is a way of making geographical distinctions that can be entirely arbitrary" (Said, *Orientalism*, 54). He states that it is "arbitrary" because the imaginative geography of "our land" and "the Other land" does not require the acknowledgement from the other side, just depends on where the stronger one stands. Said states that it is enough for all of us to set up these imaginary boundaries and suggests us to be one, a united whole. He claims that the designations of these geographical spaces are political, doctrinal, and imaginative. He further includes the view that "geography is a sister science to economics and politics" (qtd. in Said, *Orientalism*, 215). This idea of the space and the Other constitutes the main ideology of colonizers with the aim of "enlargement and multiplication through space" and "it is the subjection of the universe or a vast part of it to that people's language, customs, ideas, and laws" (qtd. in Said, *Orientalism*, 219). He develops his argument in the discourse of colonialism about the relationship between the European colonizers and the native land is regulated through the representation of space, land and territory. From this aspect, non-Western territories are represented as empty or inhabited by the ghostly appearances away from human civilization, which makes their mastery intention easy to accomplish. Therefore, naturally empty spaces are double easy to conquer and to declare dominance over them.

To consider Said's perspective in the light of Robinson's trilogy, it can be said that it is seen as a mission of the people on Earth to sustain the continuation of human civilization by colonizing an uninhabited place. Through the Otherisation of the rest of the universe other than theirs, people think their acts are just and fair to fulfill no matter what the consequences are: "The Otherisation of nature bears on a key question of justice – the concern with obstacles to justice, especially forms of partiality and self-imposition that prevent us from giving others their due" (Plumwood, 11). Mars does not

have civilization, but still it is another “space” and “the Other” to be controlled and later governed with the Martians who began to live on the planet. Mars and the Earth are the two distinct geographical spaces, and hostility arouses between the worlds as the colonization progresses. Furthermore, there are specific references to American, Russian and Japanese citizens with contradicting views among whom attitudes towards “the Other” are formed. Later, all the nations are united as transnations, but the existence of “the Other” never disappears: The Martians versus the people on Earth. The ideology behind the concept of “the Other” is the core of the crises in our world that we face today, such as the problems of immigrants and Neo-Malthusian attitudes of politically powerful nations. As indicated above, the connected chains of past, present and future send us warnings in order to be more cautious in terms of colonial acts and such realities in science-fiction help us to think once more:

the past echoes into the future, and the future into the past. One of the great strengths of science fiction is to enable a sort of temporal “double consciousness”: SF can help us see the links between history and the potentiality of the future, which is not endless in a postcolonial world but rather bounded and inflected by history. Diaspora, too, is not transplantation but negotiation, not status but, like postcolonialism itself, a process. (Langer 80)

Langer further discusses that there are different relations between science fiction and postcolonialism. She is hopeful for the developments in the postcolonial science fiction with ever-blurring boundaries of the genre for promising future generations (158).

As Plumwood maintains, if necessary steps are not taken, the failure of the human race is inescapable. She claims that the hegemonic forms of reason are doomed to fail because they do not really understand the true conditions and connections among “the body, ecology and the non-human nature” and they build an illusionary human autonomy over the inferiorized, passively constructed entities as background:

dominant forms of reason – economic, political, scientific and ethical/prudential – are failing us because they are subject to a systematic pattern of distortions and illusions in which they are historically embedded and which they are unable to see or reflect upon. These blindspots especially affect the way we understand our relationships to nature and to one another, and they derive especially from the hegemonic origins of these patterns of thought, which have identified the biospheric Other as passive and without limits, its frontiers an invitation to invasion. (Plumwood, 16)

These troubled forms of hegemony disguise themselves under the mask of “reason” by justifying all their wrong actions of domination, which drives the world into chaos

unknowingly. Plumwood further elaborates, “concepts of rationality have been corrupted by systems of power into hegemonic forms that establish, naturalise and reinforce privilege” (17). These elite forms of power are justified by rationalist dualisms. The polarizing feature of reason/nature dualism causes two radically and unequally separated classes. This rational thinking keeps this elite class remote from any unfavorable results of their property. This remoteness of polarization prevents all the sympathy and empathy towards the loser class by keeping the privileged class away from ill consequences. This hegemonic system declares the winners as master subjects and denies or underestimates any contribution of the Other to the process and the result (17). Plumwood identifies rationalism as guilty construction of reasoning that makes nature and non-human life inferior and passive beings through the dualistic divisions in many spheres (19). Moreover, these rationalist forms will bring the end of human and non-human world by limiting the chances of survival in restricted amounts if these ill-featured applications of the present continue. She observes that all the reason of mastery of hegemonic powers create a material and natural crisis for human lives and for the larger life systems on Earth, and a kind of ecological crisis vital for survival:

The ecological crises they produce result from a certain lack of fit or adaptation of societies structured by hegemonic rationality to their ecological and social realities. The ecological crisis is the crisis of a cultural ‘mind’ that cannot acknowledge and adapt itself properly to its material ‘body’, the embodied and ecological support base it draws on in the long-denied counter-sphere of ‘nature’. Given this lack of fit, hegemonic rationality is in conflict with ecological rationality and survival. (Plumwood, 15)

This mastering project of non-human nature is also called as “ecological imperialism”, Oppermann defines it as “the intentional destruction, through exploitation, extraction and transfer of natural resources of the colonized lands in the interests of scientific and economic progress” (179). She bases her arguments on the 17th century mechanistic view on controlling nature held by some thinkers like Francis Bacon, Lewis Roberts and Robert Boyle. Bacon’s *Novum Organum* places humans, specifically males, at the center and grants every right to man to discover and reveal the secrets of nature that is treated like a passive machine. This anthropocentric, mainly androcentric, worldview caused the mastery of nature by damaging, altering and transforming the local ecosystem by the settlers. According to Oppermann’s analysis, British invaders not only changed the eco-systems in colonized lands but they also

brought “their Old World explosive plant and animal species, Old World disease organisms, infectious germs, and explosive microbes, which led to the extinction of many native plants and animals” (182). Similarly, the invasion scenarios in science fiction narratives involve the mastering projects and the intentions of changing the natural structure of unprotected places through colonization as happens on Mars. Ecologically informed spirituality and rationality can save us unless used in such extreme ways as Plumwood asserts:

Ecological forms of both spirituality and rationality would help us recognise the way both human and earth others nourish and support our lives, would remind us that nurturers must in turn be nurtured, and prevent us from taking from that capacity to nourish more than we put back. It would caution us to abandon further projects of rational conquest that depend on flouting this basic wisdom, such as of space colonization. Space colonization is an extreme example of a rationalist project that misunderstands our nature as earth beings. (240)

The uninhabited planet Mars in Robinson’s trilogy is colonized through a similar rationalist project of powerful nations to gain more power with an anthropocentric approach. The people on Earth come with the same mastering intentions as colonizers, they change the planet by creating a different ecosystem and destroy them all later. In order to bring a solution to the ecological crisis of these hegemonic powers, it is required to tear down the ill-fated value systems of political and economic intellects through opening the way of questioning the reason of their true existence in the universe.

Building on Said’s ideas about the representation of the Other in the future colonialism of Mars, Baudrillard’s idea of “simulation” also brings a postmodern approach to the representation of a new planet in fiction and effects in reality. He claims that we live in a hyperreal postmodern world full of simulacra all around without knowing the reality, which can be applied to Robinson’s science fiction trilogy on Mars. As the main purpose of the trilogy is to create a new habitat on Mars as a simulacrum of the Earth, it is beneficial to know the motives and the failures behind this simulacrum issue. Baudrillard defines three orders of simulacra; the first one is utopia, the natural imitation of an image for the aim of an ideal reflection of God’s creation; the second one science fiction, the productive one founded on the energy of machinery production and the third one is simulacra of simulation, founded on information and hyperreality with the aim of total control, which is something new in the process emerging

(Baudrillard, 81). He also draws the limits of reality and imaginary: "Reality could go beyond fiction: that was the surest sign of the possibility of an ever- increasing imaginary. But the real cannot surpass the model - it is nothing but its alibi" (Baudrillard, 82). The postmodern world is no longer dominated by the reality principle, the real world is lost like Utopia and "has become the alibi of the model, in a world controlled by the principle of simulation" (82). Baudrillard complains about the narrowness of science-fiction's imagination that no longer reflects different universes but mostly includes the exploration and expansion of terrestrial forms as mere copies of colonization in the previous centuries. He describes these common spatial explorations as a beginning for hyperreal world:

The conquest of space that follows that of the planet is equal to derealizing (dematerializing) human space, or to transferring it into a hyperreal of simulation... The everydayness of the terrestrial habitat itself elevated to the rank of cosmic value, hypostatized in space – the satellization of the real in the transcendence of space - it is the end of metaphysics, the end of the phantasm, the end of science fiction - the era of hyper-reality begins. (82-83)

From that point, he claims that the boundaries of real, unreal and imaginary are all blurred. On the contrary, the forms become the models of simulations in the situations that have no center by giving the feeling of the real and of the lived experience. These simulacra are the reinvention and hallucination of the real or past experience as the reality itself has already disappeared from our lives by opening a space for hyper-realization. According to Baudrillard, science fiction no longer reflects a free romantic expansion, but fragments of simulation that have become our "so-called real world" (83). Baudrillard draws attention to the disappearance of the double in the universes of recent science fiction, and states that "the one" already exists without any other option that one gets stuck at one side of the mirror and cannot pass through to the other side of the mirror even though it was called 'the golden age of transcendence':

One does not see an alternative cosmos, a cosmic folklore or exoticism, or a galactic prowess there - one is from the start in a total simulation, without origin, immanent, without a past, without a future, a diffusion of all coordinates (mental, temporal, spatial, signaletic) - it is not about a parallel universe, a double universe, or even a possible universe - neither possible, impossible, neither real nor unreal: hyperreal - it is a universe of simulation, which is something else altogether. (83)

Baudrillard calls this kind of simulation as “insuperable, unsurpassable, dull and flat, without exteriority” (84). He metaphorically questions the imagination of science-fiction writers by comparing the surrounding simulacra to the reality of East German factories “that reemploy all the unemployed to fill all the roles and all the posts of the traditional production process but that don't produce anything, whose activity is consumed in a game of orders, of competition, of writing, of bookkeeping, between one factory and another, inside a vast network?” (Baudrillard, 84). The whole production of these factories is increased one hundred percent within the void time, even one of them “really” failed by unemploying the unemployed ones twice, and Baudrillard notes that this is simulation: “not that the factories are fake, but precisely that they are real, hyperreal, and that because of this they return all ‘real’ production, that of ‘serious’ factories, to the same hyperreality” (84). Baudrillard underlines the enchanting issue that there is almost no distinction between the real and fake factories rather than the opposition between them, and the remaining production has “no greater referent or deeper finality than this ‘simulacra!’ business” (84). He calls this “hyperreal indifference”, which composes the real “science-fictional” feature of this part. Moreover, Baudrillard notes that there is no need for discovery, it is present wide-open, without any hidden things and no real (84).

Baudrillard analyzes striking examples to illustrate the hyperreal world we live in, in which the real, the imagined, the film/scenario/story and the incident/actual catastrophe are all mixed up. The film “The China Syndrome” and the following nuclear accident in Three Miles Island are confusing since it is not easy to identify which one is simulacrum and which one is real. Baudrillard analyzes that it is widely discussed whether the accident is the simulation of the scenario on examining the effects of the film or the symptoms of the real event. Similarly, there is an intertwined reality/imagination dilemma as Baudrillard enounces: “The war became film, the film becomes war, the two are joined by their common hemorrhage into technology” (41). This example for the real/imagination confusion and the effect of the fiction over our lives make the emphasis stronger on the possible future scenario of the Mars trilogy. Either we do not take any precautions to change our lifestyles for the future and face the predicted scenario as in “The China Syndrome” or create a better story for the future generations. Baudrillard states, “We live in a world where there is more and more information, and less and less meaning” (55), which is realized thanks to the effects of

media and global manipulations. The message given with his analysis is that we are supposed to change the rules and ruler of the game for the better of humanity and nature, which is not utilitarian for the selected majority but hope promising for all living creatures.

2. 5. What to Expect: Apocalypse or Regeneration?

Nature's a Sphinx. And her ordeal
Is all the more destructive to mankind
Because, perhaps, she has no riddle.
Nor did she ever have one.

– Tyutchev –⁷

The ecological crisis in our world and the search for a new planet to colonize in order to establish a human civilization generate two possible scenarios about the end of the world. If the ecological crisis cannot be reached at a solution, the first possible scenario will be the theory of Thomas Malthus, one of the most influential thinkers in environmental apocalypticism. In his population theory, Malthus claims that the ecological necessity will determine social and political policies in our world. Malthus directly expresses the two basic laws for the continuation of human existence: food and sex, but he observes, “the power of population is indefinitely greater than the power in the Earth to produce subsistence for man” (4). He highlights the necessity to keep these two unequal powers equal. Otherwise, the population growth will reach to the critical point where there will be a competition and fight for the scarce resources. War, pestilence and famine were appreciated in the past according to Malthusian logic as a solution to the failure to birth control (Malthus, 5).

Neo-Malthusianism is a current justified view to control immigration to rich countries to preserve their ecological resources and threatened food supplies. Jean-Paul Sartre approaches Neo-Malthusianism from the perspective of dominator-dominated relationship: “One characteristic which is common to exploitation and colonization (as super-exploitation) is that the necessary limit of the rigorous repression of the dominated by the dominators lies in the latter's need for the former” (755). He explains the Neo-Malthusian reality as the totalization of the bourgeois class through the exploitation of the proletariat in the form of hegemonic oppression. Neo-Malthusians claim that even though there are reductions in family sizes with modernization, still

⁷ <https://allpoetry.com/-Nature-is-a-Sphinx...>-Accessed on 10.10.2019

agricultural applications try to catch up with the population as scientific developments reduce death rates. Our world is not infinite and cannot support this huge population for a long time. This apocalyptic discourse of devastation is the cause for the fear of our future on Earth and for the actions taken by developed countries to take themselves under protection. Science fiction writers like Robinson try to reflect these possible estimations for the future to help people by raising consciousness to be ready for the worse.

In contrast to Neo-Malthusianism, an optimistic scenario about the world for the future of humanity is James Lovelock's Gaia Theory, which offers not a catastrophe but a hopeful regeneration. Lovelock was working in NASA when the first plans to search for life on Mars and other planets were made in the 1960s and he states that the planned voyage and the technological vehicles produced were obviously not just for the sake of pure science. The ongoing wars, political and economic struggles, mass-killings and deaths, ecological disasters and horrible realities about the pesticides in agriculture shocking the whole world revealed by Rachel Carson are all together the proofs that the end of the world is coming soon. He begins with the following question: "How can we be sure that the Martian way of life, if any, will reveal itself to tests based on Earth's life style?" (*Gaia: A New Look at Life on Earth*, 2). Lovelock closely observes the experiments that will be applied on the surface of Mars and narrates that Mars has no oceans, thus life can be rendered possible through the use of atmosphere. It is a very suitable planet for life-detention through chemical analysis of the atmosphere (5-6). He states that thinking about life on Mars has given him a fresh standpoint to think more about the life on Earth and the possibilities of formulating a new type of connection between Earth and its biosphere (8). He believes that "the entire surface of the Earth including life is a self-regulating entity" ("Preface", *Gaia: A New Look at Life on Earth*, ix), and this explains his view of Gaia.

According to Lovelock, Earth is a super-organism and even the non-living parts of the planet are as crucial as the living ones as parts of the whole perfect system as he defines Gaia "as a complex entity involving the Earth's biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system which seeks an optimal physical and chemical environment for life on this planet" (10). Earth has not revealed her secrets yet, for Lovelock, it might seem that its end is approaching but we never know what is waiting for us under this pessimistic picture. He gives the

example of nuclear energy that is known for the hazardous effects of radiation that might destroy the whole life on Earth, as happened partly in Robinson's trilogy; on the other hand, he claims that "the very womb of life was flooded by the light of these fierce energies" (Lovelock, *Gaia: A New Look at Life on Earth*, 16). Here lies the paradox of danger and source of life, and leaves hope for a renewed life on the planet. Lovelock recognizes the views on the organic unity, wholeness and oneness of our universe, which also reveals the possibility of Gaia, and according to the Gaia Theory, "we are parts of a greater whole. Our destiny is not dependent merely on what we do for ourselves but also on what we do for Gaia as a whole. If we endanger her, she will dispense with us in the interests of a higher value—life itself" ("Preface", x).

Similar to this optimistic land-based theory, in Robinson's *Red Mars*, mystical, ground-based spirituality is brought on Mars by a Japanese agronomist, Hiroko Ai. As Murphy asserts, Hiroko believes in the spirit of the land and thinks the soul of Mars will tell them what it wants, so they will act accordingly. This view contradicts the sociopolitical argument by the American physicist Sax Russell who sees terraforming as his mission to maintain human existence in the Universe. Russell is opposed to the American geologist Ann Clayborn who thinks that they have no right to change the natural structure of Mars. Russell first thinks that Mars has no living ecology, but they later find out both organic and inorganic matters exist on the planet. He also changes his mind when he realizes that their scientific projects are not so innocent but turn into commercial exploitation. Hiroko's suggestion of a tender and spiritual approach seems to be the best and considerate way towards an unprotected space. It is also suggested in the novels that if people accept to see Mars as a distinct existence, different from Earth, and treat it as it really is, then they may succeed to become its inhabitants.

Finally, no matter what people plan on the planet, Earth or Mars, there exists an ambiguity for the future of the whole universe regardless of scientific observations. According to Bohm and Hiley's analysis of uncertainty principle, "there is a limit to the precision with which properties can be attributed to the observed object on the basis of observed experimental results" (120), so the ambiguity in the meaning of intrinsic properties is present in the scientific observations. Due to this ambiguity in the universal rules, it is impossible to measure the exact future of the world or human existence in the universe. The only certain thing we can do is to deliver Robinson's message given at the end of the trilogy that the key thing is loving the whole planet and leaving it in the best

condition to the next generations. He offers a multigenerational perspective, which indicates the connection between the present and the future.

Needless to say, all these different kinds of crises surrounding our lives cannot be limited to only one or two theoretical analysis, but it needs to be done from multiple perspectives to understand the problems from all aspects to find the best solution. Therefore, this chapter has tried to give a brief outline of the theories used throughout this dissertation by presenting the interwoven of ideas from ecological, philosophical, phenomenological, existentialist, Marxist, postcolonial and postmodern perspectives. The archetypal terminologies and ideologies in these different fields are dialogically distributed in Robinson's Mars trilogy, which will help to produce a safe exit out of the catastrophes thanks to these multidimensional examinations. Nature has suffered deeply at the anthropocentric and colonial hands of humanity, and Eco-philosophical theories tries hard to turn those views into a more egalitarian understanding of living things in harmony with each other as all existing human and non-human bodies are interconnected parts of the complete universe. Existentialism suggests us to understand our "being" in order to solve all the mysteries and conflicts in the universe. Marxism proposes a social revolution, and this dissertation urges for an ecosocialist movement to replace the anti-ecologist capitalist system. The postmodern opportunity of scientific simulations in the Mars trilogy offers a future preparedness for more catastrophes or new ways of resolution. To conclude with the hope of Gaia theory, it is argued that the self regulatory system of Earth – or possibly Mars might carry, too – would enable to prosper human life, which is going towards a visible future apocalypse at a high speed, more than the expectations.

2. 6. Operational Terms and Definitions

Ecological Crisis: Crisis means, in a general term, a period of catastrophe and difficulty in a specified sphere, i.e.: ecological crisis, economic crisis, social crisis etc. This dissertation mainly analyzes the ecological crisis, at the same time; it also includes many other crises in different fields, as they are the affecting forces on ecology.

Ecocriticism: A contemporary literary theory studying land and ecology. Its scope covers the environmental concerns and the analysis of the relationship between human and nature on the literary texts.

Colonialism: The activity and process of controlling a territory by claiming rights over the land and the living bodies through the exploitation of natural resources and possessions economically, politically and ecologically.

Terraforming: The attempt to intentionally modify the natural structure of a celestial body like moon or any planet by changing its temperature, atmosphere, topography and ecology to resemble it to Earth with the aim of creating a similar planet that would allow human life and other living inhabitants.

Eco-ethics: The discipline examining and questioning the moral stance of human activities towards nature.

Anthropocentrism: The ideology of human-centeredness, the superiority of humans over the non-human worlds by attaining rights of controlling nature, animals etc.

Ecocentricism: The nature-centered view used in literary and philosophical analysis as opposed to the anthropocentric ideology.

Cosmocentrism : Similar to the view of ecocentricism opposing the human-centered analysis, it is philosophical position that places the emphasis on the cosmos or the universe by considering the significance of the harmony and the order as a whole.

Phenomenology: It is the science and philosophy of analyzing phenomena by studying the relationship between the lived experiences and the consciousness.

Capitalism: It is the economic and political system of a country in which the private owners of the companies have the controlling power over the profits in the markets and industry rather than the state or workers.

Simulation: It is the imitation of something real like a process, an object or a situation through the modeling of technology and narration. In Baudrillard's postmodern analysis of simulacra and simulation, the reality is reflected through the symbolic mirroring on the literary text by the author.

Hyperreality: It is a term to use in the analysis of simulations, which refers to a state of consciousness of being unable to differentiate the reality from the illusion of simulations.

Utopia: An imagined community or a land that does not exist in reality but it is ideally a desirable place to go with its seemingly perfect conditions.

Gaia: The personification of the Earth as "mother" with the similar qualities derived from the Greek Mythology, the Goddess of the Earth. James Lovelock's Gaia theory claims that the biosphere of Earth is an active and self-regulatory system.

Ecosocialism: A radical view of transforming a society into an ecologically conscious one that lives in harmony with nature away from the exploitations and controlling practices. In this vision, there are no hierarchal structures of superiority and inferiority binaries, but human and nature exist mutually interdependent on each other with equal rights.

CHAPTER III

DISTINCTIVE APPROACHES ON THE LAND ETHIC: ECO-ETHICS OF THE COLONIZATION OF MARS IN THE MARS TRILOGY

This chapter mainly addresses different ecological perspectives on the terraformation process of Mars through the dominant characters in the Mars trilogy. The Reds support to approach Mars as a cautionary scientific research station in a very slow process of analyses to understand everything about it before making any alterations. Ann's "mineral", "land" or "rock" ethic constitutes the main insight for this ideology, which values Mars for its own sake rather than observing it as a source of exploitation. On the other hand, the Greens are the supporter group of passionate terraformers longing to create a biosphere with genetically engineered plants and other formations as quickly as possible. Sax and his team regard Mars as a laboratory to create new forms with the help of science and technology. The spiritual perspective of Hiroko build a different kind of connection with the land, it is a landscape religion involving a unique ceremony of being united with the land. The second part of this chapter discusses the mutual evolution both on the bodies and the landscape throughout the terraforming process. In this natural areoformation, not only the bodies and the landscape, but the conflicting ideologies are also shaped and united to create the best way for all. At the end of the trilogy, thoughts are matured through the experiences over the years and they are combined into a new color, the color blue, representing the middle way valuing both the human and non-human worlds for the sustainability of future life.

3. 1. Divergent Intentions on the Terraforming of Mars

Better never means better for everyone. . .

It always means worse, for some

– Margaret Atwood, *The Handmaid's Tale*, 274 –

To emphasize the definition terraforming once more, it is the formation of Earth-like body through certain modifications of the atmosphere, landscape and ecology of any celestial body like planet or moon etc. It is a kind of planetary engineering working on an extraterrestrial body to make it resemble Earth. Aeroforming is a similar process on the air of a celestial body working for the alteration of temperature or climate to make it like Earth. These processes are directly related to ecocriticism because they raise some key arguments to discuss such as whether manipulations on the non-human world are ethical or not, to what extent humans could proceed on them, what the possible useful or catastrophic outcomes for ecology might be for the future of all species etc. Robert Sparrow claims that terraforming comprises fundamentally two reprehensible misdoings. Those who want to terraform are not accepted as virtuous according to Aristotelian virtue ethics on which Sparrow bases his argument. The first one is being blind to the aesthetic value. The action of terraforming involves the destruction and manipulation of the Martian landscape, thus there is no respect to the aesthetic value. Secondly, the people who attempt to terraform carry the vice of arrogance as they think themselves godlike to control and change an extraterrestrial existence according to human desires. This hubris is highlighted by Sparrow in his article entitled as “Ecce Ecopoiesis: Playing God on Mars” which is about terraforming. The ability of creating a new ecosystem on a bare planet ensures human beings a sensation and desire of godlike power. In his argument, Sparrow reaches a reconciliation that a tender approach might clear humans out of these two moral vices. The intention of terraforming for the survival of all species on Earth is justified in this way. Nevertheless, Sparrow underlines the fact that the initial struggle should be for healing Earth, and then we can go further into Space, which seems like a far-fetched idea according to him (239).

Mars has always been a great mystery, a desirable place to go for centuries, on which many stories have been based on the assumptions of people whose imagination and curiosity have been triggered by the red planet. Many names have been given to this red spot in ancient tongues “Nirgal, Mangala, Auqakuh, Harmakhis” and “for thousands of years Mars was a sacred power in human affairs; and its color made it a dangerous power, representing blood, anger, war and the heart” (*Red Mars*, 2). By the help of the technology, we went further than the view of the telescopes and had the real landscape pictures of Mars sent by Mariner and Viking. It seemed to be disappointing

as no life forms could be observed in these photos and the planet rather seemed dull. Nevertheless, it has not stopped people from searching for the Martian life traces. Thus, it has become more than an object of curiosity. It is a new world open to any kind of invasion, a world with an empty appearance holding mysteries in its unknown nature.

The dialogical formation of Robinson's narrative in the Mars trilogy reveals the primary arguments about the terraforming project by questioning its course of processes and its sanctions. A variety of criticism has arisen from this Bakhtinian dialogism and polyphony in the colourful formation of the Mars trilogy. Carol Franko, (1997), connects all these elements to the first book of the trilogy, *Red Mars*, on the other hand, William J. Burling, (2005, 76), claims that Franko's analysis cannot be applied to the political explorations in the last book, *Blue Mars*. Ernest J. Yanarella points out that the "polyphony of subject-positions" in the trilogy is a "narrative ploy [acting] as an authorial ruse to exonerate Robinson of the apparent responsibility for choosing or determining the outcome of the terraforming controversy and the fate of the Martian experiment" (280). Otto maintains that Robinson's portrayal of this polyphony is not an escape to resolve the ethical debate over terraforming but actually the multiple point of views in the narration "encourage readers to synthesize continually a complex array of political positions" ("The Mars Trilogy and the Leopoldian Land Ethic", 254). Robinson's introducing multi-positional narrative voices, for Otto, "attests to his desire to move closer to utopia" by this synthesis and it also "involves a multiplicity of economic, philosophical, scientific and historical perceptions of the land" (254)

In the course of the terraforming efforts in the trilogy, the main characters express different opinions about the reason of why they are here and what exactly their mission is. For instance, Phyllis thinks "God gave us this planet to make in our image, to create a new Eden" (*Red Mars*, 171). Simon focuses on the results of their activity: "If the permafrost melts we'd be living on a collapsing landscape, and a lot of us would be killed" (171). As a radical character, Arkadi touches upon the political aspect: "We can never be self-sufficient unless we do terraforming. We need to terraform in order to make it ours, so that we will have the material basis for independence" (171-72). Apart from the conflicting ideas of reds and greens, each scientific department comes up with some possible scenarios and calculations concerning their expertise:

The alchemists talked about physical and mechanical means to add heat to the system; the climatologists debated influencing the weather; the biosphere team talked about ecological systems theories to be tested. The

bioengineers were already working on new microorganisms; they were shifting, clipping and recombining genes from algae, methanogens, cyanobacteria, and lichens, trying to come up with organisms that would survive on the present Martian surface, or under it. (*Red Mars*, 172)

Bakhtin's theory of dialogism shows itself here as a primary position with these multiple ideologies. In the existing setting and time, called as "chronotope" in the on-going narration, dialogism directs the story as Pak explains: "Dialogism and the chronotope interact to define the structure of a text; parts interrelate to take on additional layers of meaning, and changes to one dimension impact upon others" (185). "Dialogism" is defined as "the characteristic epistemological mode of a world dominated by heteroglossia" which is explained as follows: "everything means, is understood, as a part of a greater whole – there is a constant interaction between meanings, all of which have the potential of conditioning others. Which will affect the other, how it will do so and in what degree is what is actually settled at the moment of utterance" (qtd. in *Terraforming*, 185) This explanation of dialogism actually presents the main formation of the Mars trilogy; variety of voices such as the Greens, the Reds, the religious ones, capitalist and technologic intentions to the ecological problems are examples of constantly interactive meanings affecting each other.

The ancient version of dialogism, Socratic dialogues, appreciates the on-going debates over an issue rather than reaching a final truth, because the truth is a contingent thing itself. In Bakhtin's interpretation of Socratic dialogues:

The dialogic means of seeking truth is counterposed to official monologism, which pretends to possess a ready-made truth, and it is also counterposed to the native self-confidence of those people who think that they know something, that is, who think that they possess certain truths. Truth is not born nor is it [...] found inside the head of an individual person, [truth] is born between people collectively searching for [it], in the process of their dialogic interaction. (110)

The prominent examples of these dialogues are given in Plato's *Symposium* with the intentional setting of a feast in which Socrates and his friends celebrate the conversations that intend to explain the meaning of a crucial issue (love in that content). Analyzing the festival-like atmosphere of Socratic speech, Bakhtin states that it "presumes a carnivalistic familiarization of relations among people who have entered the dialogue" (132). Robinson presents the power of dialogues from the first human step on Mars, the first words of John Boone as the first man on Mars are "Well, here we are"

(*Red Mars*, 6), which reminds us that he is not alone there, all the success is shared by the members of the group and there is also an audience, the plural form of the first person usage is used in interactions as in the dialogues in which there is a speaker and a listener. Later, John reflects the significant place of dialogues in the constitution of the society through his expeditions among many different cultures and he believes that they can only build a united Martian society with this multicultural Terran immigrants through the help of dialogues because this new synthesis on the new setting can be “born between people collectively searching for [it], in the process of their dialogic interaction” (338). John Boone in a sense accomplishes to form this new Martian society, and his death comes just after a festival night in which he delivers a speech celebrating their success. As Julia Kristeva comments on the Socratic dialogues, “Speech affronts death” (52) and John’s final speech at the festival night reveals the carnivalesque structure of Socratic dialogues. Talking about the strong connection between the extension of the deepest past and the most distant future formed by the contexts of dialogues, Bakhtin states that: “Nothing is absolutely dead: every meaning will someday have its home-coming festival” (293) John’s powerful speech and all his struggle for building strong ties through dialogues transform his death into a powerful idol, because he “invests his entire self in discourse, and this discourse enters into the dialogic fabric of human life, into the world symposium” (Bakhtin, 293). John turns into a philosopher who does not stop his speech even until the last moment of his death and the chapter of his death following his final speech named “Festival Night” can be an indication to his transformation into a philosopher in the world symposium. As Franko analyzes, “In *Red Mars* the spirit of carnival embodies and historicizes the various episodes of the ‘world symposium’ of John Boone and his many interlocutors” (119), considering Bakhtin’s statement on the Socratic dialogue that it “presumes a carnivalistic familiarization of relations among people who have entered the dialogue” (132).

