TOM AND HESTER'S SURVIVAL IN THE POST-APOCALYPTIC DYSTOPIAN NOVEL PHILIP REEVE'S *MORTAL ENGINES*

THESIS



BY: MUTIA PUTRI SALSABILA REG. NUMBER: A73215119

ENGLISH DEPARTMENT FACULTY OF ARTS AND HUMANITIES UIN SUNAN AMPEL SURABAYA 2022

DECLARATION

I am the undersigned below:

Name	: Mutia Putri Salsabila
NIM	: A73215119
Department	: English
Faculty	: Arts and Humanities
University	: UIN Sunan Ampel Surabaya

Sincerely state that the thesis I wrote is my genuine work, and not a plagiarism/fabrication in part or in whole. If in the future it is proven that this thesis is the results from plagiarism/fabrication, either in part or in full, then I am willing to accept sanctions for such actions in accordance with the applicable provisions.

Surabaya, June 19th 2022

Who make the statement,



Mutia Putri Salsabila

APPROVAL SHEET

TOM AND HESTER'S SURVIVAL IN THE POST-APOCALYPTIC DYSTOPIAN NOVEL PHILIP REEVE'S *MORTAL ENGINES*

By:

Mutia Putri Salsabila

Reg. Number: A73215119

Approved to be examined by the Board of Examiners, English Department, Faculty of Arts and Humanities, UIN Sunan Ampel Surabaya

Surabaya, June 19th, 2022

Thesis Advisor

Dr. Wahju Kusumajanti, M.Hum NIP. 197002051999032002

Acknowledged by:

The Head of English Department

alegn

Dr. Wahju Kusumajanti, M.Hum NIP. 197002051999032002

ii

EXAMINER SHEET

This thesis of Mutia Putri Salsabila (Reg. Number: A73215119) has been approved and accepted by the Board of Examiners, English Department, Faculty of Arts and Humanities, UIN Sunan Ampel Surabaya on 1st July 2022

The Board of Examiners are:

Examiner 1

aleph

Dr. Wahju Kusumajanti, M.Hum NIP. 197002051999032002

Examiner 2

Dr. Abu Fanani, S.S., M.Pd. NIP.196906152007011051

Examiner 3

Sufi Ikrima Sa'adah, M.Hum NUP.201603318 Examiner 4

Itsna Syahadatud Dinurriyah, MA NIP.197604122011012003

Acknowledged by: The Dean of the Faculty of Arts and Humanities

UIN Sunan Ampel Surabaya

Muhammad Kurjum, M.Ag P. 196909251994031002



KEMENTERIAN AGAMA UNIVERSITAS ISLAM NEGERI SUNAN AMPEL SURABAYA PERPUSTAKAAN

Jl. Jend. A. Yani 117 Surabaya 60237 Telp. 031-8431972 Fax.031-8413300 E-Mail: perpus@uinsby.ac.id

LEMBAR PERNYATAAN PERSETUJUAN PUBLIKASI KARYA ILMIAH UNTUK KEPENTINGAN AKADEMIS

Sebagai sivitas akademika UIN Sunan Ampel Surabaya, yang bertanda tangan di bawah ini, saya:

Nama	: MUTIA PUTRI SALSABILA
NIM	: A73215119
Fakultas/Jurusan	: ADAB DAN HUMANIORA / SASTRA INGGRIS
E-mail address	: salsabilamutiaputri@gmail.com

Demi pengembangan ilmu pengetahuan, menyetujui untuk memberikan kepada Perpustakaan UIN Sunan Ampel Surabaya, Hak Bebas Royalti Non-Eksklusif atas karya ilmiah : Sekripsi I Tesis I Desertasi I Lain-lain (.....) yang berjudul :

TOM AND HESTER'S SURVIVAL IN THE POST APOCALYPTIC DYSTOPIAN NOVEL

PHILIP REEVE'S MORTAL ENGINES

beserta perangkat yang diperlukan (bila ada). Dengan Hak Bebas Royalti Non-Ekslusif ini Perpustakaan UIN Sunan Ampel Surabaya berhak menyimpan, mengalih-media/format-kan, mengelolanya dalam bentuk pangkalan data (database), mendistribusikannya, dan menampilkan/mempublikasikannya di Internet atau media lain secara *fulltext* untuk kepentingan akademis tanpa perlu meminta ijin dari saya selama tetap mencantumkan nama saya sebagai penulis/pencipta dan atau penerbit yang bersangkutan.

Saya bersedia untuk menanggung secara pribadi, tanpa melibatkan pihak Perpustakaan UIN Sunan Ampel Surabaya, segala bentuk tuntutan hukum yang timbul atas pelanggaran Hak Cipta dalam karya ilmiah saya ini.

Demikian pernyataan ini yang saya buat dengan sebenarnya.