From the polyphony of subjective views with scientific measurements in the trilogy, this ideology prevails on the trial of a terraforming project: “It’s an experiment, a big one, and it will always be an ongoing experiment, with nothing guaranteed or known for sure. But that’s what science is” (*Red Mars*, 172). Otto argues that “using science as a tool of change” through these experiments recalls the creation of Victor Frankenstein’s monster: “the terraforming effort is just as impulsive as Frankenstein’s

promethean effort to generate life in a stitched-up assemblage of human body parts” (249-50). The fearful part is not only the experiments but also the possibility of their foreshadowing to carry a similar fate with that monster and the creator. In one of these experiments, they try to develop some of their prototype GEMs in Mars that carry some “extreme characteristics, including resistance to cold and dehydration and UV radiation, tolerance for salts, little need for oxygen, a habitat of rock or soil” (*Red Mars*, 172). When they come across some resistant ones, they ask for permission for the field trial to which Arkady reacts rebelliously since he strongly believes that if it is really necessary, there is no need for any permission. Objections are raised against such an experiment because it can not only bring about the hazardous ecological consequences but also jeopardize their positions when they violate the directions of U.N.: “biological contamination of this environment is simply illegal at this point, and we don’t have the right to ignore that. It’s international treaty. It’s how humanity in general wants to treat this planet at this time” (173). Nevertheless, they violate the rules of treaty and, by doing so; they open a way to uncontrolled and precarious outcomes of the experiment.

The attempts of the Martian settlers to create a habitable environment on this new planet involve the creation of new myths adapted from the ideas and experiences of Earth according to Chris Pak, and these new myths in the context of Martian environment “enshrines a Martian narrative that offers the potential for feedback from the alien to the human in order to transform the multiple voices embedded in earthbound history into new avenues for socio-cultural experimentation” (*Terraforming*, 171).

Throughout the trilogy, Robinson successfully uses dialogism by presenting us multiple points of views on any issues. He defends each view by trying to convince the reader; therefore there exists a variety of voices in the ecological discussions. Ann Clayborne and Sax Russell are the two opposing personalities symbolizing the two remotest edges of ideas as to how to treat Mars after the first arrival. There are different ideas and more discussions among other characters, but these two voices are the sharp ones from the very beginning. Ann insists on waiting for the analysis of this mysterious old planet before any attempts to change it, “It’ll take years to find out what we have there, Sax. Decades. There’s as much land on Mars as on Earth, with a unique geology and chemistry. The land has to be thoroughly studied before we can start changing it” (*Red Mars*, 39). Sax’s abrupt answer to that plan shocks Ann: “We’ll change it just by

landing”, handling the issue like a conqueror, he cites the famous words of Julius Cesar on a successful conquest: “Deciding to go to Mars is like the first phrase of a sentence, and the whole sentence says—‘Veni, vedi, veci.’” (*Red Mars*, 40). Ann just warns Sax not to play with the nature of this precious planet “Look, Mars is its own place. You can play your climate-shifting games back on Earth if you want, they need the help. Or try it on Venus. But you can’t just wipe out a three billion year-old planetary surface” (40) but Sax simply says, “It’s dead” without any search for the possible life forms on the surface. Elizabeth Leane analyses that Ann and Sax’s opposing conception of science includes “different gender politics and different attitudes towards postcolonial ethics”, which will be discussed later as identified by her in binary oppositions:

Ann sees the colonization of Mars as an invasion of the body; Sax enacts this invasion by supervising the drilling of moholes, enormous holes penetrating deep into the planet’s interior, designed to release geothermal (or rather areothermal) heat into the planet’s atmosphere. For Ann, the physical “mastery” of nature precludes its intellectual “mastery”; for Sax, these two forms of dominance go hand-in-hand. For Ann, the planet is its own place; for Sax, “The planet is the lab”. (151)

3.1.1. Socio-political Perspectives: The Reds

Ann Clayborne and her followers known as “the Reds” defend one of the dominant views on the terraforming of Mars. Ann chooses to read Mars like a text to uncover all the hidden messages rather than vulgarly corrupting this piece of literature through abrupt modifications. She loves Mars, the silent and deserted mystery of its nature is so fascinating although others hate it for the same reason. She is in love with it, “because it was dead. And Ann was in love with death” (*Red Mars*, 221). This mesmerizing nature of Mars is observed at the first real visualization while Ares is approaching to it:

There were craters everywhere on the surface: their round interiors were a vivid sandy orange, a slightly lighter color than the surrounding countryside. Dust, presumably. The short rugged curved mountain ranges were darker than the surrounding countryside, a rust color broken by black shadows. But both the light and dark colors were just a shade away from the omnipresent rusty-orangish-red, which was the color of every peak, crater, canyon, dune, and even the curved slice of the dust-filled atmosphere, visible high above the bright curve of the planet. Red Mars! It was transfixing, mesmerizing. Everyone felt it. (84)

It is true that life on Mars is not an easy one, the micron-sized fines are in everything like machines, clothes, even in their bodies, and they accept this reality of Mars whether

they like it or not. While talking about “The Outer Space Treaty” that they have to act accordingly, Ann exclaims that they have to be careful to approach the surface of the planet in order not to cause any unpredicted damages: “This treaty also says we have to take measures to prevent the disruption of planetary environments, I think is how they put it. It’s in Article Seven. That seems to me to expressly forbid the terraforming that so many of you are talking about” (*Red Mars*, 88). However, as Arkady defends to ignore any kind of rules directed to them by the Earth, he suggests ignoring that article too for the sake of their own well-being. Sax also confirms that there will be inevitable changes while living on the planet whether they wish it or not, he thinks that being on Mars will change them in an evolutionary way.

Chris McKay points the philosophical implication of Ann’s arguments against the ecopoeisis: “On earth, the notion of life and the notion of nature are inseparable. But on Mars and in the rest of the solar system, life and nature are two different things. Mars appears to be a dead planet, yet it is undeniably a beautiful, valuable planet” (qtd. in Kluger, “Mars”, 74-75). Sax recognizes Ann’s vision, a native gift, an achievement of a century’s intimate examination and her love for the land above all “to see the landscape in its history, to read it like a text, written by its own long past” (*Blue Mars*, 97). Her mineral ethic is not a rejection of life or alteration actually, it is so unique, as powerful as Hiroko’s spirituality, “a kind of resource, or treasure – a love beyond science [...] a kind of oracle [...] an acceptance of what was there; love of rock, for rock’s sake. For Mars’s sake. The primal planet, in all its sublime glory, red and rust, still as death; dead; altered through the years only by matter’s chemical permutations, the immense slow life of geophysics” (97). Her visionary is a different kind of living at an extraordinary level, “an odd concept – abiologic life” (97). Ann’s radical “Red resistance” is to stop Green attempts’ changing it because her own perception of rock ethic requires it untouched as she “believed in some kind of intrinsic worth for the mineral reality of Mars, it was a version of what people called the land ethic, but without the land’s biota. A rock ethic, one might say. Ecology without life” (*Green Mars*, 147) Her only concern is “Mars. Just Mars. The place you’ve [Sax] never known” (147). Otto examines Ann’s reply to Sax from Leopold’s land ethic which requires “the land be ‘known’ a certain way, a way that the economically based land relation and applied science would fail to see without the critical input of more environmentally conscious worldviews” (251).

Ann is against terraforming before measuring the exact features of this unknown, but the radiation keeps them underground and they need to thicken the atmosphere to live and work here, which means terraforming. She knows this and carries the burden of this dilemma of both desiring to help and not to give any damage:

But it isn't right! I mean I look at this land and, and I love it. I want to be out on it traveling over it always, to study it and live on it and learn it. But when I do that, I change it—I destroy what it is, what I love in it. This road we made, it hurts me to see it! And base camp is like an open pit mine, in the middle of a desert never touched since time began. So ugly, so... I don't want to do that to all of Mars, Nadia, I don't. I'd rather die. Let the planet be, leave it wilderness and let radiation do what it will. It's only a statistical matter anyway, I mean if it raises my chance of cancer to one in ten, then nine times out of ten I'm all right! (*Red Mars*, 157)

Ann might be ready to sacrifice herself for the sake of this planet, however the rest of the group, for all living things here, it will be a genetic damage for everybody. She regrettably predicts the future for all of them as a result of terraforming activities step by step: “We'll all go on and make the place safe. Roads, cities. New sky, new soil. Until it's all some kind of Siberia or Northwest Territories, and Mars will be gone and we'll be here, and we'll wonder why we feel so empty. Why when we look at the land we can never see anything but our own faces” (158). This is actually an allusion to Ray Bradbury's *The Martian Chronicles* (1958), in the last story; there is a family that names themselves Martian when they look at their changed reflections on a stream. Pak analyzes that Robinson, through this allusion, “highlights how the failure to recognize Mars's otherness results in an alienating emptiness that undermines the possibility of reaching an identifying engagement with the land” (*Terraforming*, 190). He reveals the harsh reality that we have always created a world of our own by destructing the original form, but still we are dissatisfied with what we have done and we are afraid to see the emptiness in our work as it reflects the huge emptiness in us. Ann's vision is beyond that emptiness as she is capable of reading the landscape like a text and she does not deny its intrinsic value.

Nadya also gains this sensitive consciousness about their corruption on Mars caused by the project of constructing their civilization. As they reach to their permanent habitat in the Underhill after their long expedition in the wilderness, she notices what they have done here. She was proud of their work when she was inside there, but

approaching this industrial dirtiness within the smoke and garbage, she is feeling ashamed now:

As they rolled on in she could not help noticing the litter of frames, crates, tractors, cranes, spare part dumps, garbage dumps, windmills, solar panels, water towers, concrete roads leading east west and south, air miners, the low buildings of the alchemists' quarter, their smokestacks emitting the plumes they had seen; the stacks of glass, the round cones of gray gravel, the big mounds of raw regolith next to the cement factory, the small mounds of regolith scattered everywhere else. It had the disordered, functional, ugly look of Vanino or Usman or any of the Stalinist heavy industry cities in the Urals, or the oil camps of Yakut. They rolled through a good five kilometers of this devastation; and as they did Nadia did not dare to look at Ann, who sat silently beside her, emanating disgust and loathing. Nadia too was shocked, and surprised at the change in herself; this had all seemed perfectly normal before the trip, indeed had pleased her very much. Now she was slightly nauseated. (*Red Mars*, 159)

This corruption in the Underhill area is undeniable, it was all “battered, thrashed to the horizon in every direction, so that it seemed as if it continued outward over the whole planet” (164). This corruption is the result of anthropocentric mentality of the colonizers. Ann and Nadya are aware of the fact that they want to do it just because they have enough power to alter the environment as they wish, which also shows their desire to display their power over the non-human world. However, they are not broad-minded enough to see the possible consequences beyond under the law of quantum mechanics in this interconnected universe. Sax's plan to make windmill heaters and distribute a thousand of them around the equatorial regions to test their warming effect expecting to add about twice the heat to the atmosphere just drives Ann crazy. She resembles the enthusiastic terraformers to naughty children playing a dangerous game over a real planet:

Here you sit in your little holes running your little experiments, making things like kids with a chemistry set in a basement, while the whole time an entire world sits outside your door. A world where the landforms are a hundred times larger than their equivalents on Earth, and a thousand times older, with evidence concerning the beginning of the solar system scattered all over, as well as the whole history of a planet, scarcely changed in the last billion years. And you're going to wreck it all. And without ever honestly admitting what you're doing, either. You want to do that [“mass alteration of the environment”] because you think you can. You want to try it out and see—as if this were some big playground sandbox for you to build castles in. A big Mars jar! You find your justifications where you can, but it's bad faith, and it's not science [...] It's not science, I say! It's just playing around. And for that game you're going to wreck the historical record,

destroy the polar caps, and the outflow channels, and the canyon bottoms—destroy a beautiful pure landscape, and for nothing at all. (*Red Mars*, 176-77)

It is obvious from Ann's observation that the colonizers start turning this untouched planet into something else when she first sees the tracks of their wheels on the surface. Thus, she both wants to go on the expeditions in order to understand the nature of it and she also feels guilty for breaking the spell of the wilderness. In her more recent visits to the highly altered Martian landscape, she faces the ecology brought from Earth and animal life in different habitats. She sees a polar bear feeding on a dead seal, which chases her after that. This moment is imprinted on her mind as a haunting image of the changing landscape: "she only had to close her eyes and she saw again that heraldic image of the bear lowing over the rock; but open them and there the dashboard gleamed, bright and artificial and familiar. Ah so strange!" (*Blue Mars*, 268). Chris Pak explains that polar bear is "an emblem for change" and this haunting vision "initiates a transformation that eventually allows her to step back from her nihilism, preparing her for a modified relationship to the new Mars" (*Terraforming*, 174). The existence of the artificial and the familiar together on Mars drives Ann to a psychological dilemma preparing her conscious transition to the new Martian life.

3.1.2 Pragmatic Apolitical Perspectives: The Greens and the Colonization of Mars

Terraforming is inescapable on the Martian landscape and the opposing thought group, the Greens, with their leader Sax Russell considers Mars as a kind of wilderness into which he can "get things started, let loose the seeds, then watch it all develop on its own. Self-organizing ecologies" (*Blue Mars*, 89). His team is happy to turn wilderness into a kind of garden through their projects of ecopoiesis, which sounds more eco-friendly that is closer to the vision of natural growth in wilderness than industrial terraforming. However, Sax thinks both missions are necessary: they interfere with this wilderness via their technology and still perceive Mars as a garden and themselves as gardeners with the mission to cultivate it: "all a garden. Earth too for that matter. This is what humans have become. So we have to think about gardening, about that level of responsibility to the land. A human-Mars interface that does justice to both" (89). Pak observes that these terraforming practices seen as gardening on the new

planet is “an interface that mediates between human communities and non-human nature” (173). The results of this cultivation of the garden with the tremendous modifications compared to the original barren landscape are obvious with the springing “forest galleries” allowing “a great number of plant and animal species to flourish underneath them”, which is described as “the most diverse biotic community on Mars” (*Blue Mars*, 380). These gardening practices are similar to the colonist experimentations on the pastoral space. Therefore, Mars trilogy stands as a milestone for science fiction in terms of postcolonial analyses with its imperial motives and alternative futures, according to Patricia Kerslake it “gives us images both of the ineluctable nature of the imperial drive and of its oblique alternatives: a future which, Robinson suggests, sways between the poles of pessimism and optimism, with the ultimate outcome of a postcolonial functionality” (156). Kerslake maintains that Robinson’s future colonial world reflects a realistic worldview with his experimental meta-reality⁸ narration:

Verging at times upon non-fiction, one of the reasons why his Mars trilogy has become such a consequential work is its acute correspondence with a likely reality, where the importance of both survival and moral vision is equally stressed. With this narrative, Robinson has moved SF into new territory: an experimental meta-reality, blending the precision of a mathematical model with the study of ideas, concepts, and beliefs into an autonomous matrix capable of evolution and mutation. (156)

Her analysis of Robinson’s narratives which emphasize the possibility of evolution and mutation indicates a biological connection that independently goes beyond Robinson’s intentional fiction. As an introduction to this story of Mars and the beginning of Robinson’s Mars trilogy, the first paragraph of *Red Mars* reveals the simple, anthropocentric and colonial approach to an uninhabited planet when the first humans arrived on Mars:

Mars was empty before we came. That’s not to say that nothing had ever happened. The planet had accreted, melted, roiled and cooled, leaving a surface scarred by enormous geological features: craters, canyons, volcanoes. But all of that happened in mineral unconsciousness, and unobserved. There were no witnesses—except for us, looking from the planet next door, and that only in the last moment of its long history. We are all the consciousness that Mars has ever had. (*Red Mars*, 2)

When they step on Mars, they feel the effects of their feet on the solid ground that cracks when they walk on it, which makes them think that they are the first humans

⁸ It is a kind of narration written as if it is a non-fiction work even though it is actually fiction. It is like a capture of an alternative reality.

here and they are left on their own, thus it is inescapable that they become “*fundamentally different beings*” (4). The widely common attitude among the first hundred people on Mars has been shared by the colonizers of the new lands on Earth for centuries, that is the typical vision of any unknown land:

Mars is a sublime, exotic and dangerous place”, which echoes the words of a white settler on Africa, India or China in the past. They are aware of the fact that they were making history by carving out a new social order with their efforts. Looking around this rocky planet, they feel the strangeness that they are the only living creatures and so boldly “better than the blank mineral nothingness of everything else. (6)

The view of Mars as a “sublime, exotic and dangerous” place reminds us the narrations of Enlightenment, like Robinson Crusoe’s stepping on the wild island. Crusoe also considers himself to be the only intelligent living being on this wilderness like the first hundred on Mars. After his shipwreck, Crusoe is left alone to create the human civilization from the beginning on this blank slate piece of land with the help of the tools left from his ship as products of human labor. His storage of all these materials and his refugee situation alone on this new land resemble the arrival of the first settler team on Mars. Nadya reflects their quasi-Crusoe situation of being ready to construct “an entire town, disassembled and lying in pieces” with the help of the tools standing in front of her such as “an Allen wrench set, some pliers, a power drill, several clamps, some hacksaws, an impact-wrench set, a brace of cold-tolerant bungee cords, etc.” (*Red Mars*, 96) The passengers of the spaceship of this first Mars settler mission, *Ares*, have similar missions to Crusoe’s disassembling his wrecked ship, which is as if “dismantling a town and flinging the houses in different directions” (*Red Mars*, 78) Confirming the resemblance of Crusoe’s own internal division of labor to the collective one brought on *Ares* for the naturally generated tasks on Mars, Jameson states that Mars trilogy creates “the possibility of separating off the elements of human labor from the underlying conditions of Being itself which makes both dimensions available for celebration” and he concludes as follows:

“Terraforming” then retroactively include all those implements, all those receptacles of human value, and it becomes the fundamental dividing line between realism as the narrative of human praxis and ontology as the traces of Being itself: two formal or generic possibilities which thereby reinforce each other, insofar as production requires some pre-existent being on which to do its work, while Being itself can be detected only in the spaces that human praxis spares, in the evanescent change at origins that time and history inexorably efface. (“If I Find One Good City”, 55)

It is argued by some critics that colonization is actually a sign of human progress into the space. It is observed as a project pursuing the wonders in the vast universe. However, colonization presents an unlimited liberty to exploit the resources of new world as happened in the colonial history of Earth. Zubrin argues that the victory of human conquest and expansion deep into the universe spread the hope for humanity to use all the available resources wherever found: “If the idea is accepted that the world’s resources are fixed, then each person is ultimately the enemy of every other person, and each race or nation is the enemy of every other race or nation. Only in a universe of unlimited resources can all men be brothers” (304). He fails to see the reality that it is not possible with the present greedy capitalist mentality to live happily in abundance within all these unlimited resources. Even though humans can access those “infinite resources of the universe” with the help of technology, humanity would fall into the same mistakes and return to its “default condition – the Hobbesian war of all against all” (Markley, “Falling into Theory”, 129). His argument, as Markley states, would “reinforce the belief that humanity’s only hope for the future is to repeat on Mars the cycles of spewing CFCs into the atmosphere, mining, harvesting crops and timber, and devastating wildlife that have compromised the Earth’s Environment” (“Falling into Theory”, 129). The problem of Zubrin’s logic derives from the anti-ecologic Baconian supposition that nature’s all resources lay open for humans to use, to exploit and to alter, thus, he “displaces onto Mars a vision of infinite resources that has led civilizations from one crisis of intensification to another until a dry, frigid, and almost oxygenless planet seems to many humanity’s last best hope for survival” (Markley, “Falling into Theory”, 129). This last best hope is mirrored in the trilogy many times, because Mars mission is seen not only an interplanetary colonization but also an exit from the desperation of Earth with its exhausting resources, overpopulation and environmental crisis. The co-director of Mars mission, Frank Chalmers, sums up the reason of their colonization process by answering John Boone’s question “Why were we sent here in the first place?”, they came here to try their chances to

find something worthwhile, and it paid off! We struck gold, so to speak. Which is only more gasoline poured onto things, because gold rushes show who’s powerful and who’s not. And now even though we got a head start up here, there are a lot of new tigers down there who are better at things than we are, and they all want a piece of the action. There’s a lot of countries

down there with no room and no resources, ten billion people standing in their own shit". (*Red Mars*, 353)

Frank actually sees the human existence on Mars like a gift to this frozen planet: "In the Martian desolation, the human presence is a remarkable thing. The planet, taken in itself, is a dead frozen nightmare and so thrown on our own, we of necessity are in the process of... reorganizing a bit" (6). Edward Said's vision of the otherness of the wilderness is visible in the identification of Mars. The voiceless, dead, frozen and wild nature of Mars is open to be identified as "the Other" and ready to be explored. Before even going to Mars, the minds are programmed to colonize an imaginary land waiting for them out somewhere in the space as Said points out: "there is no doubt that imaginative geography and history help the mind to intensify its own sense of itself by dramatizing the distance and difference between what is close to it and what is far away" (*Orientalism*, 55). Thus, the distance is not important, the knowledge and history prepare the voyagers to Mars to see this imaginary land as a solution to Earth's ecological and population problems, and to identify this imaginary geography as an open land for the exploration of interplanetary mining and experimentation of new ecological searches. This alien landscape is waiting for them as an alternative to social, political and ecological problems of Earth. The otherness of nature as a non-human identity is violated through the terraforming activities prosecuted as a kind of "ecological imperialism". The ecological system of Earth is imported to this alien space and partly adapted to the new environment by some alterations or by passing through a process evolution. The identification of Mars as an imagined alternative space as a solution for the problems of Earth is a colonist attempt to create another human world in the solar system. Even though indigenous people do not exist on this new land, the colonist vision is the same with that of Europe towards Asia or Africa. Mars is a reconstructed identity and its voiceless otherness is explained as the Orient by Said: "knowledge of the Orient, because generated out of strength, in a sense creates the Orient, the Oriental, and his world" (40). With the polyphony of voices and ideas on it, Mars stands as a new identity ready to colonize, to be manipulated and shaped by a variety of interplanetary factors.

Said's vision of the "otherness" is not only visible towards the colonized planet, but it is also present throughout the trilogy among the races which are stereotyped by Robinson by creating similar conflicts as they happen in real life. The

racial and cultural otherness starts with the stereotyped characters: assassin Arab, heroic and charismatic American leader (John), Russian anarchist man (Arkady) and beauty woman (Maya), and Japanese mystic (Hiroko) etc. Even though these ethnic conflicts are overcome later on and the new generation on Mars seems to be more tolerant than the past, this time the othering of Earth/Terran vs Martian start to haunt the colonial minds. The foundation of the first party echoes for today's Earth First organization prioritizing their own planet in terms of any issues.

The Mars trilogy follows an old narrative tradition of being the focus of an imperial desire to conquest and to create a new settlement as Robinson names the Martian landscape after his precursors in this tradition such as Burroughs, Bradbury, Clerk, Sheffield, Wells etc. Even the word choice from the beginning implies that it is a colonial mission; the first settlement is called as "colony" and the new comers are "colonists" (*Red Mars*, 25), after a while they become "settlers or Martians" and their children become "natives" (*Green Mars*, 431). By proposing numerous ethical questions about the justification of colonialism or terraforming of Mars by humans and about the process would follow this, Leane has come to the conclusion that "The whole trilogy can, from one perspective, be seen as an attempt to theorize, or, more accurately, to narrativize, a postcolonial dystopia on Earth, and a postcolonial utopia on Mars; its central problematic is whether the two can exist simultaneously and interdependently" (146). While questioning the status of the trilogy in terms of postcoloniality as the absence of indigenous life seems to be a significant missing part in the analysis, Leane presents a different view proposed by Albanese whose strategy in the colonial discourse is "to naturalize the colonized, to place the colonized in the same relationship to the colonizer as the natural world is to the scientist. Thus Robinson's emptying out of the site of colonization could be read as a literalization of this naturalizing impulse, an attempt to make the isomorphism of the colonial and scientific impulses explicit" (148). Robinson successfully reflects the actions of colonial traditions with the technological and scientific developments set on the blank red slate. The colonizers try to create a new world on an empty planet as similar incidents happened between the scientists and the wilderness hundreds of years ago. Before the arrival of the first crew on the planet, the untouched nature of Mars is depicted as follows:

The colored sands in their patterns, the fluted and scalloped canyon walls, the volcanoes rising right through the sky, the rubbled rock of the chaotic terrain, the infinity of craters, ringed emblems of the planet's beginning...

Beautiful, or harsher than that: spare, austere, stripped down, silent, stoic, rocky, changeless. Sublime. The visible language of nature's mineral existence.

Mineral; not animal, nor vegetable, nor viral. It could have happened but it didn't. There was never any spontaneous generation out of the clays or the sulphuric hot springs; no spore falling out of space, no touch of a god; whatever starts life (for we do not know), it did not happen on Mars. Mars rolled, proof of the otherness of the world, of its stony vitality.

And then, one day... (*Red Mars*, 96)

One day, humans come and change everything on this stony, sandy and frozen planet. As soon as the scientific experiments start on Mars, the crew can feel the change from time to time as they see the human traces left on the once untouched land. The land they explore is no longer an untouched land, "the nature of the landscape itself was altered, split left and right by the parallel lines of crosshatched wheel tracks, and by the green canisters slightly dimmed by a rime of dust, all marking for them 'the way'. It wasn't wilderness any more" (154). The obvious result of the road-building process is that you have road lines but not wilderness anymore.

Jessica Langer explains that what matters in postcolonial science fiction is the way how some elements such as "fabulism, folktale, divinity, orature or [...] indigenous culture or narrative" emerge and the way they interact with science fiction (131). Instead of limiting it to Western understanding of science and scientific methods, Langer attains to a wider perspective on the postcolonial science-fiction:

Science fiction within a postcolonial idiom, however, presents a different critique of Western scientific developments: instead of criticizing the extent to which it is allowed to eclipse all other values, postcolonial SF questions the system itself, and explores specifically its deleterious effects on societies and cultures whose own worldviews are built on a different basis entirely. (Langer, 131-32)

This questioning of the colonial system is visible even to the ones supporting the terraforming activities. As soon as the crew arrive at Mars, they just focus on building towns like putting the pieces of a puzzle together, but in some moments, they stop and think for a while that they act like an ant colony: "It's like the first second of the universe, all crammed together and no differentiation. Just a bunch of hot particles rushing about" (*Red Mars*, 107).

The beauty of a landscape can be appreciated through human experiences, ideals and values at an intellectual or spiritual level as Ann sees the red form of Mars as a "beautiful pure landscape". Sax defends terraforming on this ground by claiming that

it is the heroic human existence that enables to imagine the beauty or real value of Mars: “The beauty of Mars exists in the human mind. Without the human presence it is just a concatenation of atoms, no different than any other random speck of matter in the universe. It’s we who understand it, and we who give it meaning” (*Red Mars*, 177). His anthropocentrism tries to explain all the efforts of humans looking at the sky for centuries and wondering what is up there, then thanks to scientific studies, they come here and “That’s what makes Mars beautiful. Not the basalt and the oxides” (177). He accepts that studying the rock is also science, but it means more than that to him, and changing the Martian surface is “to make it safer to live on”, because “Changing it won’t destroy it. Reading its past might get harder, but the beauty of it won’t go away. If there are lakes, or forests, or glaciers, how does that diminish Mars’s beauty? I don’t think it does. I think it only enhances it. It adds life, the most beautiful system of all” (178). Sax thinks that it is all about human mind and the transformation of Mars is like imagining the construction of a building as “a monument to humanity and the universe both”, and he believes that “Mars will always remain Mars, different from Earth, colder and wilder. But it can be Mars and ours at the same time. And it will be [...] We can do it, so we will do it” (178). Markley comments on that:

If Ann’s defense of a “pure” Mars provokes a questioning of biocentrism, Sax identifies knowledge rather than the exploitation of resources as the ultimate rationale for terraformation. In this regard, his response to Ann becomes a kind of philosophical one-upmanship; it is precisely human intervention that produces the “meaning” that structures even her celebration of an aesthetics and science of “pure” observation, an ideal of nonintervention. Yet Sax’s insistence on the anthropocentric nature of meaning in the universe ironically reveals the accuracy of Ann’s criticism: the basis of terraformation, of Baconian science itself, is an adolescent faith in human significance, a will-to-play (and play God) with the universe. (“Falling into Theory”, 132)

While Ann’s emphasis is on the intrinsic value of the landscape and its aesthetic beauty, Sax values the land more for the extrinsic aesthetic reasons. He is rational; he values mind and the progress of humanity rather than non-human universe. Sax is an influential speaker; he is confident that he will win in this game of terraforming experiments. Even his botanical namesake, Saxifrage meaning “rock breaker” (*Green Mars*, 174) is metaphorically refers to his leading role of breaking the rocky Martian surface and altering its color to green. For the first time he faces this wild plant that has a symbolic color, he notices “arctic saxifrage, *Saxifraga hirculus*, tiny

branches covered with long leaves, ending in small pale blue flowers” (*Green Mars*, 174).

On the other hand, the principles of “deep ecology” are revealed as a revolution to this claimed lordship of the universe. The most significant doctrine of deep ecology is the Copernican decentering man from the mastery of the universe. Ann is upset and she is unable to present a stronger argument over the man claiming to be the lord, however, as a deep ecologist, she puts an end to this discussion: “I think you value consciousness too high, and rock too little. We are not lords of the universe. We’re one small part of it. We may be its consciousness, but being the consciousness of the universe does not mean turning it all into a mirror image of us. It means rather fitting into it as it is, and worshipping it with our attention” (179). Ann advocates the otherness of nature without any interference and she is against the anthropocentric approach to wilderness by the scientists who claim to be “the lord of the universe”. Deep ecology claims that the best thing for humans is to go back to humanity’s Paleolithic existence away from the industrialization but inside the wilderness. This radical desire of valuing nature more by undermining human power is criticized by many thinkers such as Kovel who argues “by denying humanity’s creative potentials, deep ecology is denying nature itself. Deep ecology needs to develop, then, an internal set of relations that will adequately give us a role within nature” (188). He criticizes the mis-usage of the idea of deep ecology, in which some institutions and governments displace people from some regions under the name of conservation projects to preserve wild areas but actually creating an untouched site for the capitalist elites’ ecotourism. Kovel suggests that “if we wish to restore the intrinsic value of nature in this sad world, we have to break down capital, and the power of its exchange-value, thereby freeing use-values and opening up the differentiation with intrinsic value” (216). The capitalist impulses as the primary drive for the destruction of the environment and for the reason of ecological crisis will be argued later.

Sax is a laboratory man, according to Ann, who never observes nature through a real interaction in the original habitats, but prefers analyzing them in the scientific laboratories like the rationalist scientists of the 17th century as in Bacon’s *The New Atlantis*. Even he sees Mars as a huge laboratory in which he can try anything: “The planet is the lab” (*Red Mars*, 263). Jameson also acknowledges that Mars is observed as a laboratory by the scientists or the observers:

If all of Mars is one gigantic laboratory...then it is a unique laboratory in which the variables can never be isolated in the ordinary way, but always coexist in a multiplicity which can scarcely be mastered by equations let alone by the computer itself. This means that whatever the scientific theme confronted – botany, biology, geology, physics, chemistry, astronomy – the projected solution to the imaginary problem will always involve the rehearsal of a specific kind of thinking to which we are not often accustomed, namely the grappling with what Althusser calls “complex overdetermined concrete situations” which he also very specifically associates with history and above all with politics. (*Archaeologies of Future*, 395)

The analysis on the texts shows that the hegemony of science over nature has prevailed for centuries. The human traces on Mars are observed metaphorically by Nadya as follows: “Tracks, pits, mounds of regolith, all dark red against the dusty orange surface of the plain—it looked as if a dragon had reached down with a great taloned claw, and drawn blood time after time” (*Red Mars*, 181). The heater windmills are disseminated all over the planet on permission, on the other hand, Sax and his team have secretly placed Vlad’s new trial of alga or lichen inside the windmills. They, illegally and unethically, plan to spread the little knobby chunks of bluish lichen all around thinking them to survive and grow on the land with the help of the windmill’s heating. Arkady and Nadya drop them unknowingly, but when they notice they feel guilty as they have contributed to this act considering the possible huge results of this secret experiment. The flat and immobile land seems different to Nadya now, as “it was seeded, fertilized; it was going to change, now, inevitably” (192). These are the beginnings for the change, the next steps in Sax’s terraforming plans such as “giant orbiting mirrors reflecting sunlight onto the dawn and dusk terminators, carbon distributed over the polar caps, areothermal heat, the ice asteroids” will certainly happen as they have already passed the debate part and they are going to change the face of Mars (193).

Although some die, new kinds of life are partially adapted to the surface of Mars, new organisms with new abilities like Frankenstein’s monster come into existence: “fast-growing lichens. Radiation-resistant algae. Extreme-cold fungi. Halophylic bacteria, eating salt and excreting oxygen. Surarctic mosses. An entire taxonomy of new kinds of life, all partially adapted to the surface of Mars, all out there having a try at it” (205). The extinction, prosperation and adaptation of the organisms are part of the life of Mars in mutual dependency with each other: “So life adapts to

conditions. And at the same time, conditions are changed by life. That is one of the definitions of life: organism and environment change together in a reciprocal arrangement, as they are two manifestations of an ecology, two parts of a whole” (*Red Mars*, 205). At first, this change has been slow, almost invisible, but later the remains of massive deaths stimulate bacterial reproduction and new organisms, the areophytes, feed on the compost of the dead generations. This idea of organisms’ natural cycle in the biological system is called as *ecopoiesis* – which originally comes from Lovelock’s Gaia Theory that will be discussed later –: “New life fed on the compost of their ancestors, and reproduced again. Lived and died; and the soil and air left behind were different than they were before these millions of brief generations” (206). The biotic life continues in a circle, generations change the environment by feeding on the previous organisms and producing new forms.

The lower life forms created by the technology of planetary engineering mark the beginning of a new life emerging from the ashes. Markley argues that “the myth of *ecopoiesis* as resurrection, though, might be called more accurately a form of ideological displacement: the terraformed Mars of the imagined future has not been restored to its pristine state but has become the vehicle to give scientific and poetic shape to fantasies of a prelapsarian terrestrial ecology” (128). He underlines the fact that the creation of self-regulating biosphere and biological life is not only an attempt of resurrection of ancient Martian atmosphere and surface form, but it goes beyond through the future imaginings of the planet as a unique planet. After a while, the growth can be observed visibly:

And so one morning the sun rises, shooting long rays through the ragged cloud cover, up the length of Valles Marineris. On the north wall every horizontal face is black and yellow and olive and gray and green, all with the warty surfaces of lichen. Plates of lichen drip down the vertical faces of stone, which stand as they always have, stony, and cracked, and red; but now mottled, as if with lace” (206).

Sax’s plan with the algae hidden in the windmills becomes unsuccessful and they all die. John thinks that Sax’s actions seem to be as if he is playing a game without knowing the end of them. Therefore, he warns Sax that such kind of uncontrolled human activity might end up with the death of everything on the planet: “New organisms are being cooked up daily and it might be possible to create something that would kill everything else on the planet” (266). It is like a trial template that everyone

tries something new on the planet with chemicals or technology, as suggested by a new comer: “What’s nice is we can pollute all we want with certain materials, oxygen, ozone, nitrogen, argon, steam, some biota—which gives us leeway we didn’t have back home, we just keep grinding what they give us till we can let it loose” (*Red Mars*, 267). They do not have wide-ranging knowledge about the geology of mineral formation even on Earth, and it mostly depends on chance or accident, as it is still a mystery. They are digging the ground for excessive amounts of metals, even they do not know what to do with them. The colonizers think that they might keep what they have collected in their hands until they worth more or until they build a space elevator.

In Ernest Yanarella’s evaluation of ecological narrations in science fiction studies, terraforming echoes with the word “terror”, derived from “terra (terror) forming”, with all the treatments of horror. Yanarella comments on the ideology of this Space Age as a different form of terrorism that is similar to the historical records of European colonialism while analyzing the possibility of applying Lovelock’s Gaia Theory to Mars in *The Greening of Mars* (1984). The terraforming process is very similar to colonialism in the classical literature. Actually, colonialism has taken a new shape in today’s world, called as imperialism, the objectives are similar to colonial enterprises but focusing more on the financial hegemony rather than the territorial one as Harvey points out: “The new imperialism is about the struggle for hegemony – financial hegemony, in particular, though the military dimension continues to be of great importance – rather than struggles for direct control over territory” (212). The construction is done by the brilliant scientist and engineers from Earth, but those who send them have been waiting for the financial profit out of this new land without considering whether it is ethical or not. The distressed observations of John Boone on the mining operations at Bradbury Point show the heaviness of the land’s abuse for economic concerns:

It was amazing what a few hundred people could do. Of course it was the same technology that was allowing Sax to build a vertical town the whole height of the Echus Overlook, the same technology that allowed all the new towns to be built so quickly; but still, wreaking such havoc just to strip away metals, destined for Earth’s insatiable demand...” (*Red Mars*, 276-277).

This scenery is a picture of an industrial exploitation of the planet’s natural resources and environmental contamination by the capitalist powers. Mars is seen as a tool to

relieve the problems of Earth by supplying the necessary demand: “Mars is not a nation but a world resource” (*Red Mars*, 516). Chris Pak reads the view of seeing “nature as a resource highlights technology’s influence in redefining humanity’s treatment of external space” (*Terraforming*, 176). They use Mars as mining spot and use every resource by making it an obvious interplanetary colony of Earth. The more they acquire, the more they desire to proceed as Pak points out: “Greater control of the environment is thus accompanied by a greater willingness to adapt the landscape for purely anthropocentric ends: nature’s otherness does not feature as a constraint to terraforming” (177).

3.1.3. Mystical and Spiritual Perspectives: The Viriditas and The Philosophical Aspects Behind The Crises

The domination of nature has its origins in the philosophical debates even before the religious doctrines. While praising the philosophers, Plato presents the ideas about the essence of life, and the philosopher as a ruler quite distinct from the ordinary people. Plato urges the class discrimination through sharp distinctions among people and common people are divided into categories according to his abstract philosophical principles. Following him, Aristotle prioritizes not only philosophers but also man over woman and the rest of the species by placing him at the center of the universe as obvious in his theory of solar system in which Earth is stationed at the center. More recently, the ontological thoughts of Heidegger have great influences over the deep ecologists. He identifies the technology as the efficient cause bolstering humans’ alienation from nature and eventually the ecological crisis. Heidegger keeps the efficient and instrumental cause of the phenomenon highly close to each other. Heidegger observes technology as a kind of human contribution to the reality, which is different from the natural process of “bringing forth”, *poiesis*, that is “the arising something out of itself” similar to “the bursting of a blossom into bloom” (“The Question Regarding Technology”, 316). He claims that the existing situation of estrangement created by the modern technology prevents this process of “bringing forth” as it is something challenging that “puts to nature the unreasonable demand that it supply energy which can be extracted and stored as such” (317). Dependence on the modern technology, for Heidegger, is a constraining power by freezing spirituality that causes the self-estrangement of humans under its hegemony.

The connection between the individual and the place has long been analyzed by environmental philosophers. As Paul Shepard puts it, one's relationship to a space helps to "both reflect and create an inner geography by which we locate the self" (28). He also points out the mutual transaction of the self and geography that "knowing who you are is impossible without knowing where you are" (32). Neil Evernden presents a similar view by claiming that "the establishment of self is impossible without the context of place" (101), moreover, he added bravely; "there is no such thing as an individual, only an individual-in-context, individual as a component of place, defined by place" (103).

Heidegger talks about the misery of the modern societies whose mode of inhabitation does not reflect the living due to its constraining constructions. According to Heidegger, the ideal of the dwellings should be an image of human existence and should also mirror some other forms "being a location" in order to manifest their own existence. Influenced by the phenomenology of Heidegger, Naess insists on the prerequisite of living in "a coherent, local, logical, and natural community" (*Ecology* 144) rather than modern socio-political structures. He gives priority to the nearer over the more remote areas, societies and species. He supports bioregionalism, which encourages the organization of people within ecologically divided spaces rather political and economic concerns like in the modern societies: "Locality and togetherness in the sense of community are central key terms in the deep ecological movement. There is, so to say, an 'instinctive' reaction against being absorbed in something that is big but not great—something like our modern society" (*Ecology*, 144). In this way, humans would not interfere with the geographical structures or local species but they would be a part of this zone. Furthermore, one of the leading bioregionalists, Kirkpatrick Sale argues that this kind of distribution of communities liberate people from complex social structures that bring them many burdens of living. He suggests that in a limited scale, the problems and the different connections would be limited, by this way, people could see the right behavior more accurately, evaluate the consequences more clearly and behave in a responsible way accordingly. "People will do the environmentally "correct" thing not because it is thought to be the moral, but rather the practical, thing to do. That cannot be done on a global scale, nor a continental, nor even a national one, because the human animal, being small and limited, has only a small view of the world and a limited comprehension of how to act within it" (Sale, 53). Sale's bioregionalist view promises

that this kind of local orientation brings more ecologically correct action in a quicker way compared to larger networks of power structures in the modern world. Leopold presents a similar approach to Heidegger, Naess, and Sale's arguments with his famous concept "land ethic". He also criticizes modern societies due to its estranging people from the nature:

Our educational and economic system is headed away from, rather than toward, an intense consciousness of land. Your true modern is separated from the land by many middlemen, and by innumerable physical gadgets. He has no vital relation to it; to him it is the space between cities on which crops grow. Turn him loose for a day on the land, and if the spot does not happen to be a golf links or a "scenic" area, he is bored stiff [...] In short, land is something he has "outgrown." (Leopold, 223–24)

For Leopold, all ethics derive from a basic principle: "the individual is a member of a community of interdependent parts" (203) and his land ethic aims to extend the basic rights of human and non-human subjects living together in harmony:

The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land [...] A land ethic of course cannot prevent the alteration, management, and use of these "resources," but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state. (203-4)

His approach confirms the decentering human existence in the universe as the owner: "In short, a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it" (204). The boundaries of states or nations are meaningless in this sense, because this kind of unity requires being a member of the land as a whole planet rather than unnatural limitations. Human intelligence is not designed to build affection within the arbitrary boundaries of modern states, but it suits to the biological needs and capacities within a planetary attachment, as Earth is a complete natural unit. Leopold's approach is to understand the complexities of the environment with all the entities and to create a healthy environment, which is "a tangle of chains so complex as to seem disorderly, yet the stability of the system proves it to be a highly organized structure. Its functioning depends on the co-operation and competition of its diverse parts" (252-53). Therefore, humans have to develop an understanding of this complexity and a kind of ecological consciousness evaluating the human impacts on the land so far. Leopold urges us to reconsider all our values in culture, economy, politics, science, history and ecology in order to view the land as a

part of all social paradigms, as a community rather than a material commodity. Leopold especially highlights to investigate “the same basic paradoxes: man the conqueror *versus* man the biotic citizen; science the sharpener of his sword *versus* science the searchlight on his universe; land the slave and servant *versus* land the collective organism” (260-61). Leopold observes the land ethic as “a product of social evolution” and he perceives it an “intellectual as well as emotional process” (263) Otto describes the land ethic of Leopold as “a recursive ecological system of ideas involving economic, philosophical, and scientific discourse, which only in dialog can bring about eco-critical utopian paradigms” (“The Mars Trilogy and the Leopoldian Land Ethic”, 244).

There are numerous environmentalists who are against the globalization because the adjectives “global” or “planetary” are problematic in the sense that they seem to refer to something beyond ordinary folks’ reaches, something that states, governments or powerful authorities could only solve. Many environmentalists support these ideas of living and acting locally while some desire for thinking globally that sounds like a kind of utopian social ideal. Gary Snyder thinks that a place of Earth is like a small piece of a huge puzzle: “a place on earth is a mosaic within larger mosaics—the land is all small places, all precise tiny realms replicating larger and smaller patterns” (“Place”, 27). Thus this place is a tiny part when we consider the whole universe and even this tiny piece might have an influence over the billions of other tiny particles when the rules of quantum physics for the connections of everything with each other are considered. As Snyder argues:

We can live wisely in our chosen place only if we recognize its connections to the rest of the planet. The challenge is to see one’s region as a focus of processes that extend over the earth and out to the edges of the universe; to realize that this place is only one of an infinite number of places where the powers of nature show forth. (“Place”, xvi)

Paul and Anne Ehrlich also point the need of humans for a sense of place, they state there should be more emphasis on maintaining this sense and “localization can strengthen that sense of place, that attachment to an immediate environment, which is still a major part of the identity of most human beings. An understanding of local surroundings permits many people to gain awareness of the ecosystem services upon which their lives depend” (*One with Nineveh: Politics, Consumption, and the Human Future*, 325). All of these ideas supporting the local touch with the natural world derive

from the idea that it is human nature to conceive more through the observations of the five senses: it is more effective what people can see, hear, taste, smell, and touch, which all come to the idea of Naess for what is near is the best. The importance of place on individuals should not be underestimated, one of the pioneers in the ecocritical theory Cheryll Glotfelty asked “in addition to race, class, and gender, should place become a new critical category?” and explains in her own answer, “as a critical stance, [ecocriticism] has one foot in literature and the other on land” (xix).

Even in former environmentalist traditions, the experiences of a place hold significance as can be seen in the writings of Thoreau, Wordsworth and Coleridge. As in the Judeo-Buddhist mysticism, the spirituality of a place evokes the feelings of awe and awareness, which is described as the experiences of sublime in the Romantics. Mitchell Thomashow explains this ecological awareness in the spiritual sense:

Through familiarity and intimacy, you learn how to pay closer attention to the full splendor of the biosphere as it is revealed to you in the local ecosystem. In those moments when you can wade through the distractions of business and task, when you catch a glimpse of the unfathomable world at your doorstep, you open yourself to biospheric perception. Through a deliberate place-based gaze, by learning how to move between worlds, you allow those glimpses to last a little bit longer each time. By developing appreciation for the biosphere, in liberating your sense of wonder, in summoning praise and reverence, in contemplating the mystery and circumstances of processes that you can never fully understand, you feel a sense of gratitude and appreciation. You learn to honor biogeochemical cycles as intrinsic to your breath and thirst. You find your origins in the history of life on earth. You forge alliances and affiliations with people and species from all corners of the globe as you watch them pass through your neighborhood. You summon praise for whatever lies behind this outstanding journey – Gaia, God, evolution? With the passing of praise comes cause for celebration. (212)

Thomashow here describes the intense feeling on the land, developing a sense of appreciation, the experience of “sublime”, which refers to “moments of great awareness and serendipity, when you feel that you are deeply touched by something unfathomable,” (212-13). In the trilogy, Sax realizes this glory of Mars after his transformation into a more tender and considerate scientist; “this sublime land seemed to him a kind of image of the universe itself” (*Blue Mars*, 640). Following the biogenetic theories of Deleuze which is “an attempt to mathematicize on a cosmological scale” similar to Hiroko’s *viriditas*. He observes Deleuze’s maintaining *viriditas*’s being “a threadlike force in the Big Bang, a complex border phenomenon functioning between

forces and particles, and radiating outward from the Big Bang as a mere potentiality until second generation planetary systems had collected the full array of heavier elements, at which point life had sprung forth, bursting in ‘little bangs’ at the end of each thread of viriditas” (*Blue Mars*, 640). Believing the hypothesis of the existence of too many threads uniformly distributed throughout the universe, he assumes that all the phenomena of the life islands are separated at such a great distance from each other that it has been unable to set contact between any two. Nevertheless, in contrast to Deleuze’s vision of flat universe “on the cusp between permanent expansion and the expand-contract model, in a delicate balance”, Sax believes in a curving universe like the “saxifrage on the great sand curves of the polar island: small, isolate, magnificent” (641) Resembling the Martian landscape to the curving time lapses – past, present and future integrated into a coherent whole – in its temporal totality spatialize the perception of time as well.

Walter Benn Michaels observes that Robinson advocates deep ecology through his narration of Martian landscape which he gives value over the discussions about the people and the approach to the land. As the sixth rule of “Work points for a Martian government”, it is written “The Martian landscape itself has certain ‘rights of place’, which must be honoured,” (*Green Mars*, 389). After all the disagreements over the best way of treating Mars, they recognize the significance of minimum change on the planet in an ecologically considerate way: “The goal of our environmental alterations should therefore be minimalist and ecopoetic, reflecting the values of areophany” (389). They limit the environmental alterations only to the point that human life could continue safely.

Robinson draws us to the question of environmental ethics discussing the intrinsic value of places that exist independently from our use of them, which he explains in his interview with Gerry Canavan:

when we speak of “nature” we tend to mean “life,” so that the lifeless rocky bodies of our solar system are not “nature” as we usually mean it. There’s slippages all over in our words of course, but this problem of nature’s intrinsic value became in my Mars books a way to discuss the possibility of Mars as it is now having a value for us that was greater than its use value; and that if we felt that strongly enough, it would make sense to live there with as little impact on the place as possible, as a visitor almost, or at least an inhabitant that changes almost nothing. (*Green Planets*, 249)

Robinson answers to those who would think that Mars seems empty, just full of rock and dust without any sign of life at first sight, however, people who love deserts on Earth would understand the feeling against any intention of turning deserts into something more useful. He states that; “Greening a desert might have utilitarian value, but if you love deserts for their look and feel, then an aesthetic is being harmed if you green that desert” (*Green Planets*, 249). Loving and keeping the land just for its aesthetic sake is the main issue here, which is also applied to the Mars trilogy as he states: “the Red position was analogous to that situation, with the added element of Mars’s exoticism and otherness, the way it is a very gorgeous rock right now with its own history inscribed on it” (249). Apart from the conflicting ideas of the Reds and the Greens on the terraforming process in the trilogy, Hiroko Ai “the Japanese prodigy of biosphere design” (*Red Mars*, 32) has totally different view about the relation between Mars and humans living on it. She believes in the spirituality of the planet and she escapes from the rest of the society with her followers hoping to set a new colony of their own in secret. She seems to speak a different language in a mystical way that some of them do not understand: “Mars will tell us what it wants and then we’ll have to do it” (115). It is away from any rationalist or capitalist desires, but on the contrary, Hiroko’s ideology lies within Naess’ philosophy of deep ecology in which the intrinsic value of non-human world is primary rather than measuring it according to human needs. The question is “Can we really do this?”, unfortunately the answer seems to be mostly negative as humans have no time and patience to wait. They just rush without much thinking or waiting, thus the results are mostly disaster.

Michaels argues that the identity politics given to nature under the name of deep ecology provides some rights to the nature, the right to speak to the Martian landscape. Nobody has the right to speak for any other phenomena, but we must listen the land to speak for itself while walking on it carefully. Hiroko represents this sentiment of waiting for the land to “speak for itself” as the ears of deep ecology. Therefore, as a deep ecologist, Hiroko keeps calm and tries to feel the life on Mars in a natural and mystical way. She inspires and guides a group of her followers and they celebrate this spiritual life they create on Mars, the areophany, in which they accept the dirt as a part of their own bodies and they worship this planet:

It was a kind of landscape religion, a consciousness of Mars as a physical space suffused with kami, which was the spiritual energy or power that rested in the land itself. Kami was manifested most obviously in certain

extraordinary objects in the landscape, stone pillars, isolated ejecta, sheer cliffs, oddly smoothed crater interiors, the broad circular peaks of the great volcanoes. These intensified expressions of Mars's kami had a terran analogue within the colonists themselves, the power that Hiroko called *viriditas*, that greening fructiparous power within, which knows that the wild world itself is holy. Kami, *viriditas*; it was the combination of these sacred powers that would allow humans to exist here in a meaningful way (*Red Mars*, 229).

On this scene of areophany, the psychiatrist of the first hundred, Michel Duval hears the terms “Kami”, “*viriditas*” and “combination”, he visualizes a “semantic rectangle” to decode the underlying meanings of contradictory and identical pairs like “kami and *viriditas*, Mars and Earth, hatred and love, absence and yearning” on a kaleidoscope, and he then combines all of them in his mind to “a single, beautiful rose, the heart of the areophany, kami suffused with *viriditas*, both fully red and fully green at one and the same time” (229). William J. White analyses that Robinson uses “a ‘Greimas semantic rectangle’ to categorize members of the First Hundred, labelling them according to a scheme derived from the ancient theory of the four humours” which are “sanguine, choleric, phlegmatic, melancholic” (205). He explains that Michel’s semantic rectangle is also a “‘combinatoire’ involving paired contradictions [...] an attempt to grasp the ‘entanglement’ of opposites”, which “recognizes the inadequacy of simple opposed binary pairs (e.g., black/white) and attempts to account for the missing or excluded semantic terms” (White, 205). Robinson’s involving this Greimassian semantic rectangle is to enable the reader to comprehend different character positions, terraforming projects, political/religious/scientific debates, philosophies and other psychosocial imperatives as happens at this moment of areophany.

This “areophany” is an unusual ceremony in which the bodies intertwine with each other by being a whole with the planet. They eat the soil, they hug each other, and they dance and sing by making different sounds as if losing their consciousness like falling into a stance of trance. The atmosphere of that spiritual moment resembles to the ancient pagan celebrations of fertility, like the festivals of Dionysus, which is also a religious ecstasy, a mood of drunkenness and a ritual madness of celebrating the fertility on the honor of the God of wine, Dionysus. Actually, Hiroko transforms into a Martian Goddess as a strong authority figure among her followers, she goes beyond being a botanist and seems to be “an alien consciousness, with entirely different meanings for all the words in the language, and, despite her brilliance at ecosystem design, not really

a scientist at all, but rather some kind of prophet” (*Green Mars*, 133). In other words, Hiroko integrates and incarnates the comprehensive prerequisites of a current eco-theology. This bio-religion led by the spiritual figure Hiroko and the relationship that they try to develop via the ritual ceremonies resemble to the struggle of some environmentalist and feminist groups on Earth to create a metaphysical attachment to Gaia. William J. Burling observes that the complex and vast view of “areophany” is actually the reflection of the establishment of “philosophy of freedom” that Sartre mentions. He remarks that the creation of a world beyond the concerns of material production and exploitation will enable people to live in a spiritual independence. As Sartre notes “there will exist for *everyone* a margin of *real* freedom” that will be generated by the creation of “a philosophy of freedom” (qtd. in Burling, 167).

Eating dirt in a ritual while worshipping this land has a symbolic meaning: it is an “initiation into areophany, the celebration of the body of Mars” (*Red Mars*, 230). William Dynes examines that “The focus of the areophany is a celebration of interdependency with the planet rather than an exploitation of it” (160), and Hiroko reveals their pure intentions: “to make a place for ourselves here, a place that is beautiful in a new Martian way, a way never seen on Earth” (*Red Mars*, 230). Therefore, the metaphoric eating of dirt means that humans and the land have become one whole sharing the same values. Actually the level of consciousness that Hiroko and her followers have is what Leopold desires for: “an intense consciousness of the land” (261). This consciousness provides freedom to the Martians by uniting them under a powerful spiritual force rather than political or economic ambitions, as Markley points: “It is the moral force of her [Hiroko’s] lived philosophy of *viriditas* that brings together the scattered groups of the underground in a loose confederation and that eventually provides the rationale and moral authority of independence” (132). In the end, Hiroko turns into an educational philosopher of the planet and disappears forever by becoming a myth herself.

Hiroko’s view of “*viriditas*” actually reflects a constantly changing life form, the evolution on the Martian landscape. Her philosophy resembles the shape of the universe to the pattern of a seashell, “the dappled whorl, curving inward to infinity”, in which there is “a constant pressure, pushing toward pattern. A tendency in matter to evolve into ever more complex forms” (*Green Mars*, 9). “*Viriditas*” is as powerful as life itself, it is alive like all living things “a kind of pattern gravity, a holy greening

power [...] the driving force in the cosmos. Life, [...] (*Green Mars*, 9). For the followers of Hiroko's ideal, for the Greens, having the consciousness of being alive is a holy feeling, which is the most important thing in the universe. Humans have a significant task in here, "to do everything we can to foster it [...] to spread life everywhere. To aid it into existence where it was not before, as here on Mars" (9). For Markley, Hiroko's celebration of viriditas engraves the "union of spirit and matter, a synthesis of organic complexity and the spiritual growth that attends the processes of technologically, genetically fostering ecopoeisis as the 'supreme act of love'", therefore viriditas is "not a simulation or thought experiment imposed on Mars but the embodied experience of participating in the evolution of green life on a red planet" ("Falling into Theory", 133). It is also helpful to note Robinson's own ideas on the compatibility of science fiction narrations with such transcendent levels emanated from nature as eco-religion:

I often regard the environment, meaning the planet but also the universe, as a miracle. I have mystical feelings for the Earth and the universe, but feel these can be joined to the most minute investigations of science; nor am I off-put by human attempts to manipulate the Earth or physical reality for human purposes. So science as investigation, and technology as manipulation, are both fine by me in principle, and not an impingement on my mystical feelings. We study and thus worship a sacred reality, which we manipulate in order to survive. This is an emotional state. It seems to me science is already the best eco-religion, in other words, therefore the one I adhere to, but as a lay person. (*Green Planets*, 256)

3.2. The Martian Compromise and the Process of Areoformation

3.2.1. The Consensus of the Colors

Concerning the ethics of the attempts to dominate any planet in space, Henri Lefebvre discusses that it is not possible that space could be so passive under any hegemony, on the contrary, it has an active role which is "operational or instrumental" to any controlling power as he explains in his *The Production of Space*:

Is it conceivable that the exercise of hegemony might leave space untouched? Could space be nothing more than the passive locus of social relations, the milieu in which their combination takes on body, or the aggregate of the procedures employed in their removal? The answer must be no. . . . I shall demonstrate the active—the operational or instrumental—role of space, as knowledge and action, in the existing mode of production. I shall show how space serves, and how hegemony makes use of it. (10-11)

Lefebvre's view takes us back to the old western anthropocentric approach of a master-slave relationship rooted in the Elizabethan time when man was considered to be the master of all the universe and nature. It implies the idea that the world and all the rest are created for the usage of humanity. Aforementioned in Bacon's work, all scientific trials and sufferings of nature under man's control are just for the benefits of human beings. In this sense, space politics is closely connected to body politics of feminist criticism and land politics of postcolonial theory. The reason is that the patriarchal desire for domination over woman body is similar to the desire to control a land and anything over it. Colonizers similarly claim right over the land and the people at the same time to show their power of possessing them.

Throughout any colonization process, neither the land nor the bodies on it have stayed passive; on the contrary, there have always been a mutual interaction between the colonizers and the colonized items. It is the same with colonizing space by trying to apply terraforming on a planet. Robinson's trilogy emphasizes these mutual changes on the landscape and human psychology by complicating the view that human and non-human worlds are never free of content. Robinson's narration underlines the mere reality of Martian landscape as the non-human nature is not passive towards the construction processes and the plans that will be applied on it: "In a sense our intentions don't matter. Even if we try to make another Siberia or Sahara, it won't work. Evolution won't allow it, and at its heart, this is an evolutionary process, an endeavor driven at a level below intention, as when life made its first miracle leap out of matter, or when it crawled out of sea onto land" (*Green Mars*, 2). It is clearly stated at the very beginning of the second book of the trilogy that evolution will not permit whatever their plans are, the landscape has also the right to interfere with what is to be done. It is estimated that Promethean desires of terraforming the planet will therefore be faced with the challenge of the non-human world's reaction to the plans on it. Accordingly, every human activity will be limited to the extent that the land allows mankind to change, to control and to construct during this terraforming process, which will naturally bring the natural evolution with it.

Even though Robinson's writing represents the philosophy of deep ecology, in the application process, nature is mostly directed by technological improvements as far as the land allows. Through the end of the trilogy, Martian settlers have come a long way in the terraforming process, they could breathe in the Martian atmosphere they

have created and they could walk on the surface without help. However, the reaction and the resistance of the planet against the human applications is a dialectical one. The limitations of the landscape versus the terraforming plans are the obvious ecological outcome of “give and take” process between the human and non-human worlds. John Boone perfectly draws attention to this mutual interaction: “we terraform the planet; but the planet aeroforms us” (*Red Mars*, 253). As Ann and her followers try to prove, Mars is not a passive mass full of rocks, not a “blank red slate”, but it is an active participant in the process of terraforming and aeroforming. This takes us back to Lefebvre’s view that “activity in space is restricted by that space; space ‘decides’ what activity may occur [...] Space commands bodies, prescribing or proscribing gestures, routes and distances to be covered” (143). The Martian space actually controls everything, the life in the tent cities, social and political developments, the course of revolutions etc. The controlling force of the space is questioned in the trilogy on Sax’s visit to Burroughs. While he wanders around the neighborhoods, he also wonders the reason why only one city develops to be the largest city on the planet by getting no damage or destruction in the revolution.

He strolled up and down the wide swards of streetgrass, considering as he did the mysterious phenomenon of the growth of cities. It was a cultural process with no very good physical or biological analogy. He could see no obvious reason why this low end of Isidis Planitia should have become home to the largest city on Mars. None of the original reasons for siting the city here were at all adequate to explain it; so far as he knew, it had begun as an ordinary way station on the piste route from Elysium to Tharsis. Perhaps it was precisely because of its lack of strategic location that it had prospered, for it had been the only major city not damaged or destroyed in 2061, and thus perhaps it simply had had a head start on growth in the postwar years. By analogy to the punctuated equilibrium model of evolution, one might say that this particular species had accidentally survived an impact that had devastated most other species, giving it an open ecosphere to expand in. (*Green Mars*, 150)

Here, Sax explains the possibility of growth by chance and also the reality of evolution in which certain type of species expand through the natural selection through some examples: “many Greek cities were sited principally for their view, in the face of other inconveniences,” and he adds “so at least it was a possible factor” (151). He comments on the survival of Burroughs and he thinks that it has become a constantly growing metropolis: “Clearly critical mass had been reached in some kind of group psychology—some herding instinct, which had made this place the capital, the social

magnet, the heart of the action. Group dynamics were complex at best, even (he grimaced) unexplainable” (*Green Mars*, 151). These “unexplainable” and “accidental” effects on “the mysterious phenomenon of the growth of cities” are beyond the control of human beings and only “group psychology—some herding instinct” is thought to be responsible for this place’s being the capital and “the heart of action”.

The three views existing on Mars about the terraforming process have a great deal of supporters on Earth. They follow the ongoing debates through the videos sent by Arkady from Phobos. The debates on terraforming are at the center of almost all conversations, which leads to the disagreements and the quarrels in public:

So nearly everyone had an opinion. Polls showed that most supported the Russell Program, an informal name for Sax's plans to terraform the planet by all means possible, as fast as they could. But the minority who backed Ann's hands-off attitude tended to be more vehement in their belief, insisting that it had immediate applications to the Antarctic policy, and indeed to all terran environmental policy. Meanwhile different poll questions made it clear that many people were fascinated by Hiroko and the farming project, while others called themselves Bogdanovists. (169)

No matter how different views exist, one thing is certain that most people both on Earth and Mars are sure that terraforming would happen anyway. When and to what extent this process would take place is a question hereupon, rather than “Should it be?”. Most of the colonists and the majority on Earth have an agreement on that, and Ann has so few followers in both places. The strongest argument that Ann defends is “the possibility of indigenous life”, she claims: “If there is Martian life here, the radical alteration of the climate might kill it off. We cannot intrude on the situation while the status of life on Mars is unknown; it’s unscientific, and worse, it’s immoral” (170). The risks of killing the possible life forms through terraforming are true, even Sax knows this, but as a matter of quick-success business he does not want to act accordingly:

There’s no sign of life on the surface, past or present. If it does exist it has to be underground, near volcanic vents I suppose. But even if there is life down there, we could search for ten thousand years and never find it, nor eliminate the possibility it isn’t down there somewhere else, somewhere we haven’t looked. So waiting until we know for sure that there is no life—effectively means waiting forever. For a remote possibility which terraforming wouldn’t immediately endanger anyway. (170)

The possibility exists, however, the narration implies that they might not realize it in short terms and they might never reach this. Sax rationally declares his idea that they cannot stop for a low-probability. Through his actions, he approves

Plumwood's argument on rationalism that is to be blamed for ecological crises. Nonetheless, Ann insists on ignoring these logical calculations but making a sensitive and universal judgment as they proceed: "We have to, unless you want to argue that it's okay to destroy life on other planets, as long as we can't find it. And don't forget; indigenous life on Mars would be the biggest story of all time, it would have implications for the galactic frequency of life that are impossible to exaggerate. Looking for life is one of the main reasons we're here!" (*Green Mars*, 170). Sax's logical calculations are actually meaningful considering that they are exposing excessively a huge amount of radiation while waiting and if they do not do something immediately, they will not be able to stay here for a long time:

Millions on Earth wanted to come to Mars, to the "new frontier," where life was an adventure again; waiting lists for emigration both real and fake were massively oversubscribed. But no one wanted to live in a bath of mutagenic radiation; and the practical desire to make the planet safe for humans was stronger in most people than the desire to preserve the lifeless landscape already there, or to protect a postulated indigenous life that many scientists assured them did not exist. (171)

Ann is aware of the fact that the destruction and the damage done to Mars will be irreparable and will not be undone. Her mistake was "coming to Mars in the first place, and then falling in love with it. Falling in love with a place everyone else wanted to destroy" (*Red Mars*, 540). Ann desperately and hopelessly wishes to save the planet: "If you left the planet alone, it would save lives. That's what I want" (250). However, her attempts and warnings do not suffice to save her beloved planet.

As a matter of fact, neither Sax's anthropocentric nor Ann's ecocentric approach bear land ethic to reach an ultimate red/green synthesis, as Otto criticizes these key debates on terraforming for being "too radically divergent and inflexible" to compromise a negotiation (250). According to Otto, Sax' plan lacks a land ethic because, from a Leopoldian view, "science becomes the sharpener of man's sword, accommodating the desire to impose human knowledge on the world in order to change it for unsustainable human purposes", likewise, Ann's "hands-off attitude" does not possess any land ethic due to its "fervent defense of the land's natural right to remain a primitive state, it excludes humanities inclusion in the biotic community, and in fact, sees humans as expendable burdens on the ecosphere" (250). The unstoppable chains of events with catastrophic consequences in the trilogy soften the sharp edges of these views by driving them toward reconciliation. At the end of *Red Mars*, the aquifers all

over the planet have been broken as a result of the bombardment and a huge amount of water has been released by causing catastrophic flood everywhere, which will certainly change the appearance of Mars together with the hopes and plans over the land:

A lot of water would evaporate, or rather freeze and sublime... It was a heavily carbonated saline brine, but it would end up as dust-filled snow, falling somewhere else. The atmosphere might get hydrated enough so that it would snow several times, or even on a regular basis, in cycles of precipitation and sublimation. Thus the floodwater would get distributed pretty evenly planetwide, except perhaps at the highest altitudes. Albedo would rise dramatically... Black ice would melt by day, then freeze at night. Sublimate and precipitate. And thus they would have a waterscape: streams collecting, pooling, running downstream, freezing and expanding in cracks in the rock, subliming and snowing and melting and running again. A glaciated or muddy world, most of the time. But a waterscape nevertheless. And every single feature of the primal Mars would melt away. Red Mars was gone. (*Red Mars*, 549-50)

Now there is a river running down Valles Marineris, water rushing down into different directions, freezing, breaking up and rushing down again. While Ann and the last survivors from the attack are driving their rover to find the sign of their last hope, they pass through the snowy and icy land trying not to fall into the flood. The planet they move on has been altered for sure that is quite visible especially at the glowing nights: “The snow made each night glow and pulse. All of it would melt eventually, carve new streambeds and carry her Mars away. Mars was gone” (565). Studying the Martian surface, Sax begins to understand that this planet is not just a scientific experiment and he gains a new vision that is “not a matter of accident [...] but the result of a new and growing conceptual understanding of the landscape [...] a kind of cognitive vision”, and he could not help himself remembering the moment Ann’s telling him in anger “*Mars is the place you have never seen*” (189) Otto explains Sax’s gradual revelation in a syllogism: “If life can be abiological, as Ann says and as Sax is beginning to understand, and if to be Green is to value life, then to be Green requires one to value those components of the land previously believed to be dead. The Red/Green binary falls apart under this new reasoning and indeed a new paradigm, an intermixture, emerges” (253) His new conscious goes beyond the binaries, his mind is “now free and scattered” and he has come to the point of “Not nature, not culture: just Mars” (*Blue Mars*, 679). The initial objective of humanity is to reach the conciliation of opposing groups and the focus becomes the planet again, because it is their only hope for the future and they have to protect it at any cost. Ann is the lucky one who understands the

vitality of their mission on Mars, and hopes everybody to comprehend this: “if she had understood; if he had understood; if they had understood: perhaps all history would have changed” (*Blue Mars*, 754).

The effects of social interactions over the land and the connection between the physical space and the mental presence of human existence on it are undeniable facts as Carol Abbott expresses it: “In a landscape that has never before supported human beings, there is no way to deny that wilderness and other concepts through which we understand the physical settings of human life are socially constructed” (76). Whoever comes to Mars carries their ideologies about life with them and they all want to create their own utopia with their own perceptions and communities. In *Red Mars*, Frank has a chance to see those different visions through observing different cultures, and his Arab friend Zeyk tells him once:

Man’s work is to actualize God’s will in history. We can change the world in ways that help to actualize the divine pattern. It’s always been our way: Islam says the desert does not remain desert, the mountain does not remain mountain. The world must be transformed into a semblance of the divine pattern, and that is what constitutes history in Islam. Al-Qahira gives us the same challenge as the old world, except in a purer form. (*Red Mars*, 421)

This is their understanding of life and they are trying to transform their vision into their present habitat, Al-Qahira, as a semblance to their old homelands and they look at this land in a different way. In contrast to Ann’s interest of Martian land equally all over the planet, they had different kind of desires focused on a single region; “this way they had of reading it like a story, following its leads through the red rock to a patch of blackish sulfides, or the delicate cinnabar of mercury deposits. They were not so much students of the land as lovers of it; they wanted something from it” (421). On the other hand, some feel no such connections at all like the Swiss; they do not attach any importance to the place, flag or religion but they only celebrate life itself, which is the only thing they carry with them wherever they go:

Their love of country seemed to be expressed by making a certain kind of life: rational, just, prosperous, scientific. They would work for that life anywhere, because to them it was the life that mattered, not a flag or a creed or a set of words, nor even that small rocky patch of land they owned on Earth. The Swiss road building crew back there was Martian already, having brought the life and left the baggage behind. (*Red Mars*, 258)

The collection of all different thoughts contributes to the process of new society building. Mars is a compost of these ideas, and the Mars trilogy suggests that “it may be

the destiny of human colonization and terraformation of Mars to develop into a utopian society that would resemble an argumentative and interdependent confederation of diverse communities” (11) according to Franko. For instance, Jürgen, one of the leaders of the Swiss team, thinks that the debate between the reds and the greens over the nature of Mars is ridiculous as there is no nature on Mars, they just bring their culture and technology to create an art over the bare rock:

Both sides say they are in favor of nature, of course. One has to say this. The reds say that the Mars that is already here is nature. But it is not nature, because it is dead. It is only rock. The greens tell this, and say they will bring nature to Mars with their terraforming. But that is not nature either, that is only culture. A garden, you know. An artwork. So neither way gets nature. There isn't such a thing as nature possible on Mars. (258)

No matter how hard she resists against the huge ecological alterations, through the end of the trilogy, Ann observes that the ice field came out of underground water reservoirs and “no man’s land of frozen mud and dirty ice, as if bombs had devastated some sad army’s trenches” (*Blue Mars*, 260). When she steps on this giant ice mass, she feels “like a world covered in semen” (260) when ice cracked under her feet as she walks. Her love of the Martian landscape turns into a psychological healing process from all the earlier traumas.

Although it is a big challenge to live on this planet, they find a way to overcome it. Whenever they fail to find a solution, they use the famous Japanese expression: “Shikata ga nai, meaning there is no other choice” (*Red Mars*, 109), “But that was life on Mars; it was a dry place. Shikata ga nai” (124). It is obvious that they are the pioneers for a new civilization on a new planet, they are fully aware of the big steps they are taking for humanity. Considering what is left to us from pre-historic times, they will be the first ancient civilization on Mars when people look back in the far future, as Nadya feels it thinking about the construction she is working on:

Two thousand years from now, their descendants might walk into this chamber, no doubt a museum by then, if it still existed—the first human dwelling built on Mars! And she had done it. Suddenly she felt the eyes of that future on her, and shivered. They were like Cro-Magnons in a cave, living a life that was certain to be pored over by the archeologists of subsequent generations; people like her who would wonder, and wonder, and never quite understand. (117)

In the end, Sax is happy with what they have done to Mars in spite of every change on both sides: “they had brought life to Mars and it was good, he was sure of

that” (*Blue Mars*, 711). He is so proud to see the results of his efforts and he feels no apology towards Mars, even though he thinks he owes an apology to Mars’ intertwined friend Ann: “every sunset was beautiful, the sky’s color a different washed tint every minute of every day, blue sign of their power and their responsibility, their place in the cosmos and their power within it, so small and yet so important” (*Blue Mars*, 711). The color blue represents a symbiosis between all the binary oppositions like human/nature, Red/Green etc, and it connects the human and non-human worlds as inseparable components of the universe.

Throughout the narration, the transformation of the Martian landscape is observed simultaneously with the changing perspectives of the characters. Looking at the new life forms on the landscape, Sax “was seeing a Mars he had never seen before [...] It was a function of what he believed, and what he wanted—it was his Mars, evolving right before his very eyes, always in the process of becoming something new” (*Green Mars*, 190). Even the strongest defender of heavy industrial terraformation, Sax observes the changing landscape transforming into something different together with his ideas after all his experiences throughout the years:

Lately when looking around outdoors he found that a color chart came in handy about once a minute. Waxy almost-white flowers were tucked under some of these bicolored leaves. Farther on lay some tangles, red-stalked, green-needled, like beached seaweed in miniature. Again that intermixture of red and green, right there in nature staring at him. (*Blue Mars*, 66)

Mars once again shows itself as a compost library of everything, a synthesis of opposing ideas and attitudes with variety of colors laying on the wide landscape altogether. Jameson names this unnamable fest of colors “Utopia” and states that “the utopian text is not supposed to produce this synthesis all by itself or to represent it: that is a matter for human history and for collective praxis. It is supposed only to produce the requirement of the synthesis, to open space into which is imagined” (“If I find One Good City”, 60)

At the conclusion of the trilogy, the love relationship of Ann and Sax, the strong defenders of the Reds and the Greens, gives the metaphor of the union of opposite colors by producing the third one, blue, on Mars. In spite of their advanced age and prior ecological or political conflicts, their shared experiences have made them wiser to see the similarities more between them and they prefer to live the joy of recollecting their past memories thanks to the memory treatment (*Blue Mars*, 712-717).

They were discussing the new color and “Many times they came back to what it might mean to be brown. ‘Perhaps the combination should be called blue,’ [...] ‘Brown isn’t very attractive, and it reeks of compromise. Maybe we should be thinking of something entirely new’” (*Blue Mars*, 730). White notes that “the way in which blueness of the sky emerges as both a metaphor for home and a commentary on the other colors” (209). Even though, they have found a home on Mars, they recall the colors of the sky on Earth, especially blue: “as the sun dropped everything drifted over the spectrum into the blue [...] Everything was blue, sky blue, Terran sky blue, drenching everything for most of an hour, flooding their retinas and the nerve pathways in their brains, no doubt long starved for precisely that color, the home they had left forever” (*Blue Mars*, 653). Blue is the color of the old home, but also represents their new home with new hopes on this planet. Similar to the changing colors of the sky, the personalities of the characters in the trilogy are altered together with the landscape and the continuously developing political stance, “and they all emerge as new Martian bodies “on a brown Mars of some new kind, red, green, blue, all swirled together” (754). The brown color here is a mixture of red and green referring to the final union of opposites. This rainbow of colors echoes the sentences in *Heart of Darkness* in which Joseph Conrad paints the scenery to create a place to live, a home scenery, with all these colors:

Deal table in the middle, plain chairs all round the walls, on one end a large shining map, marked with all the colours of a rainbow. There was a vast amount of red-good to see at any time, because one knows that some real work is done in there, a deuce lot of blue, a little green (20)

3.2.2. The Natural Process of Areoformation and Evolution on Mars

The idea given throughout the trilogy that, Mars should not be a replication of Earth considering the peak of crises in almost every field of human life. If the same mistakes will be repeated, there is no meaning in creating a new world. The Mars Trilogy sets out with this purpose, but human nature’s liability to fall into the same mistakes rotates this initial intention as the second book of the trilogy opens with the following statement: “The point is not to make another Earth. Not another Alaska or Tibet, not a Vermont nor a Venice, not even an Antarctica. The point is to make something new and strange, something Martian” (*Green Mars*, 2). No matter how they start the voyage with this idea, there are outside factors changing the course of plans besides the human factor, which is primarily the natural process of evolution: “In a

sense our intentions don't even matter. Even if we try to make another Siberia or Sahara, it won't work. Evolution won't allow it, and at its heart this is an evolutionary process, an endeavor driven at a level below intention, as when life made its first miracle leap out of matter, or when it crawled out of sea onto land (*Green Mars*, 2). The genetic templates and the designer minds of the planned biota are Terran, but the locality of applications is both Martian and Terran, which is open to any kind of mutation. As the time passes, all members of the new biosphere evolve together by letting some species to flourish and some to die. The complicated relationship between the human and non-human worlds within course of time is explained as areoformation:

...as the generations pass, all the members of a biosphere evolve together, adapting to their terrain in a complex communal response, a creative self-designing ability. This process, no matter how much we intervene in it, is essentially out of our control. Genes mutate, creatures evolve: a new biosphere emerges, and with it a new noosphere. And eventually the designers' minds, along with everything else, have been forever changed. This is the process of areoformation (3).

The process contains both the natural adaptation that shows itself with human evolution through genetic mutations and the artificial interference for the human adaptation to the new environment through cyborg-like technological developments. These two forces work perfectly well to create a unique living environment. Not only physical impact of the planet on the human bodies are emphasized but also the fundamental alterations on the genes and minds of the future Martian society and culture are visible due to the environmental effect of this red land. The characters reflect the psychological impacts of the landscape on their bodies, it is obviously narrated through Nadya when she leads an expedition group to north pole with Ann and others:

The sun touched the horizon, and the dune crests faded to shadow. The little button sun sank under the black line to the west. Now the sky was a maroon dome, the high clouds the pink of moss campion. Stars were popping out everywhere, and the maroon sky shifted to a vivid dark violet, an electric color that was picked up by the dune crests, so that it seemed crescents of liquid twilight lay across the black plain. Suddenly Nadia felt a breeze swirl through her nervous system, running up her spine and out into her skin; her cheeks tingled, and she could feel her spinal cord thrum. Beauty could make you shiver! It was a shock to feel such a physical response to beauty, a thrill like some kind of sex. And this beauty was so strange, so alien [...] she stood under a tall violet sky on the surface of a petrified black ocean, all new, all strange; it was absolutely impossible to compare it to anything she had seen before...(Red Mars, 142)

Nadya's epiphany to think about her past and present under this violet sky looking at the frozen black ocean shows the changes on the Martian bodies brought by the planet. Such descriptions, Markley notes, force the colonists to take moral responsibility of the drastic biospheric and socioeconomic changes through the terraforming process. And that responsibility ultimately "distinguishes viriditas from corporatist models of terraformation as business investment and the passive worship of a romanticized Nature" ("Falling into Theory", 134). Markley further points that another name of this responsibility is called "areoformation" which "resists the acts of simplification and demonization that construct Mars – or the Earth – as a storehouse of materials and energies waiting to be extracted, priced, and marketed" (134). Furthermore, from this perspective, Markley concludes that "the ebb and flow between Red and Green areophanies reveals the paradox that there is value in both the pristine terrain of Mars and in life spreading across and irrevocably altering the planet's surface and atmosphere" (134).

The evolution appears on the Martian bodies both physically and mentally. The crew born on Mars is described as profoundly different, "sharing interests and enthusiasms perfectly incommunicable to any other generation, as if genetic drift or disruptive selection had produced a bimodal distribution, so that members of the old *Homo sapiens* were now co-inhabiting the planet with a new *Homo ares*, creatures tall and slender and graceful and utterly at home, chattering to each other in a profound self-absorption" (*Green Mars*, 474). New creatures are tall, slender and heavy because of the gravitational difference on Mars. Even they wear bird suits like suits called exoskeleton on Earth in order to adapt the excess gravity (*Blue Mars*, 499). The young Martian natives apply some changes on their bodies enabling them an easier life on Mars like altering their eyes for the low light and growing gills. They also have different perspectives "they don't care about Earth or Mars. They believe in the Jovian moons, in water, in swimming and flying [...] They have a plan to terraform these moons that will take them five thousand years. They're the next step in evolution" (529). They are so focused on their own talk and ideals that will certainly be completed long after their deaths, but still they are so enthusiastic about those projects. Their absurd gesture is interpreted as "defiance and freedom, a divine madness, as if they were sperm wiggling madly toward an unknown goal", which is also explained as another sign of evolution (530).

To reach a conclusion, the diverging intentions exist from different spheres on the colonization and terraforming of Mars, and this dissertation aims to reach reconciliation no matter how many conflicting views prevail throughout the Mars trilogy. The trilogy forms a common ground from dialogism to consensus of opposing colors between The Reds supporting to be patient to understand the planet via scientific analysis before changing it and The Greens attempting a quick modification of the land like a scientific experiment in their laboratories. This is accomplished by listening the spiritual voice of the planet, believing the mystical power “The Viriditas” besides the scientific forces, which means blue and white are combined for the brave new life on the new planet. The power of evolution shows itself once more, ideas, human bodies and the planet evolve simultaneously affecting each other in the natural process of areoformation.

CHAPTER IV

CULTURE, ECONOMY AND POLITICS: CONTROLLING FORCES IN THE COLONIZATION OF MARS THROUGHOUT THE TRILOGY

In the previous section, the effect of natural selection and the controlling force of space over the whole existing bodies in the universe are discussed. However, it is obvious that the artificial selection of human choice is an efficient factor for the alteration of space as well. As Lefebvre argues, it is the hegemony that never leaves any space untouched. From the very beginning of the trilogy, there have been many different hegemonic power struggles; the capitalist purposed power-seekers, anti-ecologic idealists trying to terraform Mars instantly on any accounts, political radicals who bring the revolutions with them by claiming to compose a totally new society on the new planet etc. In the trilogy, John Boone describes this system of power battles under the name of “transnational world” as “feudalism” from the old times with “anti-ecologic” rules:

The encroachment on that set of rules has begun everywhere, like a parasite feeding on the edges of its host organism, because that's what the replacement set of rules is, the old parasitic greed of the kings and their henchmen, this system we call the transnational world order is just feudalism all over again, a set of rules that is anti-ecologic, it does not give back but rather enriches a floating international elite while impoverishing everything else, and so of course the so-called rich elite are in actuality poor as well, disengaged from real human work and therefore from real human accomplishment, parasitical in the most precise sense, and yet powerful too as parasites that have taken control can be, sucking the gifts of human work away from their rightful recipients which are the seven generations, and feeding on them while increasing the repressive powers that keep them in place! (*Red Mars*, 380)

Robinson's metaphor of parasites for the capitalist system is interestingly just to the point, it benefits from the “rightful recipients”, humans or ecologies, and feed on them

for generations without paying anything good in return. Similar to its comparison to the old system of feudalism, capitalism is “anti-ecologic” and “parasitical”, which means it spreads an infectious disease that may threaten both living and non-living systems. As given in Darwin’s ideas about natural selection, it is required for some species, organisms or systems to die, so that the surviving others can make some progress in generations. Robinson, through the future developments of humanity and extinction of some unites at the same time via wars, revolutions and such disagreements, once again narrates this apocalyptic scenario of natural selection in Darwin’s theory of evolution

John Boone intends to state more in his last speech by trying to encourage his people on this global battle of “democracy versus capitalism”. The Martians, especially the ones who were born there, neither chose to be a part of this battle nor can they decide what their fate might be. They have scarcity of everything; food, renewable resources, breathable air, usable land etc. What happens throughout the whole human world will affect them despite they might not be the decision makers. It might be difficult to win the fight for the good of humanity, but as John Boone declares, it is still possible if all people on Mars and Earth work together for “the common good” and “it’s going to be hard it’s going to take years, and the stronger we are the better our chances” (*Red Mars*, 381)

4.1. Capitalism as a Vampire Feeding on Humans and Nature from Marxist Perspectives

Marx defines the capital as “the governing power over labor and its products” in his *Economic and Philosophic Manuscripts* (36). He continues to explain the system “The capitalist possesses this power, not on account of his personal or human qualities, but inasmuch as he is an owner of capital. His power is the purchasing power of his capital, which nothing can withstand” (36). The transnational capitalism is the continuation of the colonialism in Earth’s past. Frank Chalmers reveals this in his reply to the Chinese and Indian representatives that the land and the resources they ask on Mars is a result of “resources that were taken from you without payment during the colonial years” (*Red Mars*, 392). They agree, “in a very real sense the colonial period never ended”, in return Frank answers “that’s what transnational capitalism means—we’re all colonies now” (392). What he wants to reveal to here is that the colonization is

mediated through intergalactic capitalism over the planets, he also implies that the idea of common unity and the understanding of “we are all in one boat” are corrupted in terms of ecological and cultural process because of the transnational capitalism at the intergalactic level. It is implied that Earth’s postcolonial past haunts the future new world like a ghost.

Marx talks about the profits of the feudal landowners who rent the unproven natural lands and gain from the production out of nature. He argues that landowning is quite unfair claim itself as it is questionable who owns whose land and who permits that as it all belongs to nature and the planet. Marx discusses the estrangement of the workers’ labor as a result of depriving them from their production which belongs to the capital – that is, it is explained to be in the nature of living organisms to relate themselves with their production, with their reality –, and he asks this question: “If the product of labor is alien to me, if it confronts me as an alien power, to whom, then, does it belong? To a being *other* than me. Who is this being? The *gods*?” (*Economic and Philosophic Manuscripts*, 79). Marx exemplifies the ancient traditions in the earliest times when the principal production was thought to belong to the gods and so they were mainly in the service of the gods. The problem was, according to Marx, “the gods on their own were never the lords of labor. No more was nature”, and he explains the contradiction if “the more man subjugated nature by his labor and the more the miracles of the gods were rendered superfluous by the miracles of industry, the more man were to renounce the joy of production and the enjoyment of the produce in favour of these powers” (79). Here, Marx’s conclusion lays under the ideology of defending the working class by granting the rights of their efforts on the land: “The *alien* being, to whom labor and the produce of labor belongs, in whose service labor is done and for whose benefit the produce of labor is provided, can only be man himself [...] Not the gods, not nature, but only man himself can be this alien power over man” (79).

From environmental perspective, we can criticize Marx on his claim to give every right of the land to the worker who works on it. Of course, the workers must claim rewards of their efforts, but eliminating nature out of the game as if it is a non-living machine whose only role is to produce the desired items is an unacceptable thing. Marx is right to criticize the capitalist system exploiting the labor of the workers and the production, however, what is missing in the Marxist criticism is that not only workers but also nature is exploited. Nature does not belong to any specific part of the society

and does not exist to serve the capital; it is a part of the whole living system in the universe and therefore should be treated so. Even in his *Capital*, while discussing the labor and the accumulation of the capital on the new colonies, Marx dismisses the conditions of the land but he is more interested in the sale of “virgin soil” at an artificial price by the Government and how this turns immigrants into independent peasants working on the land they desire to own. Just after he mentions “the shameless lavishing of uncultivated colonial land on aristocrats and capitalists by the Government” and “the stream of men that the gold-diggings attract”, he states that they are not concerned with those conditions in the colonies but “the only thing that interests us is the secret discovered in the new world by the political economy of the old world [...] that the capitalist mode of production and accumulation, and therefore capitalist private property [...] the expropriation of the labourer” (*Capital Volume 1*, 760-61). Therefore, this dissertation aims to fill the gap in the Marxist criticism in terms of ecological considerations of the land by emphasizing the significant fact that not only humans but also nature is exploited under the capitalist enterprises. As a matter of fact, Marx identifies the capitalist system’s serving the subjugation of man over nature in his later analysis. While talking about the relationship between the capitalist production and the fertility of the soil, Marx states, “the most fruitful soil is the most fitted for the growth of the capitalist mode of production. This mode is based on the dominion of man over Nature. Where Nature is too lavish, she ‘keeps him in hand, like a child in leading-strings’. She does not impose upon him any necessity to develop himself” (*Capital Volume 1*, 514).

Marx’s analysis mostly focuses on the labor and the land. He recognizes the look of an “industrial eye” while explaining his ideas about the production of machinery and labor, he states “It may here be incidentally observed, that Descartes, in defining animals as mere machines, saw with eyes of the manufacturing period, while to eyes of the Middle Ages, animals were assistants to man” (*Capital Volume 1*, 393) He analyzes that Descartes, similar to Bacon, developed his own methods of thought and, as a result, “anticipated an alteration in the form of production, and the practical subjugation of Nature by Man” (393). Marx quotes from his *Discours de la Méthode*:

“It is possible” (by the method he introduced in philosophy) “to attain knowledge very useful in life and, in place of the speculative philosophy taught in the schools, one can find a practical philosophy by which, given that we know the powers and the effectiveness of fire, water, air, the stars,

and all the other bodies that surround us, as well and as accurately as we know the various trades of our craftsmen, we shall be able to employ them in the same manner as the latter to all uses to which they are adapted, and thus as it were make ourselves the masters and the possessors of nature”, and thus “contributing to the perfection of human life”. (qtd in *Capital Volume 1*, 393)

Marx continues with the contribution of Descartes method to political economy by freeing it from the old fables and superstitious notions of trade, money, gold etc.

Marx accuses “private property” as both the cause and the result of “the external relation of the worker to nature and to himself [...] of alienated man, of estranged labor, of estranged life, of estranged man” (*Manifesto of the Communist Party*, 81). Landed property as the first form of private property is followed by industrial capital as the accomplished objective form as the last chain of labor. On that accounts, Marx states, “private property can consummate its dominion over man and become in its most general form a world-historical power” (97). As a solution to this problematic power, Marx suggests communism as “the *positive* expression of annulled private property – at first as *universal* private property” (100). He explains that for the only “purpose of life and existence is direct, physical possession”, it is not possible to get away from it but it should be extended to all men to the whole world of things (100). In his manifesto, Marx cries to stop the exploitation of men, women and children of proletarians under the hegemony of the bourgeois class through communism. His intentions in communism might be quite logical to unite all people under equal circumstances; by abolishing the classes, capitalist system, countries and nationality. He defends to create a “true” socialism that will kill all kinds of industrial and political supremacy of the bourgeoisie. Marx calls for a communist revolution in his final words stating that they cannot stop until they overthrow all existing social conditions by force; “Let the ruling classes tremble at a communistic revolution. The proletarians have nothing to lose but their chains. They have a world to win. WORKINGMEN OF ALL COUNTRIES, UNITE!” (243).

Murray Bookchin opposes Marx and the ideas of the Frankfurt School in the way they centralize the class struggle, but instead of being the voice of only the working class, he tries to focus on a more comprehensive one against the hierarchical domination. According to Bookchin, the primary cause for human domination over nature is the initial domination of humans in hierarchical formation over other humans

(Huston, 232). Bookchin also criticises Aristotle and Hegel for their dialectics' not being truly ecological and they are required to experience a kind of natural evolution to be so. He identifies three natures, the pure nature before human existence, the arrival of humans to nature and thirdly a synthesis of human and non-human nature that is intertwined and free nature: "an ethical humanly scaled community that establishes a creative interaction with its natural environment" (qtd. in Huston, 232) According to Bookchin, Robinson addresses "the problematic history of human intervention into the production of (first) nature" and throughout the experiments in the trilogy, the main characters have come to the conclusion that humans cannot dominate the nature but they can be a part of the process; therefore, the trilogy: "opens a window on third nature, one that makes it possible to perceive the possibilities of a truly integrated relationship between human and non-human nature" (240).

Actually, Robinson, in his Mars trilogy, creates Marx' united world of workingmen, as scientists, from all counties – a multicultural universal union from Americans to Russians, Arabs, Swiss, Japanese, Africans together with Sufis, Cretans, Babtists, Rastafarians and Quakers etc. – more than any other utopian novel could project. The blamed evil private property never appears on Mars, it is never implanted into the Martian way of life: "right here on Mars we have seen both patriarchy and property brought to an end. It's one of the greatest achievements in human history" (*Blue Mars*, 426). There is no sex division, "women have as much power as men" in all jobs and "the land is in the shared stewardship of everyone" (426). They struggle for this social reality and remember the bitter conflicts "in old days, when property and capital had been the order of the day" (427). Rather than being a political narration including recurring revolutions, this division of the present Earth reality from the Martian new world, "the place of its unexamined premise, which in the traditional utopian text is to be found in the great trench itself, the separation [...] from everyday Terran reality" ("If I Find One Good City", 64), identifies the Mars trilogy as Utopian according to Jameson.

On the other hand, Marx criticizes Hegel due to his abstraction of everything in human history, the whole alienation process of humanity turns into "the history of the production of abstract (i.e., absolute) thought – of logical, speculative thought" (*Manifesto of the Communist Party*, 147). Moreover, the objective world for man, man's estrangement, material and spiritual entities are all seen as the products of

abstract mind because “man appears only in the shape of mind” in the Hegelian standpoint. Marx notes that: “For Hegel the essence of man – man – equals self-consciousness. All estrangement of the human essence is therefore nothing but estrangement of self-consciousness” (*Manifesto of the Communist Party*, 151). The phenomenon of estrangement compromises disintegration in ecological, social, physical and ontological sense. All particles creating a whole are separated into elements due to this ecosystemic breakdown. According to Kovel, it is followed by the ecological crisis, which is not a mere “manifestation of the macroeconomic effects of the capital, but reveals also the extension of capitalist alienation into the ecosphere”, and under the basic form of this alienation together with the whole system lies the structure of capital and labor, because the two phrases the ecological crisis and the capitalists exploitation of labor are the two conjoined sides of the same coin (141).

The solution to this ecological crisis caused by the capitalist exploitation comes from on of the inhumane theories of all times, the Malthusian logic of regulating the population. In his *Outlines of a Critique of Political Economy*, Engels comments on the Malthusian population theory about the world’s human population and natural resources: “the crudest, most barbarous theory that ever existed, as system of despair which struck down all those beautiful phrases about love of neighbour and world citizenship. The premises begot and reared the factory-system and modern slavery, which yields nothing in inhumanity and cruelty to ancient slavery” (173). He claims Malthus’ theory to be incorrect, not only due to its cruelty by encouraging killing the poor as the surplus population but also due to its one-sided consideration of the matter. To explain more, Engels argues that Malthus fails to see the “surplus population or labor power is invariably tied up with surplus wealth, surplus capital and surplus landed property. The population is only too large where the productive power as a whole is too large” (195) Secondly, Engels refutes Malthus’s theory that his error was “to confuse means of subsistence with means of employment”, but they are not equivalent (195). Engels claims that the economist’s demand and consumption is not real but artificial as it is only when that person has an equal offer in return for what he gets, then that person can be the real consumer or the one who demands according to the economist. However, every adult produces more than he could consume alone, thus his children and family should be appreciated and should be supplied what they need. Nevertheless, Engels notes that, thanks to this theory, so much attention is drawn to the productive

power of humans and the Earth, and the need to secure us against the fear of overpopulation. Malthus provides the cruelest, but the easiest and the quickest solution for the over population, and those ideas drive us to “the abolition of this degradation of mankind through the abolition of private property, competition and the opposing interests” (*Outlines of a Critique of Political Economy*, 197). Engels further criticizes Malthus’s formula, on which population is told to increase in a geometrical progress while the productive power of the land in an arithmetical one, that he lacks to include the third element “science” that proceeds far beyond the speed of population and nothing is impossible in science.

Marx also criticizes Malthus’s population theory as the arguments neglect the consequences of capitalist interests of production, he notes “It was, of course, far more convenient, and much more in conformity with the interests of the ruling classes, whom Malthus adored like a true priest, to explain this ‘overpopulation’ by the eternal laws of Nature, rather than by the historical laws of capitalist production” (*Capital Volume 1*, 529). Harvey lucidly implies to recapitulate the effects of the capitalism on natural environment:

The so-called ‘natural environment’ is subject to transformation by human activity. Fields are cleared, marshes drained, cities, roads and bridges built, while plants and animals are domesticated and bred, habitats transformed, forests cut over, lands irrigated, rivers dammed, landscapes grazed (voraciously, by sheep and goats), climates altered. Whole mountains are cut in half as minerals are extracted, quarries scar landscapes, waste flows into streams, rivers and oceans, topsoil erodes and hundreds of square miles of forests and scrubland are eradicated accidentally as a result of human action... (184).

The destruction on the land goes on and on under the name of “creation” as an enigma of the capital. He further explains that the long history of destruction on the land due to these creative human actions has produced a “second nature” that is shaped by human activities. The untouched one, “first nature”, the nature existing before the arrival of the humans on Earth, has now very little left and difficult to find as even the remotest parts of the world carry the human influences on the climate, the atmosphere or the water. He claims that the proportion and the pace of this destruction on the land have risen tremendously due to the acceleration of capitalism over the last a few centuries (Harvey, 184-85).

Observing Harvey's overview of the construction of places, like rising of new cities on the colonized lands and reshaped capitals all around the world, it is necessary to ask his question "So, are our cities designed for people or for profits?" (193). The same reason could be applied to the construction of the Martian cities, as he states: "The creation and re-creation of ever newer space relations for human interactions is one of capitalism's most signal achievements"(Harvey, 189). Harvey declares: "Territory and place have always been used by institutions to organize populations and power relations" (194). Furthermore, Harvey argues,

On the one hand, capitalists cannot abide geographical barriers of any sort – neither spatial nor environmental – and are engaged in a perpetual struggle to circumvent or transcend them. On the other hand, capitalists actively construct new geographies and geographical barriers in the form of physical built environments embodying vast quantities of fixed and immovable capital that must be fully used if their value is not to be lost" (213).

Harvey claims that the search of new territories to fix the old ones would bring no cure but more danger, because it is obvious that: "the reproduction of capitalism entails the making of new geographies and that the making of new geographies through the creative destruction of the old is one very good way to deal with the perpetually present capital surplus disposal problem. But this search for a geographical 'fix' to the problem of surplus absorption also constitutes an ever-present danger" (214). Therefore, trying to fix the problem of population in the old territories in search of the new ones just bring more problems. On the other hand, the growth of capitalism depends on the search of new territories, as Harvey puts it: "The capitalist class cannot, if history is any guide, maintain its power without changing its character and moving accumulation on to a different trajectory and into new spaces" (216). Harvey asks the question "What spaces are left in the global economy for new spatial fixes for capital surplus absorption?", and after exemplifying some filled locations he concludes, "there is nowhere else with the capacity to absorb all this surplus capital" (217). His question can be answered from the interplanetary capitalism, when there is almost none left on Earth, and then they start looking for new planets like Mars.

The popularity of global warming theories through the end of 20th century urged people to think more about the end of natural world. The blinding effect of capitalism erases the better possibilities in the minds of people and blocks their imagination for more ecological alternatives as Jameson perfectly observes; "It seems to

be easier for us today to imagine the thoroughgoing deterioration of the earth and of nature than the breakdown of late capitalism; perhaps that is due to some weakness in our imaginations” (*The Seeds of Time*, xii). It would be perfect to imagine not the catastrophic outcomes of the late rising capitalism but the decline and the end of it, which would certainly bring better realities for our future. Destruction of the existing world sadly is an easier choice than giving up profit-bringing capitalist applications. Although the existence of urgent ecological sanctions over human actions, Canavan states that “late capitalism remains a mode of production that insists (culturally) and depends (structurally) on limitless expansion and permanent growth without end” into everything, even “into the deepest crevices of the earth” and, later, it goes further “in futurological imaginings, to orbital space stations, lunar cities, Martian settlements, asteroid belt mining colonies [...] and on and on” (5).

Marx strikingly describes the capital as a “werewolf” or a “vampire” feeding mercilessly on the workers by butchering not only humans but also the natural world through the ecological crisis it has caused. Marx uses his famous literal metaphor for capital: “Capital is dead labour, that, vampire-like, only lives by sucking living labour, and lives the more, the more labour it sucks.” (*Capital Volume 1*, 342) He claims that the movement of the capital is limitless because of the endless desire for the circulation of money. Applying his theory to the economic view of the Martian land present in the trilogy, one can observe that Mars has every kind of metals down its isolated surface: “We’ve found iron, copper, silver, manganese, aluminum, gold, platinum, titanium, chromium, you name it. Sulfides, oxides, silicates, native metals, you name it. The Great Escarpment has them all” (*Red Mars*, 303). The high technology used on Mars is to exploit these metals for the capitalist purposes of Earth, which reveals itself with the construction of the space elevator, the thirty seven thousand kilometers vertical cable used for shipping the mined metals to Earth and carrying new comers in return to Mars. Phyllis Boyle, who is responsible for managing the functioning of this invention, cheerfully promotes the benefits of using it:

It will also be possible to use the cable’s rotation as a slingshot; objects released from the ballast asteroid toward Earth will be using the power of Mars’s rotation as their push, and will have an energy-free high-speed take off. It’s a clean, efficient, extraordinarily cheap method, both for lifting bulk into space and for accelerating it towards Earth. And given the recent discoveries of strategic metals, which are becoming ever more scarce on Earth, a cheap lift and push like this is literally invaluable. It creates the

possibility of an exchange that wasn't economically viable before; it will be a critical component of the Martian economy, the keystone of its industry. (*Red Mars*, 306-307)

Robinson questions this economic-based land ethic through the observations of Phyllis as she sees this process of mining not as exploitation but as a vital element for the development of Martian economy. Phyllis describes the transference of invaluable metals that are scarce on Earth as “clean, efficient, extraordinarily cheap method”, unaware of the fact that this is actually a huge loss for Mars, which will only be understood when it is too late as happened on Earth. Her confirmation is also ironic after John's observation on the contamination of Martian landscape with “raw pits”, “slag heaps” and “distant plumes” as a result of these mining activities that Phyllis describes as “a critical component of the Martian economy, the keystone of its industry”.

Harvey notes, “The capitalist logic [...] focuses on the way in which money power flows across and through space and over borders in the search for endless accumulation” (205). From this logic, the economic profit is primary issue in every act on Mars, as they build the space elevator or in other terms: “The miracle of the skyhook. Jack and the Beanstalk, the Ascension to Heaven; it definitely had an air of the miraculous to it” (307). Phyllis thinks that they do not have much choice as they look from the capitalist point of view:

This gets us out of our gravity well, eliminating it as a physical and economic problem. That's crucial; without that we'll be bypassed, we'll be like Australia in the nineteenth century, too far away to be a significant part of the world economy. People will pass us by and mine the asteroids directly, because the asteroids have mineral wealth without gravitational constraints. Without the elevator we could become a backwater. (*Red Mars*, 307)

At the course of the trilogy, the Earth has already used up the metals present in its body, and now they are found on Mars. This investment of the space elevator has certainly capitalist purposes, the financial profit part of colonialism, no matter how scientific purposes lead the first hundred to Mars. John gets so angry at the terran investment and profit issues:

But you wouldn't believe the support I see around this planet for a revised treaty that sets even tighter limits on terran investment and profit. You just haven't been paying attention. The thing you have to remember is that this is an economic system being built from scratch, on principles that make

sense in scientific terms. There's only a limited carrying capacity here, and to create a sustainable society we've got to pay attention to that. You can't just lift raw materials from here to Earth—the colonial era is over, you have to remember that. (*Red Mars*, 309)

The space elevator, “nothing more than the *reductio ad absurdum* of Martian architecture, a very slender, very tall black spire” (437), has double function when it starts working between the Earth and Mars: “you could take an elevator into orbit. And you could take another elevator down out of orbit, to the surface” (438). The ships, each of which carry a thousand people in full capacity, transport new emigrants to their new settlements on Mars, “descending in elevator cars and disembarking in the socket”, while on the other side of the cable, back in the socket “upbound elevator cars were being loaded with refined metals, platinum, gold, uranium, silver” (438). They steal the metals and they fill the planet with crowds of people instead, but more people means more trouble; loud, angry and nervous new arrivals rush for complaints about crowded living conditions, bad food or insufficient police. And the complaints continue with the crimes in any kind theft, assault, extortion, rape etc. The people here were treated as “laboratory animals, that's what they were. What they had always been” (440) and lots of them were used to “being treated like ball bearings” in fact. However, it is obvious that something is wrong; it is supposed to be different on Mars as Frank looks at the angry crowd living under such terrible conditions: “When had it gotten like this? They had been a scientific outpost, a handful of researchers, scattered over a world with as much land surface as the Earth” (441). The scientists from different countries all around the world come to this new land by leaving their homelands behind to live in a very limited habitable land on Mars. What is more terrifying is that “a million people here already, with more on the way. And so police, and crime—or rather, crime without police. A million people and no law, no law but corporate law. The bottom line. Minimize expenses, maximize profits. Run smoothly on ball bearings” (442). These outcomes are definitely due to the greed for economic profits, and from Marxist perspective, which results in the suffering of the proletariat at the hands of the controllers who has the mentality like Phyllis. She handles the issue of all these problematic emigration and the sufferings as normal stages of the process.

The basic problem of the new comers is that they were so ignorant and not practical for problem solving strategies, they have been trained just for specific purposes on Earth and they cannot act beyond their horizon. Franks gets angry with the

cheerful crowd who have just listened his advice: “They were so ignorant! Young men and women, educated very carefully to be apolitical, to be technicians who thought they disliked politics, making them putty in the hands of their rulers, just like always. It was appalling how stupid they were, really, and he could not help lashing into them” (*Red Mars*, 452). Frank’s strategy to calm the people down was “Back and forth, stick and carrot, a jerk on the leash, some niblets” (458), that is to say, he was threatening people with the stick while showing putting the sweetness into their mouth with the carrot. If they are not satisfied with their lives, some of them disappear and hide in secret places to join the revolution when it is time. An American woman says this when Frank asks questions about the disappearing people within the new mohole crew in Hephaestus:

These people have seen the videos all their life, they’re students of Mars, they believe in it like a grail, and organize their lives around getting here. They work for years, and save, and then sell everything they have to get passage, because they have an idea of what it will be like. And then they get here and they’re incarcerated, or at best back in the old rut, in indoor jobs so it’s all just like it’s still on TV. And so they disappear. Because they’re looking for more the kind of thing they came here for. (457)

No matter how the tremendous results the capitalist intentions bring on Mars with the destruction of everything the scientists build for scientific purposes in *Red Mars*, there are still people who believe in the vitality of mining metals to Earth as an important factor in Martian economy as follows in *Green Mars*. Phyllis insists on not seeing the environmental violence brought to this planet, but she focuses mostly on the capitalist benefits: “All the stockpiled metals from the last forty years are ready to enter the Terran market, and that’s going to stimulate the entire two-world economy unbelievably. We’ll see more production out of Earth now, and more investment here, more emigration too” (*Green Mars*, 183). No lessons are taken from the results of the revolution in *Red Mars*, but the future social and environmental problems as the consequences of capitalist activities seem to continue. There is no way to stop a hungry monster, but the only solution is to replace it with a more ecologically conscious one, Kovel notes: “since the one underlying feature of all aspects of capital is the relentless pressure to grow, we are obliged to bring down the capitalist system as a whole, and replace it with an ecologically viable alternative, if we want to save our species along with numberless others” (155). To emphasize once more, capitalism is a big treat as it is the primary cause of the ecological crisis, which puts the future at a great risk, and as there is no way to reform it under the present transnational hegemony, it can only grow

more or do to death to be replaced by an ecologically valuable community. Kovel writes it lucidly: “as capital keeps growing, the crisis grows, too: civilisation and much of nature is doomed” (159). Capitalism rules the whole world by sucking the humanity and nature into itself, and the biggest question is how to dethrone it? Kovel presents two minimal conditions that has to be met in order to overcome capital: “first, there must be basic changes in ownership of productive resources so that, ultimately, the earth is no longer privately owned; and, second, our productive powers, the core of human nature, have to be liberated, so that people self-determinate their transforming of nature” (159).

4.2. The Relation Between Economy and Ecology of Earth and Mars

The relationship between the economy and the ecology of Earth is directly interrelated, thus the problems or the crisis of each are closely influential on each other. Kovel puts it very well: “Economic problems interact with ecological problems, while ecological problems (including the effects of ecological movements) interact with economic problems” (155). Robinson himself states that “economics should become a subset of ecology, which already measures and values things that economics mismeasures and does not value” (*Green Planets*, 259). Ecology is not something separate from the other forms of life in a territory; Levi R. Bryant states, “To think societies is not to think something distinct from ecology but to think particular ecological formations. Rather than seeing social and political thought as an endeavor distinct from ecological thought, we should instead see it as a variation of ecological thought” (300). Robinson emphasizes the relationship between the changing ecosystem of the planets and the other economic, political and social systems. The trilogy shows the interconnectedness between the human and nonhuman world with the parallel developments of Martian social and environmental systems.

Set on originally barren Mars, Robinson’s trilogy focuses on the settlers’ struggles to create a Martian colony on the “blank red slate” (*Red Mars*, 85) as they describe. Robinson depicts so clearly throughout the trilogy that the destructive actions both in social and ecological terms result from the capitalist economic paradigm. The initial hopes of the first hundred at the beginning of the trilogy for a scientific station on Mars fade away with the intentions’ turning out to be an economic exploitation of resources later in *Red Mars*. Once protected by law, like Antarctica in the past, Mars is

open to exploitations for its precious metals first via terraforming and then mining processes. Mars project in total seems to be a capital investment of Earth as the last piece of land on the planet, Antarctica, has already been drilled for oil. Ecology should be something different from economical concerns, away from calculations, it is fragile as Frank once tells Sax who tries to benefit from ecology by playing at economics that is more like politics more than physics: “You should pay attention! This isn’t mechanics, Sax. It’s ecology. And it’s a fragile, managed ecology, so it has to be managed” (*Red Mars*, 403). When they think about the possibility of great number of Terran emigrants’ arrival to Mars, they are certain that it would be the collapse of their whole systems, the beginning of the chaos on this planet too.

Robinson states that the relation between the scientific concerns and ecology is in a sense finding some new ways to calculate sustainability for the long run and to benefit more from an economic perspective:

the ‘scientific’ returns as a way of talking about providing some kind of ecological basis to economy. That way, economy is not just the astrology of the ruling class but actually a way of calculating true costs and benefits in a way that could be agreed on and quantified, and therefore making clear what we are really doing – whether it is sustainable or not over the long haul. (Buhle, 89)

Moreover, as Robinson notes, economy is not just for the ruling class but for everyone and everywhere, there is no escape from economical concerns as it prevails every step of human life. The founder of metanational corporation “Praxis” in the trilogy, William Fort makes a speech about their responsibility and the place of economy in their lives. He thinks that economy is in every system and we have to know how to handle it in order to succeed as they see the downfall of Terran economy: “Continuous expansion is a fundamental tenet of economics. Therefore one of the fundamentals of the universe itself. Because everything is economics. Physics is cosmic economics, biology is cellular economics, the humanities are social economics, psychology is mental economics, and so on” (*Green Mars*, 77). He supports the idea that insensitive approach to ecology also damages the economy, as economics is an indispensable element of human life. Damaging the ecosystem means damaging the environment as well: “We have been liquidating our natural capital as if it were disposable income, and are nearing depletion of certain capital stocks, like oil, wood, soil, metals, fresh water, fish, and animals. This makes continued economic expansion difficult” (*Green Mars*, 76). He

focuses on natural capital as nonsubstitutable for man-made capital, which he thinks to be the core of eco-economics. His redefinition of natural capital constitutes a challenge to the classical interpretations of human capital in the capitalist world: “This concept of natural capital actually resembles to the traditional definition more than human capital. It can be owned and bequeathed, and divided into renewable and nonrenewable, marketed and nonmarketed.” (*Green Mars*, 77) This new system of eco-economics will be discussed profoundly in the following section.

4.2.1. Eco-economics: The System to Save the Future

At the beginning of the trilogy, due to its utopian motives, revolutionary leader Arkady imagines a communal society that has no concerns for economic profit, just a group of people working equally needless of any leaders and trying to set up a civilization:

Half a year. And for all that time we have had no leaders, really. Those nightly meetings when everyone has their say, and the group decides what needs doing most; that’s how it should be. And no one is wasting time buying or selling, because there is no market. Everything here belongs to all equally. And yet none of us can exploit anything that we own, for there’s no one outside us to sell it to. It’s been a very communal society, a democratic group. All for one and one for all. (*Red Mars*, 167)

Nonetheless, it is not an easy task to create a communist society with no economic concerns at all, especially on a new land that seems to be quite appropriate for exploitation by many. Arcady’s failed socialist and communist utopian ideals are replaced by more successful and effective system of thoughts later on, which combine all the social, economic and ecologic values under a unique roof. Vladimir Taneev and Marina Tokareva’s team come up with the idea of “eco-economics” valuing the people according to their contributions to the ecosystem. They explain their eco-economics: “this is economics, don’t you see, this is our eco-economics! Everyone should make their living, so to speak, based on a calculation of their real contribution to the human ecology. Everyone can increase their ecological efficiency by efforts to reduce how many kilocalories they use” (298). They think that “there it should be the law that people are rewarded in proportion to their contribution to the system” (298). Besides, they add that there are some people on the system that their efficiency is very low “they predate on the system without having any predators, so that they are either the top of the

chain or parasitical, depending on how you define it. Advertising, money brokering, some types of manipulation of the law, some politics...” (*Red Mars*, 298)

Everybody should contribute the system to create a better one as much as possible and there should not be a place for the parasites feeding on the efforts of others. The idea sounds quite all right in the context of their struggle to create a civilisation on Mars. As Robert Markley observes, eco-economics premises that “Restricting consumption becomes a far more effective means to increase one’s value to the system than accelerating production because production invariably strains scarce resources” (“Falling into Theory”, 126) Therefore, eco-economics questions the capitalist production and exploitation of natural resources thinking about the past simulations and the future promises. In his inspiring last speech, John also retells the idea of eco-economics, our actions follow one another affecting the next step for the continuation of this life cycle, and so we must keep it balanced in order to have a promise for future generations:

“Look,” he said, “here we are on Mars!” (Laughter) “That’s our gift and a great gift it is, the reason we have to keep giving all our lives to keep the cycle going, it’s like in eco-economics where what you take from the system has to be balanced by what you give in to it, balanced or exceeded to create that antri-entropic surge which characterizes all creative life and especially this step across to a new world, this place that is neither nature nor culture, transformation of a planet into a world and then a home. (*Red Mars*, 298)

Eco-economics is a system that considers ecological and social life as a whole, a crucial life-cycle that has to be kept in balanced for a multigenerational purpose on this new planet, Otto maintains this view: “Tracing the conflict between the economically based land relation and the eco-economic model of economics in the Mars trilogy gives us insight into one aspect of the ecotopian land ethic that Robinson advocates: the need for conceiving an economic system that encourages environmentally sustainable behaviour” (249) Robinson’s ecotopian land ethic reflected on this new model of ecologically considerate economics also promises more independence on the Martian ground. Vlad defends the eco-economic system as being more democratic compared to the old capitalist system. He argues that there is no such a system called “capitalist democracy” as the fundamentals of self-rule and freedom are easily forgotten within the system, because capitalism actually is “a version of feudalism in which capital replaces land, and business leaders replace kings. But the

hierarchy remains...” (*Blue Mars*, 143). Vlad insists that there is no reason why a bunch of nobility should own everything in production and would leave only a living wage to the real producers. The ecological aspects of the new economic system is explained as “fundamental [...] the land, air, and water of Mars belong to no one, that we are the stewards of it for all the future generations. This stewardship will be everyone’s responsibility” (146). This eco-economic system provides freedom and independent stewardship as a challenge to the logic of feudalism, capitalism or metanationalism in their hierarchical formation. If there still exist some conflicts, the democratic paradigms of the system in terms of land propose environmental courts, which “will estimate the real and complete environmental costs of economic activities, and help to coordinate plans that impact the environment” (146).

The environmental regulations in the Dorsa Brevia agreement forbids the private exploitation of the planet as in the feudal landowning system: “everyone’s work is their own, and the worth of it cannot be taken away [...] the various modes of production belong to those who created them, and to the common good of the future generations [...] the world is something we all steward together” (144). It also enables workers certain rights in production, they will hire “capital rather than the other way around” (147) in this system, which is more democratic, socialist and ecological. The common contribution to the system and using according to the needs echoes the ecosocialist society born out of Marx’ famous maxim, “from each according to abilities, to each according to need” (*Capital Volume 1*, 553). As a result of accepting the new eco-economic paradigm, the Martians take a big step to be an ecologically conscious civilisation via an economic system that values ecosystemic coherency, the agreement states that the metanational order ruling Earth cannot be applied here, instead they follow “an economics based on ecological science. The goal of Martian economics is not ‘sustainable development’ but a sustainable prosperity for its entire biosphere” (*Green Mars*, 358).

The new democratic economic system attempts to sustain a circle of equal citizenship that is not only limited to the humans but other animals, plants, ecosystems and the elements themselves are also considered, which is called period of utopian “harmony” (*Blue Mars*, 483). Their post-capitalist, post- socialist and post-democratic understanding of “harmony” actually re-echoes the doctrines of deep ecology. The transition from a capitalist society into a more egalitarian one is thought to be a

universal shift together with the biological transformation as an evolutionary process of survival: “the crisis had somehow gotten beyond war. Flood, ice age, population boom, social chaos, revolution; perhaps things had gotten so bad that humanity had shifted into some kind of universal catastrophe rescue operation, or, in other words, the first phase of the postcapitalist era” (*Blue Mars*, 77). In this light, *Blue Mars* pictures a society living in harmony with the newly created biosphere by participating the evolving system that ensures to keep away any dangerous threats or deadly pollutants of capital.

Throughout his wanderings around the planet, John comes to the recognition that his naïve feeling might probably be a wrong assumption, in his unarticulated theory, he believed that “if he only saw more of the planet, visited one more settlement, talked to one more person, that he would somehow (without really thinking too hard) get it — and that his holistic understanding would then flow back from him to everybody else, spreading out through all the new settlers and changing things” (*Red Mars*, 284). He realizes that there are too many people on the planet and it does not seem possible to connect them all, “to become an articulator of all their hopes and desires” (284) as he initially did not pay attention to the areoformation, the drastic changes in every way being wrought on the planet and on its new inhabitants. When John visits a Sufi caravanserai on his way, he was mesmerized by the way they start a meal, each of them pour the tea to fill someone else’s cup. The old Sufi woman says it is a little sign of how they are together based on the old cultures’ tradition of the giving of gifts: “Each of us has a gift, you see, given us freely by the universe. And each of us with every breath gives something back” (315) and it is “Like the equation for ecologic efficiency” (315) as John says. The Sufi woman’s saying is similar to what Ursula and Vlad mentioned about the economics:

In any case, whole cultures were built around the idea of the gift, in Malaysia, in the American northwest, in many primitive cultures. In Arabia we gave water, or coffee. Food and shelter. And whatever you were given, you did not expect to keep, but gave it back again in your turn, hopefully with interest. You worked to be able to give more than you received. Now we think that this can be the basis for a reverent economics. (315)

The Sufis want to go back to the life styles of the old cultures before the global marketing rules over the whole world, they live in peace with nature and other people in a great harmony of being a perfect whole all together. They have a prayer from the

Persian poet Rumi Jalaluddin, resiting this perfect union of every living or non-living thing in this universe:

I died as mineral and became a plant,
I died as plant and rose to animal.
I died as animal and I was human.
Why should I fear? When was I less by dying?
Yet once more I shall die human,
To soar with angels blessed above.
And when I sacrifice my angel soul
I shall become what no mind ever conceived. (*Red Mars*, 316)

The Sufi woman's farewell remarks to John are the core of all worlds for all creatures: "Whether it be of this world or of that, your love will lead you yonder in the end" (316). This is also like a prophecy referring to the end of the tale on Mars advocating John as the hero of the new alchemical vision on this planet, which foreshadows many utopian achievements that seem unlikely at the beginning. According to Franko, John's charismatic life and tragic death on Mars function as "a carnivalized Socratic hero seeking a syncretic solution and a viable sense of 'we' for humans on Mars through the power of speech acts to produce 'impact metamorphosis'" (118). After his death, he is born to be a story as told by the anonymous voices narrating the moment of John's death at different locations and incidents in the interlude following his death.

Although the process of terraforming on Mars seems to be at the core of the whole trilogy, at the background we are informed about the on-going catastrophe on Earth through the climate change and natural disasters. Mars is depicted as a safe harbor for the survivors of the storm in the other possible ecosystem. Thinking about the most insane projects human beings intend to realize, Zo imagines people as specks in this universe but with an idea and they would do anything for the sake of this idea even going to Earth- the worst of all-: "Steaming, clotted, infectious, a human anthill stuck with a stick; the panic population ongoing in the dreadful mash of history; the hypermalthusian nightmare at its worst; hot, humid, and heavy; and yet still, or perhaps because of all that, a great place to visit (*Blue Mars*, 498). Earth is the source of not only the whole beauty but also the disasters. Thus, all the problems and revolutions on Mars result from the ecological crisis occurring at the highest level on Earth. The Martian revolutionists could escape from death thanks to the social and political instability on Earth.

This catastrophic current situation of Earth has a terrifying effect on the Martian visitors, particularly when they witness the problems of over-population. Travelling to

Earth creates a “population panic” as happens to the Martian visitor Nirgal who goes to Trinidad. He feels suffocated due to the heat of the tropics and the effects of gravity, at the same time, he finds himself lost in the middle of a huge multicultural crowd:

A whole crowd trailed him, surrounded him [...] It reeked of salt, fish, leaves, tar, shit, spices: like a greenhouse gone mad. [...] In the glare of light there were hundreds of people, thousands, dressed in astonishing costumes, neon silks, pink purple teal gold aquamarine, jewels, feathers, headdresses [...] He was sweating freely but still felt hot. The car, bumpy and slow, ran between the walls of people” (*Blue Mars*, 169).

Witnessing what happened to the world they had left behind, the Martians also felt terrified on the negative effects of the sudden changes all over the Martian landscape. Capital is responsible for the intense destruction of the landscape with its environmentally catastrophic activities: “Mass wasting was causing many landslides a day, and fatalities and unexplained disappearances were not at all uncommon. Cross-country travel was dangerous. Canyons and fresh craters were no longer safe places to locate a town, or even to spend a night” (*Green Mars*, 217). Besides the destructive ecological consequences, Capital also damages the social life by driving people into a dangerous atmosphere to live in.

The depiction of the social welfare and security at the very closure of the trilogy demonstrates that the new economic system brings justice and freedom to Mars: “Nowhere on this world were people killing each other, nowhere were they desperate for shelter or food, nowhere were they scared for their kids” (*Blue Mars*, 761). The new order of the Martian civilisation seems to set in peace and harmony. Burling also approves that “economic equality [...] can produce a hitherto unknown degree of general social prosperity and stability” (166).

4.3. The Relation between Micro-politics/ Macro-politics of Earth and Eco-ethics of Mars Colonization.

Thinking about the relation between Mars and Earth, everything is done for the good of first Earth and then the Martian settlements. Thus, the projects on Mars become the symbol of environmental rationality when we consider the same process as pollution on Earth. As Nirgal stresses the importance of cooperation and helping each other: “We have to regulate ourselves, we have to take care of the land. And it’s here, in this part of the project, that Mars can help Earth. First, we are an experiment in taking care of the

land” (*Blue Mars*, 191). Even before the crew of the first hundred scientists arrive on Mars, Earth politics interfere with their conversations no matter how hard they focus on working for the sake of scientific discovery and progression as stated by Arkady: “Everything is political. Nothing more so than this voyage of ours. We are beginning a new society, how could it help but be political?” (*Red Mars*, 60). During the voyage in Ares, Arkady reveals his liberal intentions about not paying attention to the plans made by the Earth for them. He claims that they are the pioneers to build a new civilization and they do not need orders from another planet, they have to make their own decisions. He proposes that they must give up on hierarchical arrangements and instead they must be ‘all equal’ in every sense with no leaders, a circular shape building with a geodesic dome and small rooms for everyone with larger communal spaces, and much more in freedom:

We have been sent here by our governments, and all of our governments are flawed, most of them disastrously. It’s why history is such a bloody mess. Now we are on our own, and I for one have no intention of repeating all of Earth’s mistakes just because of conventional thinking. We are the first Martian colonists! We are scientists! It is our job to think things new, to make them new! (61)

Arcady’s last remarks are urging his fellow scientists to create a new Martian society from a “successor science” point of view. Nevertheless, politics is everywhere within this small scientific community and micro-politics affects macro-politics. In a small community with large politics and worldviews behind, it is so difficult to compromise on the vital issues from the very beginning: “But in the end it was hard to tell what was going on, with a hundred people scattered in what suddenly felt like such a large ship. Interest groups, micropolitics; they really were fragmenting. One hundred people only, and yet they were too large a community to cohere!” (76). Inevitable disagreements, conflicts and chaos come together with these divergences. It happens so, separations and groupings begin to comprise from the beginning, which might be as a result of the light Arkady turns on in the minds of this mixed community. Maya blames Arkady for all this when she observes those intimacies “He had opened Pandora’s box; if not for him and his talk, would the farm group have drawn so close around Hiroko? Would the medical team have kept such close council?” (85). No matter how hard Maya and Frank work to reconcile the differences and force a consensus with the aim of giving them the feeling that they are still a unique team, there emerge separations and further conflicts.

Being a part of the macro- and micro-politics, they have to act according to the treaties like The Antarctic and The Outer Space Treaty: “now the stations are governed by laws set by that treaty, which was made by a very political process! So you see, you cannot just stick your head in sand crying ‘I am a scientist, I am a scientist!’” (*Red Mars*, 86-87). The political treaties which are supposed to be objective and provide equality for all the nations in the world are quite problematic since they protect the profits and benefits of only some certain countries, as mentioned by Sax:

The Outer Space Treaty states that no country can claim land on Mars, no military activities are allowed, and all bases are open to inspection by any country. Also no Martian resources can become the property of a single nation—the UN is supposed to establish an international regime to govern any mining or other exploitation. If anything is ever done along that line, which I doubt will happen, then it is to be shared among all the nations of the world. (87)

Even this side of the treaty is unethical according to ecological concerns about Mars as this planet cannot be a cake whose profit will be divided among the nations on Earth. Arkady states that it is just the beginning and some parts of the treaty reveal how political all these actions are indeed: “Bases built on Mars will belong to the countries that build them, for instance”, which puts them back into the nightmares of the old world. All capitalist businesses think that they have the right to exploit Mars, “as long as the profits are somehow shared by all the nations signing the treaty” (88). Although it is at first difficult for the scientists to understand the pressure of power over the environmental decisions, political interferences are inescapable. Robinson reveals the ideas of scientists on this matter via the Green scientist Sax:

Sax knew. That was the old tech position, held ever since scientists had become a class in society, a priest caste almost, intervening between the people and their power. They were apolitical, supposedly, like civil servants—empiricists, who only wanted things managed in a rational scientific style, the greatest good for the greatest number, which ought to be fairly simple to arrange, if people were not so trapped in emotions, religions, governments, and other mass delusional systems of that sort (*Blue Mars*, 83).

This is the common politics of an average of almost every scientist. They are utilitarian in his inner feelings of scientific approach “the greatest good for the greatest number”. Sax describes it as “a bit naïve”, “a bit comical” and something “hilarious” turned into “horrible”, the reason is that it is being “an attitude that had kept scientists from going at

politics in any useful way for centuries now; and dismal centuries they had been. But now they were on a planet where political power came out of the end of a mesocosm aerating fan” (*Blue Mars*, 83-4). By the help of terraforming projects, people who care for experiencing the power on Mars are responsible for holding “that great gun”. Therefore, scientists become the people who produce the Martian ecology and rotate the political, social and biological life by controlling “the mesocosm aerating fans”.

4.4. Revolutions, Wars and Failures in *Red Mars* and *Green Mars*

“For us time consists in an eternal present and, much further away, an inevitable catastrophe.” – Fredric Jameson, *The Seeds of Time*, 70.

The developments in the postcapitalist era are often associated with the natural process of evolution. Therefore, social and political revolution is identified as a shift in the phase of human evolution, which is clear from Art Randolph’s words: “Oh I don’t think it’s really revolution we’re seeing, no. It’s a perfectly natural next step here, so it’s more a kind of evolutionary or developmental thing, or what in physics they call a phase change” (*Green Mars*, 579-80). This phase of change shows itself both as an evolutionary process and partly as failed revolutions in the Mars trilogy. Besides the possibilities of building a new society and the processes of terraforming on the new planet, Robinson’s Mars trilogy has another main issue: the hope and struggle for a socialist revolution against the hegemony of capital with all the problems. Robinson’s projection actually a kind of reflection of the repeated mistakes of the history such as “the failures of Russian socialism an French revolutionary utopianism; the transformation of New England between the 1630s and 1680s, of Utah from the nineteenth to the twentieth century, or of any new place that wiggles free from the expectations of its founders” (Abbott, 73). Even the protagonists’s names and status are mirror images of real historical figures: the charismatic revolutionary leader Arkady Bogdanov, who provokes the unsuccessful first revolution, possesses the name of the real leader in Bolshevik Revolution, Alexandre Bogdanov. Even the name and the content of the first book of the trilogy, *Red Mars*, is quite similar to Alexandre Bogdanov’s *Red Star* (1908) both of which are about a failed revolutionary utopian society set on Mars. Also, the strong woman figure among the first hundred who has a vital role in the construction work, Nadia Chernyshevsky, echoes for Nikolai Cherneshevsky with his socialist and feminist utopian work *What Is to Be Done?*

(1863), which is also adapted to the chapter of *Red Mars* about the first failed revolution under the name of “What have we done?!” As Robinson himself declared in an interview: “there is always more history, more trouble, between us and any decent society” (Seed, 77) Arkady Bogdanov and Nadia Chernyshevsky’s relationship is also another allusion to Mars books of Edgar Rice Burroughs, in which the hero John Carter continuously saves the Princess of Mars. Although Nadia is quite opposite of the gender roles and sexuality given in Burroughs’ novels, even she is closer to the hero with her struggle with hostile Martian land, she is still connected to the Princess of Mars and Burroughs.

Apart from the allusions to real revolutions in history, the Mars trilogy bears the ideas of revolution from the very beginning, which are seeded long before the first hundred lands on Mars by the egalitarian ideology of Arkady on the voyage to the planet. In spite of the reality they all know that they are going to change on the planet as they start living on it, Arkady does not accept a kind of evolutionary change as Sax talks about, he wants an abrupt separation from the Earth and any kind of regulations or rules sent by them:

No, no, no, no! History is not evolution! It is a false analogy! Evolution is a matter of environment and chance, acting over millions of years. But history is a matter of environment and choice, acting within lifetimes, and sometimes within years, or months, or days! History is Lamarckian! So that if we choose to establish certain institutions on Mars, there they will be! And if we choose others, there they will be! I say we should make those choices ourselves, rather than having them made for us by people back on Earth. By people long dead, really. (*Red Mars*, 88)

What Arkady desires for is a communal utopia as he states this repeatedly, and this is the first phase of their separation from all power authorities, especially from Earth. In his discussion with Phyllis, in shock with Arkady’s intentions, Phyllis foreshadows the end of this community as a failure if it begins with such dreams: “Advocating an ill-defined revolution? Formenting a crisis situation? Getting everyone upset and at odds with each other?” (89). Regardless of all oppositions, Arkady imagines to be successful in creating a Martian society that is govern by themselves without listening any orders from outside, it is his utopia no matter how difficult it seems:

We have come to Mars for good. We are going to make not only our homes and our food, but also our water and the very air we breathe—all on a planet that has none of these things. We can do this because we have technology to manipulate matter right down to the molecular level. This is an

extraordinary ability, think of it! And yet some of us here can accept transforming the entire physical reality of this planet, without doing a single thing to change our selves, or the way we live. To be twenty-first century scientists on Mars, in fact, but at the same time living within nineteenth century social systems, based on seventeenth century ideologies. It's absurd, it's crazy, it's—it's— [...] It's unscientific! And so I say that among all the many things we transform on Mars, ourselves and our social reality should be among them. We must terraform not only Mars, but ourselves. (*Red Mars*, 89)

Literally, Arkady's views are fair enough to get rid of the old ways of thinking if they want to create a civilization completely new together with the ecology. Carrying the seventeenth century social ideologies of domination to this contemporary age of technology and science sounds quite odd as he declares. The transformation of human values together with the planet is unquestionably necessary, but it needs time and patience throughout this process, which Arkady does not have. Arkady's impatient manner catches the attention of his friends, once Nadya warns him to wait and he reacts: "How long do you suggest we wait? For our grandchildren? Our great-grandchildren? Our great-great-grandchildren, blind as cave fish? Still, it's a serious question. We don't have forever, and it would be nice to see things start to change" (174). They should not wait forever, but rushing into a revolution would not bring any good to those ideals of change.

4.4.1. "The Other" as a Scapegoat

Along with the dreams of an abrupt change to create a communal society, there are many other factors triggering the revolution and the crises following that. Said's vision of "the Other" to blame for the catastrophe existing among the differences shows itself once again on Mars by the outbreak of hatred within the new multicultural population as it reaches to five thousand people on the planet which was a Russian-American cooperation at the beginning with one hundred people, the two nations in majority. From a stereotypical orientalist view, Islam and Muslims are observed as a threat on this new planet, obviously based on deception when prejudice and personal profits come together. It is assumed that Americans do not fancy the existing of other nations on Mars by creating their own territories with unique customs. Conversations on that direction and the depiction of Arabs verify that the oriental mentality is carried to this new planet, which lays under the root of the cultural, political, economic and

ecological disaster in the end. At the beginning of their landing on Mars, the only aim of the settlers seems to terraforming the planet and creating a Martian community to live there without these “otherness” as John declares to Ann: “It’s inevitable that people are going to fight, but now we’re fighting about Martian things. I mean people aren’t fighting over whether they’re American or Japanese or Russian or Arab, or some religion or race or sex or what not. They’re fighting because they want one Martian reality or other. That’s all that matters now. So we’re already halfway there” (*Red Mars*, 252). However, Martian issues do not remain at the core of all thoughts, and unfortunately, those subjective conflicts spread like a disease causing the fighting and deaths over the “otherness”. Even though Frank Chalmers acts like a hero after John by sacrificing his life to save his friends and struggles to protect the planet from destruction through the end of *Red Mars*, he is one of the pioneers who plant the seeds of hate at the beginning. He gets along with Arabs despite the fact that he underestimates them as inferior Easterners, because his strategy is “Defend a weak new neighbor to weaken the old powerful ones, as Machiavelli had said” (9). In order to get rid of John Boone and become the leader, he whispers lies and provocative words to the ears of Arabs with whom he pretends to be friends and at the same time he observes them in this way:

He studied the men’s faces as they talked. An alien culture, no doubt about it. They weren’t going to change just because they were on Mars, they put the lie to John’s vision. Their thinking clashed radically with Western thought; for instance the separation of church and state was wrong to them, making it impossible for them to agree with Westerners on the very basis of government. And they were so patriarchal that some of their women were said to be illiterate—illiterates, on Mars! That was a sign. And indeed these men had the dangerous look that Frank associated with machismo, the look of men who oppressed their women so cruelly that naturally the women struck back where they could, terrorizing sons who then terrorized wives who terrorized sons and so on and so on, in an endless death spiral of twisted love and sex hatred. So that in that sense they were all madmen. (9)

Frank’s observation of Arabs and his vision of their lives based on terror and horror with “patriarchal, macho and cruel madmen”, and “illiterate, oppressed and terrorizing women” show the very basics of orientalist mentality. There have been a rumor about John’s being a racist towards other nations, especially Muslims, and by using this; Frank builds on the interpretations of his speech within the Arab community. When Zeyk describes John’s intentions “When he says we will make an indigenous Martian culture, he only means some of the Terran cultures here will be promoted, and

others attacked. Those perceived as regressive will be singled out for destruction. It is a form of Atatürkism” (*Red Mars*, 10), which is confirmed by the others as Nejm adds, “He thinks everyone on Mars should become American” (10). They all accepted it so normal on Mars as it has already happened on Earth. Frank strengthens the rumors that John is anti-Arab and he blocked permission to build the mosque on Phobos by replying his being a powerful man, because he is sure about the fact that as he wrote once in his lectern: “Very few people ever bother to find out what other people really think. They are willing to accept whatever they are told about anyone sufficiently distant” (412) His ideas drive Selim to kill the most powerful man on Mars whom they believe to desire for more like a king in their eyes. Although John directly states that he is not trying to keep Mars only for themselves, Frank misquotes their conversation: “His coalition is going to recommend that all Martian settlements originate in the countries that signed the first treaty” and adds to Selim’s cry of John’s hatred towards them, “He hates everything that gets in his way. And he can see that Islam is still a real force in people’s lives. It shapes the way people think, and he can’t stand that” (17-18). Therefore he has to be stopped and he was killed, which was the beginning of the chaos for the people and the planets. Frank talks to himself after John’s death as he becomes the new commander: “Now we’ll see what I can do with this planet” (23), and this sentence reveals that he has some intimate plans to accomplish not only on the Martian community but also on the Martian land. The outcomes following that are devastating as he lights the torch of evil on this new planet just for personal greed for power, which brings destruction for all living things on Mars and for the planet.

White describes him as John’s “evil self, his Shadow” (218) and his character is “constructed in contradistinction to Boone, the model of a political operator to John’s charismatic visionary”, and his outside appearance also reflects this vision “Physically, he is dark and saturnine where John is fair and apollonian” (218) These typical characterizations are not in vain but signs for the approaching catastrophe. As Frank once imagines that turning this world into nothingness is so easy even though they build aquarium-like towns that are the only glowing spots within this Martian desolateness, looking around he observes “Rocks everywhere. A planet sledgehammered billions of times. And meteors still falling”. He foreshadows the ultimate destruction thinking that everything would fall apart suddenly without warning.

Besides the racist and political ideologies, some violent terraforming plans are also the cause of destruction and floods after the revolution. As a dignified scientist who wants to take firm steps forward in the process of terraforming, Ann has a vital role to stop the crazy plans of Sax and his enthusiastic followers, or at least, to slow them down in order to prevent them to cause the worse. Sax and many others were talking about dangerous actions like “doing anything possible to terraform as quick as possible—driving a bunch of asteroids directly into the planet, using hydrogen bombs to try and start volcanoes—whatever it took!” (*Red Mars*, 252). And thanks to her, the planet will be saved a little bit as John states: “No one’s talking about pumping it up into a jungle planet you know, even if they could! It’ll always be cold, and the Tharsis bulge will always stick right out into space, in effect, so there’ll be a huge part of the planet that’s never touched. And that’ll be partly because of you” (253). However, nothing is certain after the first step and nobody is sure that they would not desire for more once they have started. John’s final words reveal the fact that humans don’t know the future, and they don’t know what the future generations are going to wish. What is wrong now might be good for the future generations as there is a mutual alteration within human genes together with the planet: “But who knows what our kids will think is beautiful? It’s sure to be based on what they know, and this place will be the only place they know. So we terraform the planet; but the planet areoforms us” (253). One thing for the future is certain that humans are changing the planet and the planet is also changing them in return.

4.4.2. The Neo-Malthusian Worlds

As the primary motivation for the Martian dreams in the covered texts, the catastrophe on Earth has a vital role on the calamity on Mars as the on-going problems echoes on the new planet as well, and unfortunately, the Neo-Malthusian logic of saving a few powerful ones while ignoring the rest prevails in this chaotic atmosphere. The situation of the Earth is getting terrible day by day because of the conflicts over the approaching renewal date of Mars treaty. The economic, political, ecological and social crises on Earth push every nation to desire more on the free lands of Mars. Besides, the medical development promising longer lives for people becomes the enemy of birth-control strategies for the nations that have problematic populations. There will be more people in the future, especially the old ones will continue living for a long time, thus

some groups ask to send the old to Mars like a kind of retirement from Earth. The news about Earth summarizes the chaos:

Earth was in bad shape. The video was of a massive protest march in Manhattan, the whole island packed with a crowd the protesters would call ten million and the police five hundred thousand. The helicopter images were quite arresting, but there were a lot of places these days that, although less visual, were much more dangerous. In the advanced nations people were marching because of draconian birth population reduction acts, laws that made the Chinese look like anarchists, and the young had erupted in fury and dismay, feeling their lives pulled out of their hands by a great crowd of ancient unnatural undead, by history itself come alive. That was bad, sure. But in the developing countries they were rioting over “inadequate access” to the treatments themselves, and that was far worse. Governments were falling; people were dying by the thousands. (*Red Mars*, 389)

Every distinct units all around the world riot for something different from their sides, and they are right when looked from their perspectives as they all worry about their own future in this chaotic environment. The emigration quota of Mars holds an important place, because it would be so problematic if the new treaty allows some countries like China or India, which have 40 per cent of the whole world’s population, to immigrate freely. There is a struggle between the poor and the rich, the powerful and the weak over the lands of Mars:

Mars was a real prize, and the rich and poor nations of Earth were struggling over it as they were over everything else. The rich had the money but the poor had the people, and the weapons were pretty evenly distributed, especially the new viral vectors that could kill everyone on a continent. Yes, the stakes were high, and the situation existed in the most fragile of balances, the poor surging up out of the south and pressing the northern barriers of law and money and pure military force. Gun barrels in their faces, in essence. But now there were so many faces; a human wave attack might explode at any instant, it seemed, just from the expansive pressure of sheer numbers—attackers shoved over the barricades by the press of babies in the rear, raging for their chance at immortality. (391)

The sound of the war bells on Mars come from everywhere and the situation is so heated. When the revolution actually starts, Arkady was cheerful feeling the change, the freedom and equality reflected in the air they breathe, and he feels lighter looking at the park as he remembers Orwell’s words about Barcelona in the hands of anarchists: “it is the euphoria of a new social contract, of a return to that child’s dream of fairness we all began with” (474). On the other hand, the revolution is reflected totally different on

Earth media: “Horrible how the revolution was being portrayed on Earth: extremists, communists, vandals, saboteurs, reds, terrorists. Never the words rebel or revolutionary, words of which half the Earth (at least) might approve. No, they were isolated groups of insane, destructive terrorists” (*Red Mars*, 485). Even though it had not started for such destructive purposes, both sides of the revolution destroy the works of years and kill thousands of people. When the revolutionists separate the cable from Clarke, they cheered as they have succeeded to break the connection of the space elevator. However, the results are terrible:

it was work, and work destroyed. A bridge brought down; and bringing down a bridge was always a dubious proposition. And that black line was also a grave. Not many people on the surface had been killed, except on the east side of Pavonis, but most if not all of those on the elevator must have been, and that in itself meant several thousand people. Most of whom had probably been all right until their part of the cable hit the atmosphere and burned up. (509)

And the backfire was not so far, Earth forces bomb almost all Martian cities recognizing they have contributed to the revolution by tearing down all the efforts of the years’ technologic and scientific works. They even did not stop when they propose for an agreement, they are murdering them as many as they can by singling them out, especially the first hundred, which seems crazy but so logical for Malthusian ideology: “They’re not psychotic. It’s perfectly rational. They see a political settlement coming and they’re getting in as many shots as they can” (521). Wars have always bring damages not only to human lives but also to the environment, the constructions and the nature, as Harvey points out: “Wars between states in the historical geography of capitalism have been earth-shaking episodes of creative destruction” (202).

The idea of destruction and killing might be horrible like a nightmare, but at the same time it may strangely contain a great beauty in it. While looking at the dark grey clouds of smoke over the wracked cable and thinking its last moment, the image of “an incandescent double helix of diamond, flowing majestically out of a sunset sky” (509), Nadya reflects a kind of Freudian inner desires to have joy by looking at the destruction of a great thing as well as the construction of it: “How was it that destruction could be so beautiful? Was there something in the scale of it? Was there some shadow in people, lusting for it? Or was it just a coincidental combination of the elements, the final proof that beauty had no moral dimension?” (526). It is like the

power of imagination in the Romantics, like a description of hell in John Milton's *Paradise Lost*.

Another distinct interpretation on the ecological destruction after the revolutions comes from Leopold, who argues that some environmental catastrophes come as a result of brutal human interruptions on the natural world; he calls this "penalties of violence" (255). Robinson also questions this issue in terms of Leopoldian land ethics, which is obvious in the discussions of exploiting the land for its resources according to capitalist motives. The fast and inconsiderate alterations on the Martian surface such as the heating of the atmosphere and the melting of the ice in its permafrost layers cause great deal of both environmental and humanitarian damage. These alterations result in sudden rush of large quantity of lands followed by floods, which creates a terrifying atmosphere on Martian cities leading to environmental disorder and insecurity. In *Green Mars*, as a voice of economical perception of the land, Phyllis proudly talks about all the stockpiled metals they dig for years from the Martian surface to meet the investments of Earth, all the production plans and upcoming emigrations as future projects (183). She is optimistic for the financial profits for Terran investments and mentions "the influx of industrial metals from here will stimulate the economy for everyone, including the environment-control industries [...] the diebacks will solve a lot of their other problems for them" (*Green Mars*, 183). Notwithstanding her hopes, before long, Sax observes the affects of these violent activities on the land as such: "Cliffs were falling. Rocks of all sizes were being shoved out of the permafrost by the thaw-freeze cycle [...] Mass wasting was causing many landslides a day, and fatalities and unexplained disappearances were not at all uncommon. Cross-country travel was dangerous. Canyons and fresh craters were no longer safe places to locate a town, or even to spend a night" (217). Regarding Sax's inspection of these sudden and apparent changes on massive scales all over the planet, Robinson questions the economically exploitation of the land from a Leopoldian consideration of penalties of violence. Otto also notes that, by this way, Robinson portrays "the polluted landscape and the effects of this economically motivated contamination" and "how the altered landscape has erupted with sickness and instability, mostly the result of capitalist interference" (247).

All in all, capitalist paradigms have created an economic social system that does not seem particularly logical for a sustainable future life on Earth. The prevailing ideologies as analyzed through the Mars trilogy are neither humanist nor ecologist, which have already plagued our present world by corrupting it into a wasteland full of wars, famine, hunger and destruction everywhere. Robinson holds on radical intentions with his narration by observing these deteriorations all around. His attempt in creating a totally new system in this planetary experiment promises a synergetic project that might change the destiny of humanity. Ultimately, an ecological reading of Marxist ideals show itself as ecosocialism claiming to be the system of the future, which might save both the human and non-human worlds. It is paramount once more to note that there is no logic of accusing “the Other” for the corruption and wrecking the existing human population under a Neo-Malthusian rationale. It has always been about our own selfish individual actions, which has shaped our past and will do so for our future. Therefore, according to the message is given with the examined texts, why not to turn this shift into something pragmatic for the forthcoming generations to let them in peace with nature as a part of it via the new order of ecosocialism.

CHAPTER V

RED MARS, GREEN MARS AND BLUE MARS:

THE ECOLOGICAL SCIENCE FICTION

This chapter primarily focuses on the relation between the ecological science fiction and the real life. The three books by Robinson, *Red Mars*, *Green Mars* and *Blue Mars* distinctively represent a variety of inspirations to reality as Mars is observed to be a mirror of Earth. The polyphony achieved by the subjective positions on Mars sets up a different utopia on this brand new planet Mars, however, the utopian dreams on Mars result in failures due to excessive radical desires. This chapter tries to seek for the answers to the questions on the possibility of human transfer to any other planet like Mars. From this respect, the Mars trilogy serves as simulations, which are models for the possible future experiments and challenges. The last part of this chapter tries to present some solutions to the existing catastrophes and logical suggestions to create a better future for the upcoming generations. Due to the current anti-ecological economic, political and social systems, transferring into an ecosocialist society for the survival of all living things is strongly recommended. This dissertation observes Ecosocialism as the final hope for the harmonious union of all living bodies in the universe in a more egalitarian way by attaining equal rights to every entity as they are observed equally and intrinsically precious part of a complete whole.

5.1. The Relation between Science and Environmental Concerns

“Today, the sort of thing we used to think in science fiction has colonized the rest of our reality.” (William Gibson, qtd. in *Green Planets*, x)

In an interview, Robinson asserts, “I believe that science-fiction is one of the most powerful modes of poetry of all time. Science-fiction is just a metaphor for the world we live in and metaphor is one of the basic tools of poetry” (Cooke, 1995). Thus,

we live in a world of science fiction with all the possibilities existing or discovered everyday into a new technological future. In the trilogy, the scientific man Sax argues that it is the science which makes the rock or the soil valuable and science is more than studying in the labs under the closed areas: “science is part of a larger human enterprise, and that enterprise includes going to the stars, adapting to other planets, adapting them to us. Science is creation” (*Red Mars*, 178). He explains that the lack of life and intelligence is obvious everywhere, and as “the whole meaning of the universe, its beauty, is contained in the consciousness of intelligent life”, it is our mission as human beings, as the rare owner of the intelligence in the universe, to spread life and intelligence out of this world to the other possible planets in the universe (178). The reason behind this idea is that it is too dangerous to keep all the consciousness of the universe on a single planet as the species with the whole planet could be wiped out, so we could live everywhere we can. The psychologist among the first hundred, Michel explains the real job of a scientist as follow:

To explore everything. No matter the difficulties! To stay open, to accept ambiguity. To attempt to fuse with the object of knowledge. To admit that there are values shot through the whole enterprise. To love it. To work toward discovering the values by which we should live. To work to enact those values in the world. To explore – and more than that – to create (*Green Mars*, 373).

Sax realizes this creative function of science by transforming from a blind anthropocentric scientist into a key figure actively working to create a democratic Martian civilization and to seek for reconciliation between the Reds and the Greens on the terraforming of Mars.

The efforts to use science to spread intelligence all around the universe sound all right at first. However, how science has been put into practice is not without problems and it cannot be claimed that science has always been implemented to serve the goodness of the living things; on the contrary, it might contribute to the destruction of ecology together with human and animal life. Robinson questions this with his narration “metanational capitalism’s track record at this point did little to support it; in the last century it had precipitated a massive war, chewed up the Earth, and torn its societies apart. Why should they not try something new, given that record?” (*Blue Mars*, 145) Science brings about massive destruction and killing rather than creating something new or fostering new possibilities of life. Marx declares, “only when science

proceeds from nature – is it *true science*” (*Economic and Philosophic Manuscripts*, 111). Robinson realizes this path taking its origins from nature in his Mars trilogy as Milburn states: “Robinson shows us that science fiction is itself an instrument of environmental nanopolitics, a molecular technology for terraforming our world and ourselves” (57).

Science fiction does not also mean a future full of industrial city-machines controlling human life with the highest technology, but as Robinson implores in the introduction of his *Future Primitive: New Ecotopias* (1994), science fiction imaginings should include new futures combining the Paleolithic and the postmodern in which “sophisticated new technologies [are] combined with habits saved or reinvented from our deep past, with the notion that prehistoric cultures were critical in making us what we are, and knew things about our relationship to the world that we should not forget” (11). This postmodern Paleolithic life is partly accomplished in Mars trilogy, especially by Hiroko Ai and her followers who live in solitude on a district on Mars away from the economic and political concerns that the scientists are driven into.

McClintock argues, “One need not turn to mysticism and against science to defend a land ethic” (qtd. in “The Mars Trilogy and the Leopoldian Land Ethic” 244), which illustrates the point that creating an ecological consciousness does not actually mean to create a gap between the scientific facts and the spiritual values. Approving Leopold’s land ethics that “blurs distinctions between scientific, social, and spiritual realms, thus appealing to his audience’s longed-for reconciliation between science, social conduct, and spiritual belief” (244), McClintock maintains that rather than creating distinctions and oppositions, it is necessary to create a union of facts and values in the composition of land ethics. When the mystic and scientific approaches are compared behind the philosophy of the trilogy, it is discussed through Sax’s understanding that every knowledge must be explained by the scientific practices and if cannot, it is something undesirable, dangerous and vexing for Sax as he calls it “the Great Unexplainable”. The scientific world is named as white, while the natural world is green:

The white world inside the green, the opposite of Hiroko’s green world inside the white. And they [Hiroko and Sax] had opposite feelings about them. Looking from the green side, when Hiroko confronted something mysterious, she loved it and it made her happy—it was *viriditas*, a holy power. Looking from the white side, when Sax confronted something mysterious, it was the Great Unexplainable, dangerous and awful. He was

interested in the true, while Hiroko was interested in the real. Or perhaps it was the other way around—those words were tricky. Better to say she loved the green world and he the white. (*Green Mars*, 15)

These two strong forces play a crucial role in the ideology of terraforming, however there is a necessity for the combination of the two visions in order to proceed on a united path, as Michel expresses: “In archetypal terminologies we might call green and white the Mystic and the Scientist. Both extremely powerful figures, you see. But what we need, if you ask me, is a combination of the two, which we call the Alchemist” (*Green Mars*, 15). Leane also analyses this unity of colours by borrowing a term from the quantum theory, chromodynamics, which refers to the characteristic of “quarks (the most fundamental of subatomic particles) associated with the strong force and termed, arbitrarily, ‘colour’”, she explains the semblance:

Quarks, like Mars, can be “red,” “green,” or “blue.” The reason that I find “chromodynamics” an enabling metaphor here is that this theory states that a quark cannot exist alone, but only in combination with other differently coloured quarks, as a component of another type of elementary particle, a hadron. A hadron such as the proton must consist of three quarks whose combination is “colourless” or “white.” To produce ‘white,’ each of the three quarks must be a different ‘colour’: one “red,” one “green,” and one “blue.” Quantum chromodynamics thus insists that “colours” must always be combined, must always exist in concert, but combinations can change, can interact dynamically. (147)

Robinson uses the color “white” or the non-color to symbolize science, and she notes that, for Robinson, “a true utopian science must acknowledge these ‘colored’ perspectives and maintain them in a dynamic union”, furthermore, as the trilogy collapses the notion of just creating a planet for scientific purposes, it is “not a dry sample of hard science fiction on the level of ‘the NASA manuals,’ but rather an attempt to make the colored – the politicized – nature of science apparent, not in order to obliterate or ignore it, but to suggest a utopian chromodynamics” (Leane, 148). Actually, she responds to some of the harsh reviews of the trilogy even by the readers of *New Scientists*; for example, John Gribbin comments that the novels are like “the NASA manuals” and “all science and no fiction”. (qtd. in Leane 146). The appreciation of the spiritual and scientific forces confutes such claims as well.

On the issue of science’s function of creation, the leading figure among all the first scientists on Earth, John Boone, mentions a concept “cultural DNA” introduced by Richard Dawkins who coined the “meme”, the abbreviation of “mimeme” in order to

refer to the fundamental unit imitating the past memories and thoughts, rather than replicating as happens in our genes. John asserts that “we have the DNA pieces of culture all made and broken and mixed by history, and we can choose and cut and clip together from what’s best in that gene pool, knit it together [...] a bit from here and there, whatever’s appropriate” (*Red Mars*, 379). Here, John talks about how far they have proceeded in genetic engineering, if they can create a new planet with genetically engineered units and technology, then why not it can be a social one by choosing, cutting and clipping to create the best from the gene pool. It is not a monster-like old dream of Frankenstein’s, but on the contrary, it is a postmodern idea of genetically engineering the human memes by producing a rich unity in one body. Robinson’s multicultural and polyphonic narrative voices seem quite appropriate for this ideal.

5.1.1. The Collapse of the Ideal of Utopia on Mars

Utopic dreams might end up with a dystopian nightmare resulting from political conflicts with disastrous outcomes such as wars, nuclear bombings and massacres. Marx and Engels describe this situation as “the common ruin of the contending classes” (“Manifesto of the Communist Party”, 474). Mainstream utopia in science fiction falls into the third category of utopian fiction; that is a critical utopia, in which there is a continuous tension of the conflicts between the prevailing socio-politically established world and the possibility of a utopian society with a drastic change. Yanarella identifies critical utopia as narratives that “dwells on the continuing dialectics of solidarity and difference, order and chaos, the qualitatively better and imperfections within the ambiguous utopia or heterotopia of the future, but without trying decisively to resolve those tensions” (8). The ambiguity and continuous change of the critical utopian narratives derive from the perception that they are collections of unfulfilled desires of certain people, community or groups within specific social, political and historical contexts.

Before discussing the nightmarish end of the dreams on Mars, it is better to discuss how the trilogy has a critical utopian narration. The Mars trilogy’s dialogical formation and polyphony present us a utopian world, even it can be said to be ecotopian together with the distinct imaginary economy and politics, which struggles against the disorder. Jameson considers the Mars trilogy as an achievement in utopian fiction and states in his *Archaeologies of the Future* that: “The utopian text is not supposed to

produce this synthesis all by itself or to represent it: that is a matter for human history and for collective praxis. It is supposed only to produce the requirement of the synthesis, to open the space into which it is to be imagined” (409). Jameson argues that such kind of convincing, polyphonic imaginations

dramatize our ideological objections and resistances to Utopia fully as much as they satisfy our impulses toward it. Unlike the ‘monological’ utopias of the tradition, which needed to dramatize a single utopian possibility strongly because of its repression from Terran history and political possibility, this more ‘polyphonic’ one includes the struggle between a whole range of utopian alternatives, about which it deliberately fails to conclude. (*Archaeologies of the Future*, 410)

The definition of utopia is tricky when considered it is a place that does not exist, but actually in many utopian narratives it is represented as another place existing somewhere else. It starts from imagination, and then comes into existence as the characters in the trilogy find out “on Mars. First an idea, then a place” (*Blue Mars*, 605). Utopian imaginations are merely creating some other possible worlds emphasizing the probability of another world’s existence. Jameson reveals that “Utopians not only offer to conceive of such alternate systems; Utopian form is itself a representational meditation on radical difference, radical otherness, and on the systemic nature of social totality” (*Archaeologies of the Future*, 4). In the utopian narratives, there is also a hope for multiple worlds within the other imagined world. This frames us a kind of social totality combined with Bakhtinian polyphony, and as Jameson points out: “This dialectic accounts even more persuasively for the ambivalences of the Utopian text as well: for the more surely a given Utopia asserts its radical difference from what currently is, to that very degree it becomes, not merely unrealizable but, what is worse, unimaginable” (xv). Robinson’s utopian trilogy reflects this in a way imagining a democratic transnational society “built on an ecologically mediated nature”: “Literature and literary studies now have one basis and goal: to nurture our bonds to the planet—to replace the imaginaries of exclusionist familialism, communitarianism, nationhood, ethnic culture, regionalism, ‘globalization,’ or even humanism, with the ideal of planetarianism” (5). The setting of Mars trilogy on a completely new planet with new ideals for the future explains this goal. Upon the arrival of the first crew on Mars, Robinson reveals his imagination of creating a utopian world on this “blank red slate” starting from zero by leaving all the chaos behind back on Earth:

it loomed before them in all its immense potential: tabula rasa, blank slate. A blank red slate. Anything was possible, anything could happen—in that sense [the settlers] were, in just these last few days, perfectly free. Free of the past, free of the future, weightless in their own warm air, floating like spirits about to invest a material world. (*Red Mars*, 85)

Moving to Mars is Robinson's attempt to erase any records of humankind's history instead of fighting for correcting the mess full of terror, violence and bloodshed on Earth. This utopic vision is like closing the black book of humanity with so many insolvable problems and opening a brand new one on a new planet by leaving the old life behind. This grants a readymade antidote for the whole deadly diseases and all kinds of crises. By escaping the ashes of the old world, the settlers on this blank red planet reflects the classical understanding of a Promethean worldview in which nature is accepted as a pure substance waiting to be shaped, changed and controlled by humans. Therefore, Robinson's utopic intentions on Mars seem to be too anthropocentric as it does not appreciate the intrinsic value of non-human world and it acknowledges human beings as ultimate power authority. The critics Sherryl Vint and Mark Bould support this view; and they also claim that Robinson not only positions human beings as the master on this new planet but also he sets them free from the responsibilities of the environment including animals, plants and all the non-human organisms back on Earth. By clearing "the major groups of non-human actants— plants and animals—" (258) off stage like the peasants in the classical interpretations of Raymond Williams on the English countryside poems. These non-human "actants" are "cleared from our view so that, like the aristocrat or the new bourgeois landowner, we can savor, untroubled, Robinson's Arcadian prospects" (259). As the setting is blank, there is no burden for the humans. There is no history or nature ready for the future either. It does not exactly meet the dreams of those who think that another world is possible to live; nevertheless, it produces the utopian imagination that stimulates the alternative future in a different setting. Jameson explains that: "utopia as a form is not the representation of radical alternatives; it is rather simply the imperative to imagine them" ("If I Find One Good City", 64). This utopian form opens up a space between our present world and the future Martian world, and it causes us to imagine something different. Imagining something that is not possible for the moment might change the outline of the possible future.

Darko Suvin specifies the definition of utopia in literary texts as such: "Utopia is the verbal construction of a particular quasi-human community where sociopolitical

institutions, norms, and individual relationships are organized according to a more perfect principle than in the author's community, this construction based on estrangement arising out of an alternative historical hypothesis" (*Metamorphoses of Science Fiction*, 49). Despite the fact that many utopias are set on a different place by creating a new society in the future, they are also the shadows of the past. Observing most of the utopias as replications of historical moments, Jameson mourns for the incurable disease of our time to intolurate the differences and the impossibility to reach the moment of posthuman in a real sense by getting rid of our haunting pasts:

we have been plagued by the perpetual reversion of difference and otherness into the same, and the discovery that our most energetic imaginative leaps into radical alternatives were little more than the projections of our own social moment and historical or subjective situation: the posthuman thereby seeming more distant and impossible than ever! (*Archaeologies of the Future*, 211)

Setting out to realize this impossible dream, the Mars trilogy mainly intends to build a new civilization by leaving the Earth behind and by looking forward for the better. Nonetheless, it is impossible to be separated from the past and history of those people. Past and future are mirrors to each other, which mutually impinge upon the shape of both, so do Earth and Mars. One of the four Martian visitors on Earth, Nirgal speaks to the Earthling crowd:

Mars is a mirror [...] in which Terra sees its own essence. The move to Mars was a purifying voyage, stripping away all but the most important things. What arrived in the end was Terran through and through. And what has happened since there has been an expression of Terran thought and Terran genes. And so, more than any material aid in scarce metals or new genetic strains, we can most aid the home planet by serving as a way for you to see yourselves. As a way to map out an unimaginable immensity" (*Blue Mars*, 172).

"Mars is a mirror in which Terra sees its own essence" is the key expression explaining the relationship between the two planets and similarly, Terra also has reflections from Mars. They have carried the Terran ideas and genetics to Mars, they bring the metals in scarcity and new genetic developments in return, but significantly the biggest help is to let them see themselves through these mirror planets. Mars is seen as a new library composting all different ideas, practices, philosophies, socio-economic relationships required to meet the need of newly developing society. Robinson reveals that people gain consciousness by learning more about their dependency on each other

and on their planet, this interdependency is explained by Nirgal as the best way “to live for giving, in a culture of compassion” (172).

Utopias often show the tendency to find an alternative life to replace the spoilt peace and harmony of the present one. According to Tom Moylan, Robinson’s narration “shares with the critical utopias a politically informed willingness to meditate upon its own textual limitations and opportunities” (4). With the intention of reaching to a consensus towards a more egalitarian society on Mars, the characters in the trilogy fall into the same deadlock that their ancestors did on the planet they left behind: “The future becoming the past: there was something disappointing in this passage through the loom, this so- sudden diminution from infinity to one, the collapse from potentiality to reality which was the action of time itself” (*Blue Mars*, 153). The possibility of creating their utopia on Mars is shadowed by the ghosts of the past and Robinson shows this disappointing process through the loom. This loom shows the production of future: the improvements as well as the destructions, deaths, lost voices, missed opportunities, unattained alternatives and all crises on both planets. Nevertheless, Robinson’s narrative aims to reach an unreachable harmony through this loom. Dynes appreciates Robinson’s dialogical narrative with the intention of creating a rich utopian society:

Read as a whole, the Mars series evokes a utopian call for community: of wholeness within the self, within interpersonal relationships, within political and economic entities, within the species itself. This unity, however, comes not through a creation of shared identity, nor through a hierarchical subordination of the many to the few. Rather, true community is realized in syncretism—messy, complicated, frustrating, but in the end enriching and fruitful. (151)

Robinson’s utopian community is a synthesis of complex, disorderly and irritating interpersonal relationships with scientific, economic and political concerns, which aims as a whole to achieve a rich and productive unity. Robinson’s open-ended narrative voice gives the hint of a utopian world in an uncompleted process rather than a fixed prototype, as he puts it: “Joanna Russ talks about changing the term from Utopia to Optopia, meaning “the optimum possible” – a continuous, dynamic process. Even HG Wells in his Utopian writing would often talk about this kinetic process rather than reaching any kind of stasis” (qtd. in *Terraforming*, 186) He follows the utopian writings of H. G. Wells who prioritizes social problems such as social justice and equal rights, and then more ontological issues, metaphysical and transcendental arguments could be discussed as in the Mars trilogy. Rather than describing a stable utopian world,

Robinson endeavors to reach a better society as in Wells' description: "The Modern Utopia must be not static but kinetic, must shape not as a permanent state but as a hopeful stage leading to a long ascent of stages" (Wells, 5).

Jameson states that Robinson's Mars trilogy is a unique example of representing a new formal tendency in which "it is not the representation of Utopia, but rather the conflict of all possible Utopias, and the arguments about the nature and desirability of Utopia as such, which move to the center of attention" (*Archaeologies of the Future*, 216). At the beginning, all the characters in the trilogy think that their new home on this planet will be their own utopia, however, with all the divergent ideologies, expectations and ideas, the land turns out to be heterotopia as noted by Jameson confirming Foucault's initial analysis. Robinson's new form is organized around apparent facts, multiple ideologies and radical differences. His utopia includes all "bitter disputes around alternative diagnoses of social miseries and the solutions proposed to overcome them", thus "the formal center of gravity then begins to shift precisely to the question of those differences" (216) with his major figures in the Martian settlers who has a variety of opposing ideas in any important subjects. Because of the dialogical formation of Robinson's narrative, Jameson states that:

What is Utopian becomes, then not the commitment to a specific machinery or blueprint, but rather the commitment to imagining possible Utopias as such, in their greatest variety of forms. Utopian is no longer the invention and defense of a specific floorplan, but rather the story of all the arguments about how Utopia should be constructed in the first place. It is no longer the exhibit of an achieved Utopian construct, but rather the story of its production and of very process of construction as such. (217)

Jameson supports the existence of many divergent communities in which people conduct different lives in different situations, especially within continuous conflicts. Therefore, the Mars trilogy is a prominent example driving the readers to think about the planet and the problems about it, especially those ones that are created by human actions. Even though Robinson sets its new society free from the burdens of the present, the new structure ends up with a replication of the old one. In an interview, Robinson himself describes utopias as a driving force and a project in process towards a better society:

The people who put down Utopia as 'pie in the sky,' impractical, and totalitarian—all that is a political stance, aiding the status quo [...]. Utopia has to be rescued as a word, to mean 'working towards a more egalitarian

society, a global society.’ Which means at every point defending it, going to the mat for the term and for the concept of Utopia.” (Foote, 56)

His understanding of a utopian world could never actually come to an end in the trilogy; it has always been in progress for the best of humanity. “Working towards a more egalitarian society, a global society” is the key point here as Robinson does not give a ready-made utopian world but he pushes the imagination of the readers to work toward a better one. His utopian impulse motivates the people to work for an environmentally conscious and a socially just society, and they face the consequences of their struggles in the end. Thus, Martian life is a plan in progress that not only critics but also the characters question from the beginning to the end of the trilogy by the help of dialogical formation of its narrative. There are various voices questioning the structure, the content and the way to create this new society through debates of conflicting ideas and temporary agreements. Those separatist ideas are the additional factors contributing to shape the narration of the trilogy besides Robinson’s blank setting towards his utopian world.

Although it could never reach the desired ideal world, the Mars trilogy stands as a millstone in the utopian literature with its progressive narrative towards a better world rather than a simple end state. In the trilogy, from the early moments of their arrival on Mars, Arkady has always wanted to create a utopian civilization on this new planet by going back to the concerns of prehistoric times of the world by desiring for getting full independence. He and the people like him are volunteers to fight to keep things the way they were: “There are people who loved the feel of life as a scientist primitive, so much that they will refuse to give it up without a fight” (*Red Mars*, 343). This reveals the sabotages in different places as Arkady accepts that: “Mostly the sabotage is done by people who want to keep Mars the way it was before we arrived. I am not one of those. But I am one of those who will fight to keep Mars from becoming a free zone for transnational mining. To keep us all from becoming happy slaves for some executive class, walled in its fortress mansion” (343-44). All they want is not to be a slave for this capitalist mining business, but Arkady’s method of revolution is open to debate for the good of all.

Revolution plays an important role in the constitution of a utopia. The revolution leader Arkady claims that their existence on Mars from the first moment is the beginning of their utopia. They arrive on this planet with very few things and they

fight for survival which is very much like the men's struggle in the prehistoric way. These preconditions suit to Thomas Moore's fundamental principle of the absence of money or from Freudian analyses of unconscious free from the concept of money, but not the focus here anymore. Instead, it is emphasized that the essence of their brains is to recognize that kind of practices for three million years and to adapt this life easily. Arkady states that they are powerfully attached to this kind of life when they have this chance on Mars, because everything in reality is done to stay alive, to make new things or to satisfy their curiosity. Therefore, their small community on Mars is their utopia: "That is utopia [...] especially for primitives and scientists, which is to say everybody. So a scientific research station is actually a little model of prehistoric utopia, carved out of the transnational money economy by clever primates who want to live well" (*Red Mars*, 342). This is their utopia but it is supported and controlled by the transnational companies. As a socialist character, he does not want to contribute to the desire of the capitalist investors for the future, "the people who pay for the scientist islands will eventually want a return on their investment" (342).

When the failure of a Utopian ideal is considered, Jameson asserts that "at best Utopia can serve the negative purpose of making us more aware of our mental and ideological imprisonment [...] therefore the best Utopias are those that fail the most comprehensively" (*Archaeologies of the Future*, xii). The Utopian imaginings on Mars remind us of our own failures and our mental confinement, thus they are already doomed to collapse. The first Martian leader John is probably right in his optimistic view that they might change this profit-based cooperation by just talking and making a new Mars treaty accordingly. He simply thinks that they are at an advantageous point compared to the 1760s North America: "we're at a great distance, and we're in possession. The important thing is not to fall into their way of thinking, into all the same old violent mistakes!" (*Red Mars*, 348) Taking lessons from the old mistakes and not repeating them is the key point of the trilogy, on the other hand, it turns out to be the same in the end. John thinks that revolution is not a solution, it has been tried before, and thus they need a better one:

Revolution never even worked on Earth, not really. And here it's all outmoded. We should be inventing a new program, just like Arkady says, including the ways to take control of our fate. With you all living a fantasy of the past you're leading us right into the repression you're complaining about! We need a new Martian way, a new Martian philosophy, economics, religion! (348-49)

John explains these new Martian modes of thought as “it will feel like the first years here, when we were a group and we all worked together. When there was no purpose in life except to settle and discover this place, and we all decided together what we should do. That’s how it should feel” (*Red Mars*, 349). Nonetheless, John’s ideas look like his own fantasy of the past as Marian states words will not save us or change anything, “It’s like you’re holding a philosophy class in a giant gold mine, with armies bearing down on both sides” (349). John declares that he is talking about the methods for resistance, and appropriate methods for their real situation, and not “some revolutionary fantasy out of the history books!” (349), he wants to change their views if he can. John asks a critical question to Frank about why they came here and Frank offers a good analysis of the true reason of their being here in a sarcastic way:

Because Russia and our United States of America were desperate, that's why. Decrepit outmoded industrial dinosaurs, that's what we were, about to get eaten up by Japan and Europe and all the little tigers popping up in Asia. And we had all this space experience going to waste, and a couple of huge and unnecessary aerospace industries, and so we pooled them and came here on the chance that we'd find something worthwhile, and it paid off! We struck gold, so to speak. Which is only more gasoline poured onto things, because gold rushes show who's powerful and who's not. And now even though we got a head start up here, there are a lot of new tigers down there who are better at things than we are, and they all want a piece of the action. There's a lot of countries down there with no room and no resources, ten billion people standing in their own shit. (353)

Frank thinks that this is not Earth’s falling apart, but it would be a complete explosion for both worlds and for all people depending on the new treaty on Mars: “if this damned treatment only goes to the rich, then the poor will revolt and it’ll all explode—but if the treatment goes to everyone, then populations will soar and it’ll all explode. Either way it’s gone! It’s going now!” (*Red Mars*, 353). The time passes so fast and the beginning of this explosion might be in a split second. When John thinks about the first years on Mars while looking at all these constructions, he could not understand how they have reached to this point: “And now it had come to this, in what seemed the blink of an eye. In the gloom of the Great Storm. Civilization, corruption, crisis. Murder on Mars” (358). The outcomes of all these crises might be millstones as Phillip E. Wegner notes that the scarcity of vital things in a society is “the very condition...that enables the utopian world to come into being,” meanwhile it

simultaneously constitutes “a permanent threat to [that world’s] continued existence” (176).

Jameson argues that the universal belief of capitalism has currently created such a dictum that there is no alternative to Utopia and there is no natural enemy left standing against the late capitalism despite all the socialist and communist movements. Here, he actually refers to Reagan and Thatcher’s slogan “there is no alternative to capitalism” and he transforms it into “there is no alternative to utopia”. Jameson revises their idea that “it is easier to imagine the end of the world than to imagine the end of capitalism”, by pushing us to the task of change to witness the end of capitalism rather than to see the end of our dear planet. The fundamental task is here to put an end to the historical repetitions in order not to face a future that is a replication of past mistakes. It is necessary to handle a postmodern approach to history and future, as Canavan questions: “How then to imagine a history in which modernity’s ongoing destruction of nature does not itself carry the weight of an immutable law of nature? Where might we even begin?” (“Introduction”, *Green Planets*, 14) More powerful than an enemy, the common belief has turned out to see that this tendency of uprooting the present system is unalterable and all the historical alternatives are unreasonable and unachievable, nonetheless:

The Utopians not only offer to conceive of such alternate systems; Utopian form is itself a representational meditation on radical difference, radical otherness, and on the systemic nature of the social totality, to the point where one cannot imagine any fundamental change in our social existence which has not first thrown off Utopian visions like so many sparks from a comet. (*Archaeologies of the Future*, xii)

Following Jameson’s claim that in order to “see traces of the Utopian impulse everywhere” it is required “to naturalize it and to imply that it is somehow rooted in human nature” (10), and from this point, once can clearly see that the politics of the Mars trilogy is actually utopian from the beginning to the end. Even in the last pages of the trilogy, there are traces of this form revealed by Ann when she thinks about the Martian land that endured all the things: “On Earth they would never know what it was like, never [...] They would never know; it could not be imagined” (*Blue Mars*, 753). In a way, it is pointed out here that Mars is a utopian planet even unimaginable to the minds on Earth, it is a place that does not exist or impossible to imagine. However as a Martian, as a living character of this utopian world, “she had known” (753). This is also

emphasized in the last page as a closure of the trilogy when Ann thinks about all the achievements they have had so far on Mars. She admits that the world they have created is very pretty, because “Nowhere on this world were people killing each other, nowhere were they desperate for shelter or food, nowhere were they scared for their kids” (*Blue Mars*, 761). The word “nowhere” is emphasized here intentionally as a reference to this imaginary utopian world that does not exist or cannot be imagined by anybody except Martians. The Mars trilogy, therefore, allows the readers to enter the worlds exist on their own here and to experience an imaginary experiment of impossible future possibilities on an imaginary planet.

Jameson describes the objective preconditions for a Utopia as a social situation with a possible solution in which “the miseries and injustices thus visible must seem to shape and organize themselves around one specific ill or wrong” (*Archaeologies of the Future*, 12). He emphasizes that the remedy must initially be a fundamentally negative one that “stand as a clarion call to remove and to extirpate this specific root of all evil from which all the others spring” (13). He further adds that this is the reason why it is “a mistake to approach Utopias with positive expectations, as though they offered visions of happy worlds, spaces of fulfillment and cooperation, representations which correspond generically to the idyll or the pastoral rather than the utopia” (13). Nevertheless, Jameson ends his analysis of utopia with a deceiving stereotypical idea by giving voice to “the most archaic longings of human race, [...] the impossible and inexpressible Utopian impulse”, that is: “Happiness for everybody! ... Free! ... As much as you want! ... Everybody come here! ... HAPPINESS FOR EVERYBODY, FREE, AND NO ONE WILL GO AWAY UNSATISFIED!” (295)

5.2. Is it fiction at all? Future Possibilities of Human Transfer to Other Planets

The close connection between the real history of the world and the narration of the Mars trilogy has already been discussed before. The historical events and the same problems such as “the power of capital, the imperatives of technology, the roots of community in shared action, the tensions between planetary and parochial values, the moral complexity of social choices, the power of past choices to constrain and direct the present” (Abbott, 79) are repeated constantly with the intention of building a new society despite recurring failures. Robinson himself declares his being fascinated by history as a common attitude of science fiction writers:

For a long time, I've been saying science fiction itself is a historical genre: every text has within it (implicitly or explicitly) a history that runs back to now. To make a quick distinction between science fiction and fantasy – at least a first cut – science fiction is set in the future with as history that runs back to now, and fantasy dispenses with that connection and takes place in some historical bubble space of its own. (*Locus*, 58)

Therefore, Robinson tries to write the history of our own reality for the future imaginings in his narration. Robinson explains that using some scenarios such as the West Antarctic Ice Sheet's slipping into the sea in *Green Mars*, "just in order to create so much chaos that it would seem more plausible that Mars could successfully secede from Terran rule", is not pessimism but "brutal focus on making plots seem realistic" (246)

Robinson's realistic depiction of the Martian landscape and the details of the whole terraforming experiment might cause the reader to forget the truth that it is just a parallel to real life. The primary reason for that is the closeness of its subject to the current environmental problems at stake such as global warming, climate change, population bomb, the extinction of natural resources etc. Robinson notes in his essay that "Terraforming is climate change with a vengeance, and pretty early in writing my Mars books, while reading about the various environmental problems that were going to be caused by global warming, it occurred to me that we were already terraforming Earth, in the here and now, but by accident, and in ignorance of how it worked or what might happen" ("Imagining Abrupt Climate Change", 347). The vital issue of climate change has been moved to a wider context at terrestrial level. Therefore, the conflicts and solutions on ecological issues concerning terraforming serve as analogy as well as operating as criticism of what have been done and as experimentation of what can be done to save the planet. By producing alternatives to have a more ecologically aware society, Robinson asserts that "as I wrote my Mars novels it was always present in my mind that what I was describing as happening on Mars—the conscious and successful management of an entire planet's biosphere—might serve as a model for what we will have to do on Earth too" (348). This modelling to Earth is obvious throughout the trilogy, which makes the narration more powerful in terms of its realistic goal. Robert Markley writes, "Robinson uses the terraforming of Mars to rethink the complex relationships between planetary ecology, the interlocking systems that create and sustain the tenuous, seemingly miraculous conditions that allow life to flourish, and political

economy, the distribution of scarce resources among competing populations and interests” (357). Markley notes that the Mars trilogy “offers a carefully nuanced thought experiment in the greening of science, economics, and politics” different from “utopian longings” which mostly describe a static ideal imagination (357).

Future imaginings for humans to dwell in a different habitat have a unique characteristic, similar to all terraforming activities sharing one goal: to create a home for homo sapiens. When plants spring out everywhere by creating a colorful scenery, the metaphor for home once again shows itself as if the land looks like a huge canvas on which the new home in nature is painted:

The diversicolored palette of the lichen array; the dark green of pine needles. Bunched sprays of Hokkaido pines, foxtail pines, Sierra junipers. Life's colors. It was somewhat like walking from one great roofless room to another, over ruined walls of stone. A small plaza; a kind of winding gallery; a vast ballroom; a number of tiny interlocked chambers; a sitting room. Some rooms held krummholz bansei against their low walls, the trees no higher than their nooks, gnarled by wind, cut along the top at the snow level. Each branch, each plant, each open room, as shaped as any bonsai-and yet effortless. (*Blue Mars*, 88)

The concept of “home” or desire to call a place home by creating such an imagination holds a significance place in human life. But what and where is home exactly? The people on Mars used “back home” when they talk about Earth as it was their former home. When they first came to Mars, it was all foreign to them, later they make it their home. When Ann and her expedition team return to their first base camp in Underhill after spending months over the untouched places of Mars, they become so happy and Phyllis cheerfully says: “Home again home again” (159) While observing the meeting of the group members again after a while and joyfully sharing the latest news, Ann also feels that she is at home. However, after these homes that they built with difficulty perish in the revolution, they have to seek for a new home. At the end of *Red Mars*, when they finally arrive at the village of Hiroko and of the last people who could escape from death, Maya cries: “What is this place?” and Hiroko answers “This is home. This is where we start again.” (572) This final sentence of the first book of the trilogy reveals that there is no end in seeking for home and it is a place where people restart everything from the beginning. But the questing is “What for?”, to destroy it again! The concept of “home” and “seeking for new homes” will always be present in different places and times by constantly changing, unless the humanity does not change

the mentality that brings them to the edge of this tremendous destruction of worlds, both on Mars or on Earth or any other possible planet. The only thing that has not changed for generations is the destruction itself, thus this may be because of the fact that the desire to destroy lies in the nature of man. Here, it is vital to question the possibility of changing this destructive nature of humankind. It may seem like a futile effort either to try to change or to get out of this vicious cycle, but the Mars trilogy highlights the fact that there is always a way out.

As analyzed above, Robinson's narrative in the Mars trilogy functions to depict the reality with the aim of changing the corrupted and detrimental systems both for human life and ecological world such as capitalism, patriarchal exploitation of nature etc. By questioning the old systems to change for the better in his utopian world, Robinson "challenges these well-worn conventions by emphasizing community rather than heroism, civic life rather than adventure, and environmental management than economic opportunity" (Abbott, 69).

5.2.1. The Simulations on Mars: the Mars Trilogy as Preparedness Media

In his introduction to *Future Primitive*, Robinson emphasizes that science fiction is not a mere representation of the past, historical events, but, on the contrary, it is a kind of simulation of what this event or any other experience might look like in the future. From a Lacanian perspective, simulation is not a reflection like a mirror, but a generation of it like a program. Its difference from the imitation is that science fiction offers imagination beyond the limits of time, history, culture, place, people etc. Therefore, Robinson's Mars trilogy is a simulation of terraformation that includes the science of creating a biosphere to foster the plants' habitat and altering the biochemical structure of Martian atmosphere to let human civilization live on this planet. In this respect, the Martian trilogy, as Markley asserts, can be interpreted as "simulations that paradoxically remain open to stochastic self-organization, thought experiments that engage the contingencies on which most utopian aspirations founder: social unrest, economic competition, psychic crises, national rivalries, racial hatreds, official violence, greed, stupidity, and environmental degradation" (126). The successful setting of imaginary geographical landscape and planetary bioengineering blurs the distinction between the fiction and reality in which scientific simulations are experimented on possible ecologies.

In the trilogy, it is also possible to see a simulation sample within the whole experiment. Arkady's training simulations on Ares are examples of reflectivity that the first people travelling to Mars will be experimenting on. Like these simulations, the narration of the trilogy serves to train the first settlers on the possible problems or any emergency situations that they might face in the process of landing on the Martian surface. Besides the possibly anticipated cases, there are some incredible scenarios as calculated by Sax with "about a one-in-ten-billion chance of happening", and in spite of this impossibility, the participants to these simulations can feel "adrenaline pouring through them even as they pooh-poohed the very idea of" these simulations they take part in (*Red Mars*, 42). Even though the characters are aware of the replication of reality, they cannot help themselves to feel that they are real as they are "so sophisticated that there was little visible difference between them and the act itself" (*Red Mars*, 41). By learning from these anticipated experiences, they become ready to be faced with the new challenges with different scenarios. Similarly, the Mars trilogy offers the simulation experiences to its readers before humans' arrival on Mars, as Markley states, Robinson's novels "can be read as simulations that paradoxically remain open to stochastic self-organization, thought experiments that [...] blur distinctions between fictional and scientific simulations of terraforming" (*Dying Planet*, 362). They are not the reality, but the possible future experiences on a possible planet for humans to live. In this "gigantic laboratory" as in Jameson's description of the trilogy, multiple possibilities exist in extraordinary ways that "can scarcely be mastered by equations let alone by the computer itself" (*Archaeologies of Future*, 395). The power of simulations is far greater than computer calculations for future predictions by granting involvements to corporeal probabilities.

Manuel DeLanda also discusses a worldview, which is attainable partly via the modeling of properties through the simulations on Mars: "emergent materialist world view that finally does justice to the creative powers of matter and energy" (6). "Mineral" or "rock" ethic Ann strongly defends is a sample for this kind of simulation in a more liberal way instead of urging a kind of revolution. Ann and her followers, the Reds, suggest a democratic way of claiming ecological rights from the official authorities rather than attempting actions like eco-sabotage: "go into the cities and start a tour group, and a legal fund. Show people the land. Sue every change they propose" (*Blue Mars*, 273). Her emotional connection to the land meets with metaphysical

understanding of the Reds, which creates the mainstream Martian society and can be translated discursively in their politics.

From a different perspective, Martian simulations provide some forms through which the future can be experienced beforehand in spite of the possibility that it might never come true in reality. These forms are called as preparedness of media and these models are literally used to create the future we assume to see by reading about it. In *Blue Mars*, GECO, that is Global Environment Court, uses simulations to test their plans of constructing the planet's hydrography, "designating all the future major lakes and rivers and streams" on Mars. They have to wait for the court to "evaluate the models", which then "prescribe a sea level" and "approve all watersheds accordingly" by correlating all the current data (325). It is highlighted that "the fate [...] seemed impossible to decide at this point" (325) before the estimations of the plans, but after the court "gave the plan a positive preliminary judgment [...] there was no reason to delay beginning" (326). The court uses artificial models formulated by the scientists to test before the actual construction of the future hydrography on Mars. These models are absolutely beneficial predictions of the trilogy's future narration, which serve as blueprints throughout the progress towards the future before the readers' eyes.

The preparedness of these simulations also provides the adaptability to the unpredicted future alterations. The simulations grant a logical preparedness to produce mental security against approaching inevitable future catastrophes. It is a kind of individual training preparing the ground for some unique catastrophes breaking the present suddenly, like unanticipated apocalyptic catastrophes, and turning them into some incidents that can be quite easy to foretell by making them a part of our lives thanks to our prior experience of it. Therefore, the simulations in the trilogy and the trilogy itself as a simulation act like a security media preparing for the possible steps to take for future crises rather than being just alarmist rhetoric. The Mars trilogy offers so many radical examples of future changes, mostly catastrophic like revolutions, bombings, floods, population problems; on the other hand, there are also some promising changes such as the death of capitalist system or anthropocentric worldview on the new planet with the existence of new ecocentric view of eco-economics and the biogenetic developments on Martian bodies together with the newly existing biosphere, bio-engineered plant and animal lives on a different planet. By witnessing all of these, we are prepared for a future that has already happened before our eyes.

The Mars trilogy provides the secure grounds for the readers that they live in a world of constant and sudden changes, and they have to be prepared for handling those unexpected crises during the process of ordinary life. Robinson highlights the fact that radical shifts might happen at any time in our daily lives; it should be an ordinary activity to adapt these future differences. The discursive narration demonstrates an already existing future before our eyes, but in a constantly fluctuant way turning into something else in any moment rather than a static situation of change. Multinarrations and a great variety of characters also contribute to building the ground for the management of the catastrophes from multiple perspectives. The preparedness for similar crises and managing experiences with them in a variety of ways hold a significant place in our constantly changing postmodern world promising an identical radical future. The preparedness has a welcoming effect on the catastrophes rather than an escape from the management or lightening the influence of drastic changes. Therefore, such preparedness media like the Mars trilogy trains us to perform at the moment of already present catastrophe by accepting the change in its precise but temporal manner and by seeking the best ways of adapting to it.

5.3. Solutions and Suggestions for a Better Future Away from the Crises:

A Multigenerational Perspective of Robinson in *Blue Mars*

“The twentieth century, it is safe to say, has made all of us into deep historical pessimists.” – Francis Fukuyama, *The End of History and the Last Man*, 3

“The future is already here—it’s just unevenly distributed.” – William Gibson⁹

Jameson describes the new paradigm of longevity treatment as “the increasing class polarization of the advanced countries of late capitalism”, which is a modified form of the old familiar paradigms of ecological disaster or overpopulation scenarios. He states that the longevity narrations, therefore, “stand as an enlargement of the possibilities of the near-future sub-genre, deploying the attempt to imagine future technologies in the service of the expression of the deeper and more obscure fears and anxieties” (*Archaeologies of the Future*, 343). In the Mars trilogy, the new discovery of auto-repair genomic library that is applied to the original DNA that will replace the broken strands and keep them from breaking means that people will live much longer

⁹ <https://quoteinvestigator.com/2012/01/24/future-has-arrived/> Accessed on 09.04.2019.

than before. From a Malthusian perspective, “news of a longevity drug loose on Mars, back among the teeming billions” (*Red Mars*, 289) is terrifying to consider as it is not so expensive and can be applied to everyone on both planets. The critical question here is “Will they do this for everyone?”: “It’s very possible you could inoculate everyone on Earth. But the population problem down there is already critical as it is. They’d have to institute some pretty intense population control, or else they’d go Malthusian really fast. We thought we’d better leave the decisions to the authorities down there” (289). John and Maya call it “immortality plague” or “longevity plague”, which they could not really believe in. They imagine that they will no longer be themselves as their DNA will work like they were ten years old even though they are sixty five in reality and their deaths will be delayed for a while. The wish of every lover who wants to live forever might come true with this new step in human history as John and Maya imagine themselves living for a very long time even their great-grand kids’ having kids and “they might watch a whole nation of descendants flourish, become patriarch and matriarch, a kind of mini Martian Adam and Eve!” (294). Of course, even this idea will change the human life drastically because “When you expect to live another two hundred years, you behave differently than when you expect to live only twenty” (295).

The reactions of the people on Earth are terrible when it has flashed all around the world, which is also reflected in the news. There have been fierce debates going on in the general assembly about this issue. Most of the delegates request that “the treatments be made a basic human right, guaranteed by the UN for all, with funding from the developed nations placed immediately in a pool to make sure that financing for the treatments would be equally available to all” (*Red Mars*, 324). According to other reports, “some religious leaders were coming out against the treatments, including the Pope; there were widespread riots, and some damage at certain medical centers. Governments were in a turmoil” (324). The TV just reflects angry and nervous faces that demand some changes for their lives simultaneously revealing the atmosphere full of hatred, misery and inequality through the developments (324). Jameson claims that:

In the most recent SF texts on longevity, however, what seems to be the deeper secondary line of reflection and allegorical intellection is the increasing institutionalization and collectivization of late modern or postmodern social life, as that seems primarily embodied in the vast transnational corporation, bigger than most governments, and virtually

impossible to modify or control politically”. (*Archaeologies of the Future*, 343)

Those effects on the late postmodern social life are drastically shaped by transnational corporations as power authorities even beyond the governments in the trilogy. From a Malthusian perspective, the countries on Earth are trying to enforce population growth slowdown or “population control” in forbidden terms in politics, while many countries proclaimed immigration illegal. For the countries whose population is growing very fast despite all regulations, like India by 8 percent a year, the solution is a Malthusian approach: “Famine would solve that, as it would in a lot of countries. The Four Horsemen were good at population control. Until then...” (*Red Mars*, 429). The Four Horsemen of the apocalypse refers to the story in the last book of the New Testament in which the chapter mentions a book in God’s right hand that is sealed with seven seals. Jesus Christ, referred as The Lamb of God, opens the first four seals and four horses are summoned in return: white, red, black and pale. The riders of these four horses are mostly interpreted as Conquest, War, Famine and Death, who are believed to bring the divine apocalypse upon the world. They are appreciated in the Malthusian logic on Earth, but it becomes dangerous for Mars when the emigrant viruses cause an outbreak of resistant tuberculosis and such examples are scary for the future of Mars if the same miseries of Earth are carried to the new planet. It seems impossible to escape from the realities of Earth as it has been falling apart for years and probably will infect Mars:

It’s been coming for years. Even before the treatment life expectancy in the rich countries was nearly double that in the poor. Think about that! But in the old days the poor were so poor they hardly knew what life expectancy was, the day itself was their whole concern. Now every corner shop has a TV and they can see what’s happening—that they’ve got AIDS while the rich have the treatment. It’s gone way beyond a difference in degree, I mean they die young and the rich live forever! So why should they hold back? They’ve got nothing to lose. (429)

They have nothing to lose but many things to gain like the people living on Mars, so they all desire to go to the new planet with a new start.

Robinson’s narration involves predictions on “what if” situations besides the ongoing conflicts, which will contribute to imagining more solutions rather than just focusing on the problems. The population problem, for instance, becomes a game under the name “Population Reduction” in which the group at Praxis comes up with different

proposals to solve the issue. Art Randolph's solution is a clever and funny one: "I would give everyone alive a birthright which entitled them to parent three-quarters of a child", which seems impossible at first, but he explains that "every pair of parents would thus have the right to bear a child and a half; after having one, they could either sell the right to the other half, or arrange to buy a half from some other couple and go on to have a second child" (*Green Mars*, 82). He not only offers a global solution but also claims to expect positive social consequences by supporting each other through individual choices.

As Frank suggest at a frustrating moment when he thinks that there are beggars and homeless people on the streets of the capital city on Mars and there are lawyers who pass by them every day whose freedom and justice talk is no more than a cover for their greed that "We're gonna do it different on Mars" (415). He insists that they must do something different in order not to turn Mars into a hell like Earth. Brand notes in his *Whole Earth Discipline* that in the case of a failure, mankind would have to face the unprecedented amount of Malthusian catastrophes. This possibility requires more sensitivity for the declining natural resources and severe climate change which pose a threat to human civilizations: "Humanity would revert to its norm of constant battles for diminishing resources. Peace lovers would be killed and eaten by war lovers" (*Whole Earth Discipline*, 3). Brand encourages the environmentalist by his opening line of the book "We are as gods and HAVE to get good at it." (1). He urges us to take conscious and careful actions from now on to end the thoughtless human terraforming of the planet for ten millennia and to save the climate as much as possible. Brand claims that the governments must lead this task, especially the world's four biggest energy consumers — the European Union, the United States, China, and India—: "The scale of the climate challenge is so vast that it cannot be met solely by grassroots groups and corporations, no matter how Green. The situation requires government fiat to set rules and enforce them." (20). He argues if all four do the right thing, then there's hope for us, "so far the European governments have led the way." (20). This is not just saving the climate of the planet but saving humanity as Brand directly states:

Our civilization caused climate change, and now it is undertaking to cause climate nonchange. At the end of the exercise (if it's successful), climate will be the same but civilization probably won't. We will be more transformed by our efforts to stabilize climate than by anything else we do in this century. If we fail to stabilize climate, our civilization will either be gone or unrecognizable. (*Whole Earth Discipline*, 20)

The transcendence of individual life has represented in a variety of forms in science fiction and mostly “functions as a readjustment of individual biology to the incomparably longer temporal rhythms of history itself”, therefore, the extended life spans of the Martian colonists “allow them to coincide more tangibly with long-term historical evolutions” (*Archaeologies of the Future*, 7). Nevertheless, Robinson demonstrates how selfish humans can be by just considering their own lifespan and ignore the next generation through the terraforming ideas of one of the new Martian natives, Zo. He explains his plan of expanding terraforming projects to include the solar system and other planets in the universe. Ann reacts to this terrifying plan, as it will transform Jupiter into a very hot planet like sun and this will cause a nova. In the end, the entire solar system might be annihilated as a result of Zo’s terraforming plans. His response is as horrible as his plan “But by that time we’ll be long gone, one way or another. Or if not, they’ll figure something out” (*Blue Mars*, 530). This is actually the voice of many people living carelessly by disregarding the future generations.

Jameson shows the other face of the new longevity narrative, which is “the bad trip, the obscure and deep-rooted depression in the face of an uncertain future, in which the function of immortality is only to revivify images of transnational eternities” (*Archaeologies of the Future*, 344) This obscurity for the future concerning this longevity treatment reminds a mythological story of the Cumaean Sybil. According to the myth recorded in Petronious, Ovid and Virgil, the Cumaean Sibyl, a prophetess, asks for eternal life from Apollo, but she forgets to ask for eternal youth. Apollo plays a trick on her and grants her eternal life without eternal youth. She gets older, smaller and smaller through the hundreds of years until only her voice is left but nothing from her body. In the 48th chapter of “Satyricon” by Petronius Arbiter, some local boys come to ask her “Sybil, what do you want?” and she just replies: “I want to die”. She becomes the doorkeeper of the underworld longing to die so passionately, which seems impossible for her according to the myth. Sybil’s miserable situation is restated in the epigram of T. S. Eliot’s poem “The Waste Land” as an introduction to his despair world of “dead land” and “stony rubbish” in “fear in a handful of dust” referring her discomfort life “neither living nor dead”¹⁰ When it comes to the idea of longevity

¹⁰ www.spectacle.org/0309/sybil.html Accessed on 09.07.2019.

treatment in the trilogy and in the possible future reality, the only desire would be not to face such a consequence of having a zombie-like life in-between of living and death.

In the trilogy, death has turned out to be something very rare on Mars after the longevity treatments. Similarly, being old and weak is observed as something like disgusting and fearful because new generation does not even get sick which was a part of human and non-human living beings. In *Green Mars*, as a young member of Martian generation who has never been ill, Nirgal comprehends Simon's illness like that: "Simon was still weak, and he got weaker. It was hard not to see this as some kind of moral failing; Nirgal had never been sick, and he found the concept disgusting. It could only happen to the old ones. And even they were supposed to have been saved by their aging treatment, which everyone got when they were old, and so never died" (27). Actually, death should be a desirable thing as a part of natural cycle, as in Sybil's miserable situation, and longevity treatments bring about more future problems primarily about population. Therefore, in the trilogy Simon's eventual death is appreciated as a part of this ecological unity: "Now Simon would be part of the carbon cycle, food for bacteria and crabs and then sandpipers and gulls, this slowly melting into the biomass under the dome. This was how one was buried. And sure, part of it was comforting; to spread out into one's world, to disperse into it. But to end as a self, to go away..." (*Green Mars*, 31). Death is described something individuals desire in order to be a part of this natural cycle by eluding from selfish individual affairs. It is "comforting" to "spread out" and "disperse into" the world, and most important of all, it is self-appealing "to end as a self, to go away" like declaring a kind of revolutionary freedom from subjective concerns as a self to be whole.

As a Red environmentalist, Ann Clayborn preserves her old way of comprehending the world and she resists against any kind of change in their nature. When the Martian scientists have found an artificial way of mental production, that is "the brain plasticity treatment", she does not accept it as Michel Duval reflects: "She's stubborn, eh? She wants to stay herself. But in this world, I'm afraid [...] she will never be sane, not really" (*Blue Mars*, 444) Ann is resistant to changes in any kind and her strong personality also makes her survive from many disasters compared to the other fragile characters.

5.3.1. Gaia Theory as a Natural Promise

“Gaia is a Medusa or a Harpy to the Ego” (Kovel, 239)

Gaia means living Earth, originated from the Greek Goddess, put forward first as a hypothesis and then turned into a theory after numerous scientific confirmations by Lovelock. The main doctrine of the Gaia Theory is that it “views the biosphere as an active, adaptive control system able to maintain the Earth in homeostasis” (*The Revenge of Gaia*, 29). Gaia confirms the logic of Darwinian idea of natural selection, Lovelock finds out that they are not against but part of each other due to their close features: “Gaia itself is firmly constrained by feedback from the non-living environment. Darwinists are right to say that selection favors the organisms that leave alive the most progeny, but vigorous growth takes place within a constrained space where feedback from the environment allows the emergence of natural self-regulation” (35). On the other hand, Lovelock notes that Darwin’s theory is incomplete. The two previously separated evolutions, Darwin’s vision for the evolution of organisms and the evolution of the material world, and geological entities are accepted as “part of a single Earth history, where life and its physical environment evolve as a single entity” (46). Supporting the quantum theory, Lovelock states that the universe is much more complicated than we imagine and our conscious minds could only comprehend a tiny fraction of it, and the same is true for our Earth.

Granting all this, the recent decades have been so cruel that the perfect self-regulation system does not work as it used to be: “Things are very different now; any catastrophe that caused Gaia’s regulation system to fail would lead to a hot and dead Earth with no natural means of returning back to its cooler state” (51). Lovelock sees our age as very close to a “crisis point for Gaia” (56). From his and Michael Whitfield’s calculations, Gaia will not last any longer and die from overheating: “in less than 100 million years the sun’s heat will be too much for the Earth to regulate at its current state, and it will be forced to move to a new hot state inhabited by a different biosphere” (58). Humans have been interfering with the temperature regulation of Gaia by heating the air through the release of different gases, and simultaneously, removing the natural systems like forests which help to regulate the disrupted balance. He notes “Unfortunately, we are a species with schizoid tendencies, and like an old lady who has to share her house with a growing and destructive group of teenagers, Gaia grows angry, and if they do not mend their ways she will evict them” (*The Revenge of Gaia*, 60). He allegorizes our

actions that are too foolish like teenagers who caused the Chernobyl nuclear reactor accident in which the engineers disabled the safety systems and turned up the heat, not surprisingly caused the reactor to catch fire due to the rapid overheating. The end of Earth would not come that fast, first the ice left in Greenland and Antarctica will melt by raising the oceans level over to the present huge population centers and more catastrophes will be followed up. Supporting the views of deep ecologists, Lovelock calls for an “Earth First” approach and insists on valuing more for Gaia on which all of our lives depend:

The Earth has recovered after fevers like this, and there are no grounds for thinking that what we are doing will destroy Gaia, but if we continue business as usual, our species may never again enjoy the lush and verdant world we had only a hundred years ago. What is most in danger is civilization; humans are tough enough for breeding pairs to survive, and Gaia is toughest of all. What we are doing weakens her but is unlikely to destroy her. She has survived numerous catastrophes in her three billion years or more of life. (76-77)

His main point here is that no matter how foolish humans have behaved for centuries, Gaia has been strong and durable in the face of many catastrophes. Nevertheless, he warns us for the ultimate destruction if everything goes on like that without any improvement: “Nothing in science is certain, but Gaia Theory is now robustly supported by evidence from the Earth and it suggests that we have little time left if we are to avoid the unpleasant changes it forecasts” (82-83).

The question of whether there really exists life on Mars has been discussed and searched by the scientists for decades. The future developments on Mars missions will provide the necessary evidence as to whether there is this possibility of starting a terraforming process. As a scientist who worked for NASA in the physical life-detection experiments on Mars in 1965s, Lovelock points out that “At this time scientists still seemed to think that life flourished on Mars. I recall Carl Sagan enthusing over the wave of darkness that crosses Mars when winter ends [that] he and many others saw as indicative of the growth of vegetation...” (*Homage to Gaia*, 248). As the chief of these biological life-detecting experiments, Lovelock analyzed planetary atmospheres with his team and observed resistant organisms changing their environment as opposed to the prior arguments of planetary science and conventional biology supporting the view that they just adapt to their environments. His mission ended with the withdrawal of the

funding, but future experiments on the Martian surface will definitely come up with more information.

5.3.2. Ecosocialism: the Radical Shift to Write a Better Future History

The efficient cause of ecological crisis is identified in the aforementioned texts as capitalism and the solution lies in the promising implications of ecosocialism by which individuals recognize themselves in nature and nature in themselves, that is both subjective and objective participation in ecosystems, which is “the essential condition for overcoming the domination of nature, and its pathologies of instrumental production and addictive consumption” (230). Kovel talks about restoring the existing ideas of socialism over the ecocentric thoughts by composing a perfect unity between humans and nature as he describes:

The wounds of one must be felt with the same passion for justice as those of the other. Our very being needs to be turned toward nature, not as an afterthought nor as an instrumental necessity for production, but as a sensuously lived reality. And this needs to be grounded in specifically ecocentric relations of production lest it become a purely voluntaristic slogan. (231)

It is implied that ecosocialism enables humans to create a kind of ecosystemic integrity when considering the production that is not innately natural but introduced by humans. From a different socialist perspective towards nature, ecosocialism aims to overthrow natural exploitation and exchange-value regime. Instead, it builds the integrity of ecological production as a whole through the mutual recognition of use-values and intrinsic values. To sum up, ecosocialism is a society in which “production is carried out by freely associated labor and with consciously ecocentric means and ends” (243). With the ecocentric mode of production, ecosocialism focuses on ecocentric ethics rather than profiteering. As different from capitalism, there is no domination or exploitation but a unity because “humans do not only produce things, they also produce themselves” (Kovel, 243). Some example ecosocialist societies such as Chiapas and Gaviotas are promising examples living in harmony with nature through freely chosen and collectively carried out work, intrinsic pleasure in production and a happy interaction of individuals in the community by the inherent musical connections of singing, dancing and playing, which replaces “the curse of *having* that dominates capitalism with a society organized around *being*, that can live lightly upon the earth”

(Kovel, 255). They are hope-giving examples, which become possible through their choices that we all have to make in this age between “socialism and barbarism”, and in this context it is either “ecosocialism or ecocatastrophe”. While discussing the process of creating our social life through economical and historical influences, Marx states in his third volume of *Capital*:

From the standpoint of a higher economic form of society, private ownership of the globe by single individuals will appear quite as absurd as private ownership of one man by another. Even a whole society, a nation, or even all simultaneously existing societies taken together, are not the owners of the globe. They are only its possessors, its usufructuaries, and, like *boni patres familias*, they must hand it down to succeeding generations in an improved condition. (763)

Hence, we are not owners but from a historical term “usufructuaries” of the lands we are living on and we must enjoy using it while improving for the better. It is an old way of being a part of the natural production rather than claiming possession over the land. In this way, the individual ego, which is untouchable and holy in the hegemonic class of the capitalist communities, is surpassed by prioritizing the use-value to realize the intrinsic value in the production out of nature. Marx’s ideas justify the integrity of humans and nature in the universe by being a part of each other in ecosocialist societies different from the property seeking capitalist class system:

Ecosocialist society is defined by being, achieved by giving oneself to others and restoring a receptive relation to nature. Ecosystemic integrity is to be restored across all the nested circles of human participation – the family, the community, the nation, the international community, or, with a leap across the humanity/nature membrane, the planet, and beyond it, the universe. (Kovel, 270)

The best thing in these nested circles is that the essential things produced by the society do not belong to just a few people but they are shared by everyone. From the planetary scale, Kovel calls the ownership of a planet a “pathetic illusion”, a “plain hubris” and a stupidity to boot to think that nature can be owned which gives us being (271). We can only claim usufructuary over the globe – living without owning, enjoying, using and improving – not domination over nature of any planet.

Observing the tendency of exploiting natural resources all over the world, Robinson concludes that this domination is not just corrupting nature but also damaging the culture and socio-economic life within the exploited territories due to the environmental degradation. As Markley declares “Robinson’s Mars novels call into

question the exploitative logic of late-twentieth-century capitalism to suggest alternatives to ever-increasing cycles of intensification and environmental degradation” (*Dying Planet*, 28). The suggested alternative against this exploitation should be radical and totally new by shaping the political and cultural future of the civilizations. Ecosocialism advocated within the new system of eco-economics on Mars seems to comply with the foreseen future changes. These are not mere imaginings as Markley maintains: “This ‘future primitive,’ can serve as a powerful analytic to reveal – and indeed gesture beyond – the forms of alienation that structure and are structured by the deep-seated antiecological values and assumptions characteristic of Western thought” (355). That is, the trilogy offers not just ideas of change, but opens a new way shaking the foundation of classical anti-ecologist Western economic and political systems of thought. It suggests breaking the wheel of these systems rather than being a part of it, as Harvey explains:

The trick is to keep the political movement moving from one sphere of activity to another in mutually reinforcing ways. This was how capitalism arose out of feudalism and this is how something radically different – call it communism, socialism or whatever – must arise out of capitalism. Previous attempts to create a communist or socialist alternative fatally failed to keep the dialectic between the different activity spheres in motion and also failed to embrace the unpredictabilities and uncertainties in the dialectical movement between the spheres. Capitalism has survived precisely by keeping that dialectical movement going and by embracing the inevitable tensions, including crises, that result. (228)

Harvey urges us to imagine a territory in which the “population wakes up to the probability that endless capital accumulation is neither possible nor desirable and that it therefore collectively believes another world not only is but must be possible” (Harvey 228). In that case, the question is “How should that collectivity begin upon its quest to construct alternatives?” (228). The situation is quite simple as he explains, “change arises out of an existing state of affairs and it has to harness the possibilities immanent within an existing situation” (229), thus it depends on our ability to harness the present possibilities to find the best way. We should begin this radical struggle for a more egalitarian society, and as Harvey notes, this requires “a reconceptualisation of the relation to nature. Nature is no longer viewed as ‘one vast gasoline station’, as Heidegger complained in the 1950s, but “as a teaming source of life forms to be preserved, nourished, respected and intrinsically valued” (234). Nature has its own right as a part of the whole system of the universe and our connection to it should be

respectful accordingly as it should not be observed as a material object. Harvey summarizes our responsibility towards nature by recognizing the equal rights of all beings as follows:

Our relation to nature should not be guided by rendering it a commodity like any other, by futures markets on raw materials, minerals, water, pollution credits and the like, nor by the maximisation of rental appropriations and land and resource values, but by the recognition that nature is the one great common to which we all have an equal right but for which we all also bear an immense equal responsibility” (234-35).

Knowing our responsibility in the universe by balancing this equal place for nature and humans, it would be easier to set out for an ecosocialist revolution for a more egalitarian future in which all living things exist in harmony with each other.

To recapitulate the connection between the ecologic science fiction and the real world, nothing impossible can be imagined through human mind and there is a way of reaching it, whether it is obvious or not, if these imaginings are embedded within our intelligence. The Mars trilogy introduces the manufacture of the future with the great deal of debates around the pro and cons of terraforming. From the very preliminary encounter of humans to the new planet Mars, the classical Promethean worldview became prominent observing nature as a pure substance open to any mutation waiting to be shaped at the hands of sovereign humanity. These kind of utopian dreams turn out to be futile and result in failures as they forget the natural force of evolution. Literally, all the struggles on Mars through the dialectic narration of the trilogy are simulations of the real plans about going to Mars and how the process of terraforming might be in the future. This kind of preparedness through simulations of what to expect for the future creates a safe ground for our dreams and possible plans in a similar scenario. It is implied that before all these plans, the only planet we have for the present is this world and the primary plan is to protect it at any stake. To wrap up what has already been said, this paper analyses the existing crises in our world leading us to another planet and the solutions before it comes to that end. The hope never ends as the belief of the power of Gaia stays alive as observed in Robinson’s narratives, but this belief should be supported with considerate actions helping the Earth to heal itself, which is our individual duty for our only planet. As a collective consciousness, an ecosocialist social formation is essential to save the life on this planet from the menace of capitalist tenets.

CHAPTER VI

CONCLUSION

The study shows that all these crises discussed throughout this dissertation exist in our world, which can be turned into an opportunity to reshape our social and political worldview by overcoming the fears of apocalyptic and dystopian scenarios. Robinson points out to the crises modern human race faces in this technological age in his introduction to *Future Primitive: The New Ecotopias*; “We are gaining great powers at the very moment that our destruction of our environment is becoming ruinous. We are in a race to invent and practice a sustainable mode of life before catastrophe strikes us” (6). The message is given through the astonishing fact is that our civilization is partly aware of upcoming crises and different units of the society implement some projects to save the future in their own way. Gerry Canavan also recognizes this conclusion and notes:

Indeed, the recognition of the immense planetary scale of ecological crisis, and the shocking inadequacy of our response thus far, extends the Suvinian interest in cognitive estrangement and utopian dreaming across the entirety of politics and culture today — now the prerequisite for our collective survival. The future has gone bad; we need a new one. (“Preface”, *Green Planets*, xi)

Therefore, all the studies in this dissertation acknowledge the outcome that it has become a matter of survival at a planetary scale to write a better future history for all of us.

Needless to say, the researches show that we live in a world that desperately requires a radical change concerning all living things and this dissertation aims to unfold the reasons behind the driving forces bringing us to the edge of the existing catastrophes and to create a guiding spirit out of the way going to a dark future. To wrap up with what Marxism urges us to deal with the economic and political crises caused by the hegemony of the capitalist system, a sudden shift to an environmentally conscious

system is necessary for the future healthy co-existence of ecology and humanity on the planet where life prospers. Observing Marx's works and ideas, Harvey presents their common conclusion of replacing the capitalist ideals with a more eco-centric and humanitarian ones in every system: "as Marx also insisted, it was only when these critical ideas carried over into the fields of institutional arrangements, organizational forms, production systems, social relations, technologies and relations to nature that the world would truly change" (237-38). The study agrees with this analysis and, what is more, by paraphrasing Marx on the ecological-social transformation, Harvey emphasizes that "we can collectively hope to produce our own environmental history, but only under environmental conditions that have been handed down to us", which are created by the capitalist circulation (332). This dissertation, based on the ideas presented in the Mars trilogy, encourages all nations to replace their existing economic systems with a similar one to eco-economics suggested by Robinson's characters. The study gives the message that ecosocialism seems to be the best solution for the survival of all living creatures together with the healthy lastingness of any planet, Earth or Mars in the future, on which life prospers.

It is analyzed that it is a great challenge to attempt to write the history with a brand new perspective by rejecting the pre-given structures, but it is worth to try if the risks are at the planetary scale and the metamorphosis into an ecologic society is substantially vital. Lovelock suggests his philosophy of "the concept of Gaia, a living planet", which constitutes "the essential basis of a coherent and practical environmentalism" that is also ideologically a counter argument against "the persistent belief that the Earth is a property, an estate, there to be exploited for the benefit of humankind" (*The Revenge of Gaia*, 173). Lovelock underlines the truth that "this false belief that we own the Earth, or are its stewards, allows us to pay lip service to environmental policies and programs but to continue with business as usual" (173). Lovelock, with the power of Gaia, aims to change our worldview on the environment and living things, simultaneously, he warns us to change our attitudes as quickly as possible required for a healthier life in this coherent unity. In this respect, he uses the metaphor of smokers for the humanity and urges us to quit: "We are like the smoker who enjoys a cigarette and imagines giving up smoking when the harm becomes tangible. Most of all we hope for a good life in the immediate future and would rather

put aside unpleasant thoughts of doom to come” (*The Revenge of Gaia*, 200), and this study agrees with this given message.

Robinson also recognizes the conclusions of the study with his description of the present situation on Earth in the Mars trilogy as “the cycle of madness [...] coming around again, caught in its inexorable sine wave” with all the hazardous activities that are “out of control” and there is no escape from falling into it (*Green Mars*, 510). The analysis reveals the message that; nevertheless, we have to find a way to save our planet. The study implies that we might not have supernatural powers but determination with hard work would create miracles. The photography taken by one of the spacecrafts after they had got four billion miles in the space shows that our Earth, the pale blue dot, is the miracle itself in the eternal darkness of the universe, which is observed by Al Gore. In the documentary *An Inconvenient Truth* (2006), Al Gore encourages the humanity by saying “Everything that has ever happened in all of human history has happened on that pixel...All the triumphs, all the tragedies...All the wars, all the famines...All the major advances...It is our only home! And that is what is at stake...our ability to live on planet Earth to have a civilisation”. Heise also argues that the broad distribution of blue planet images after this small blue dot presents the image of Earth as an immanent totality that one can grasp right away, which blurs all the divergences of all kinds such as ideology, nationality, class, gender, race, culture and nature into one color: “Set against a black background like a precious jewel in a case of velvet, the planet here appears as a single entity, united, limited, and delicately beautiful.” (22)

Al Gore anxiously uses this pale blue dot image and continues that this is a moral issue and we have to go after that issue to secure our future. He suggests some actions, “things you can do to save the planet”, such as using compact fluorescent light bulbs or setting our thermostats down, which he calls “voluntarism” an action arising only from good intentions that make you also feel good about doing something in the face of ecological crisis. Voluntarism does not require much as Kovel explains the touchstone of it as “an ecopolitics without struggle, struggle against the inertia and fear within, and the great weight of capitalist rationalization and repression without. It is the easy path at a time when sacrifice and heroism are called for” (169). Kovel suggests some other ways such as ecological usage of technology, forcing for the renewable energy like solar power rather than anti-environmental ones and organic agriculture. As

he states, with such small steps counted as non-socialist efforts, we, as individuals, will decide what kind of future we will live and we will leave to the future generations. In Robinson's own words "we are now living in a science fiction novel that we are all writing together" (*Green Planets*, 255), thus, the analyzed works show that one day we will look back and see if we have been terrible writers who come up with a bad story of Earth and all the living things on it with a nightmare ending or we have shifted the narration for the better for all.

The Animation film *Wall-E* (2008) teaches a similar lesson for human beings' duty to their planet, which parallels with the discussions covered throughout this dissertation. When one of the mission robots finds a plant on the ruined Earth, it brings this living organism to the captain of the rest of the humanity floating on a spaceship for hundreds of years. The autopilot of the ship fights to destroy it, because it says it is easier to float on this spaceship forever by doing nothing than to go back to the wasteland Earth that looks like a giant dumpsite and to struggle to make it a habitable world again. Nevertheless, they are able to land on Earth to start the life again here, because Peter Gabriel's song, "Down to Earth", in the end explains the reason very well:

We're coming down to the ground
There's no better place to go
We've got snow upon the mountains
We've got rivers down below
We're coming down to the ground
To hear the birds sing in the trees
And the land will be looked after
We'll send the seeds out in the breeze
Did you think you'd escaped from routine
By changing the script and the scene? ¹¹

The song calls out to the people wandering out in the space for a more comfortable life by leaving their motherland behind, by questioning them "Did you feel you were tricked/ By the future you picked?". It wittily reminds to the people that they are bound to the ground by the gravity and sooner or later they have got to be pulled to return. It says changing "the script and the scene" does not matter, you cannot escape your fate; and ironically, in spite of everything you have done, you are still afraid to change because it is difficult and you have lots of burden to handle the change in your lifestyle.

¹¹ <https://www.azlyrics.com/lyrics/petergabriel/downtoearth.html> Accessed on 10.10.2019.

As McKibben asserts similar findings on the analysis of the planet: “The planet on which our civilization evolved no longer exists. The stability that produced that civilization has vanished; epic changes have begun” (*Eaarth*, 34) The examinations of the works in this study also confirm this situation and accept McKibben’s observation that “We may, with commitment and luck, yet be able to maintain a planet that will sustain some kind of civilization, but it won’t be the same planet, and hence it can’t be the same civilization. The earth we knew – the only earth that we ever knew – is gone” (34) Imagining our future world in such a wasteland through the literary texts is a terrible thing, but the message is also given that this might be the ultimate position we will see if we do not change our vision and attitudes accordingly. William Butler Yeats describes the darkness fallen on Earth in a nightmarish situation almost a century ago, which foreshadows the misery of the world under the shadows of evil human actions:

Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the center cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.¹²

Needless to wait for a sign of “The Second Coming” as in the poem, which might turn out to be a monster rather than a savior, the study gives the encouraging idea that we must be heroes of our own to save the planet. As Harvey states, “Lenin’s famous question ‘What is to be done?’ cannot be answered, to be sure, without some sense of who might do it and where” (227). It is implied that we need a strong wave and people to take the responsibility for action. Kovel puts it clearly that we must realize “in fighting for an ecologically sane society beyond capital, we are not just struggling to survive, but, more fundamentally, to build a better world and a better life upon it for all creatures” (10). To create a better world for living things, humans have to be the driving power rather than waiting for a savior as Harvey concludes in his book: “Capitalism will never fall on its own. It will have to be pushed. The accumulation of capital will never cease. It will have to be stopped. The capitalist class will never willingly surrender its power. It will have to be dispossessed” (260). The obvious implication is that our ultimate duty to this planet is to push and to stop the capitalist power to

¹² <https://www.poetryfoundation.org/poems/43290/the-second-coming> Accessed on 10.10.2019

surrender and vanish forever by cooperation. Nonetheless, this is a huge task requiring a great deal of effort as Harvey also indicates:

To do what has to be done will take tenacity and determination, patience and cunning, along with fierce political commitments born out of moral outrage at what exploitative compound growth is doing to all facets of life, human and otherwise, on planet earth. Political mobilizations sufficient to such a task have occurred in the past. They can and will surely come again. We are, I think, past due.” (260)

The dissertation concludes that only with strong determination and patience, humanity can fulfill this hope-giving task to all living things. To conclude with a statement from the last book of the trilogy, as the new Martian society points the way forward: “If you could make a living while saving the world—if it represented your best chance for stability and long life and your children’s chances—then why not? Why not?” (*Blue Mars*, 188).

6. 1. The Critical Implications

The critical analysis of Robinson’s science fiction works, *Red Mars*, *Green Mars* and *Blue Mars*, shows that the genre is not just about future projections; rather, it has many allusions and references to the present time. The literary analysis reveals that the science fiction novels, covered in the aforementioned texts serves as a warning manuscript for the real problems of humanity concerning ecological crisis by offering some possible solutions as well. Even though the events are fictional, the reader experiences a kind simulation of the future, which shows that literature is not immune to social and ecological problems.

6. 2. The Political Implications

The analysis of the literary texts shows that the message is not only given at the literary and individual level, but it suggests that environmental politics must be revised to provide the necessary changes. The conclusions out of the texts covered in this dissertation show that there is an urgent necessity for the structural changes at social, economic and political spheres concerning the ecologic systems. The catastrophic estimations made for the future life unless radical systemic changes are accomplished urge the obligation for taking firm steps towards a more ecosocialist and more egalitarian society for all living bodies in the universe. Accordingly, it is necessary to

change the production and consumption habits in a revolutionary way at the individual level as well as the precautions and the regulations of the governments.

6. 3. The Pedagogical Implications

Education is the key for the mental and the physical change following the former. It is necessary to gain pedagogical insights into a better future for all living bodies. Hence, ecological consciousness should be included into the curriculums of education at every level in society. Similar simulation narratives as covered in this dissertation can be used to increase environmental awareness of the possible problems and the suggested applicable solutions to change the existing attitudes.

6. 4. Limitations of the Study

The primary limitation of this study is that Robinson's science fiction books, *Red Mars*, *Green Mars* and *Blue Mars*, are set on the very similar real events with detailed present scientific facts. Analyzing reality through fictional works may produce overgeneralized results about science and real life. The findings and conclusions out of the analysis of the fictional texts dealing with reality actually refer to imaginary categories; however, such close-to-reality readings bring about the limitation of blurring the distinction between fact and fiction.

6. 5. Suggestions for Further Studies

This dissertation focuses on Robinson's Mars trilogy by applying a variety of theories for the analysis of the existing current crises. The richness of the topic and the possibility of more close analyses of the theories are great source of encouragement for further study on the issue with more literary sources in the same genre. It is a strong suggestion that more solutions or better ways of dealing with the analyzed crises can be represented in different texts through the possibility of coming across with a variety of perspectives by different authors.

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