Surabaya, 1 Juli 2022

Penulis

(Mutia Putri Salsabila) nama terang dan tanda tangan

ABSTRACT

Salsabila, Mutia. P (2022). *Tom and Hester's Survival in the Post-Apocalyptic Dystopian novel Philip Reeve's Mortal Engines*. English Department, UIN Sunan Ampel Surabaya. Advisor: Dr. Wahju Kusumajanti, M.Hum

Keywords: Ecocriticism, Post-apocalyptic environment, Municipal Darwinism, Medusa.

The purpose of the study is to determine the representation of the postapocalyptic environment in the dystopian novel *Mortal Engines* by Philip Reeve. The novel shows the condition of nature after being destroyed by a nuclear weapon, Medusa. How the two main characters, Tom and Hester survived in the middle of the Municipal Darwinism law when the predator cities were everywhere, how they struggled in case to accomplish their purpose.

This study used the descriptive qualitative method. Using the theory of ecocriticism by Greg Garrad and Kenneth Burke to describe and analyze the data about the post-apocalyptic environment in the novel as well as Tom and Hester's struggle to survive in a post-apocalyptic environment in the form of words, phrases, sentences, statements and also from the dialogues in the novel.

The results found that there are many kinds of representations of the postapocalyptic environment in the novel, they are Traction Cities, Hunting Ground, Airhaven, the Sea of Khazak, Airship, and especially the weapon named Medusa. they are Traction Cities, Hunting Ground, Airhaven, the Sea of Khazak, Airship, and especially the weapon named Medusa. Traction cities represent a postapocalyptic environment in which the giant metropolises built on Tiers that rely on giant internal fuel-based engines to move on gigantic wheels or caterpillar tracks, There are many traction cities mentioned in the novel, but based on the plot in the story, only three cities described in the novel, the first in London, the second is Speedwell, and the last is Turnbrigde Wheels. The hunting ground is a place or area used for Traction cities to hunt. Airhaven is a Tier city made from alloy floating above the ground, or it can be called the flying town. The Sea of Khazak, it consists of many silvery rust water marshes, the place dangerous for any traction cities. and the last is Medusa, the only weapon which is caused by the destruction of the story, the nuclear weapon controlled by an artificiallyintelligent computer system. To survive in those apocalyptic environments, the two main characters, Tom and Hester use Burke's view of ecocriticism to face the crisis in the novel, they are goaded by the spirit of hierarchy, separated from the natural condition, meta-biology, and rotten with perfection.

ABSTRAK

Salsabila, Mutia.P. (2022). *Kelangsungan Hidup Tom dan Hester dalam novel Post-Apocalyptic Dystopian Philip Reeve's Mortal Engines*. Program Studi Sastra Inggris, UIN Sunan Ampel Surabaya.

Pembimbing: Dr.Wahju Kusumajanti, M.Hum.

Kata Kunci: Ekokritik, Lingkungan Pasca-apokaliptik, Darwinisme Kota, Medusa.

Tujuan dari penelitian ini adalah untuk mengetahui representasi lingkungan pasca-apokaliptik dalam novel dystopian Mortal Engines karya Philip Reeve. Novel tersebut menunjukkan kondisi alam setelah dihancurkan oleh senjata nuklir, Medusa. Bagaimana dua karakter utama, Tom dan Hester bertahan di tengah hukum Darwinisme Kota ketika kota-kota pemangsa ada di mana-mana, bagaimana mereka berjuang untuk mencapai tujuan mereka.

Penelitian ini menggunakan metode deskriptif kualitatif. Menggunakan teori ekokritik Greg Garrad dan Kenneth Burke untuk mendeskripsikan dan menganalisis data tentang lingkungan pasca-apokaliptik dalam novel serta perjuangan Tom dan Hester untuk bertahan hidup di lingkungan pasca-apokaliptik berupa kata, frasa, kalimat, pernyataan dan juga dari dialog dalam novel.

Hasil penelitian menemukan bahwa terdapat berbagai macam representasi lingkungan pasca-apokaliptik dalam novel tersebut, yaitu Traction Cities, Hunting Ground, Airhaven, Sea of Khazak, Airship, dan terutama senjata bernama Medusa. mereka adalah Traction Cities, Hunting Ground, Airhaven, Sea of Khazak, Airship, dan terutama senjata bernama Medusa. Kota traksi mewakili lingkungan pasca-apokaliptik di mana kota metropolitan raksasa dibangun di atas Tiers yang mengandalkan mesin berbasis bahan bakar internal raksasa untuk bergerak di atas roda raksasa atau trek ulat. Ada banyak kota traksi yang disebutkan dalam novel, tetapi berdasarkan plot di ceritanya, hanya tiga kota yang dijelaskan dalam novel, yang pertama di London, yang kedua adalah Speedwell, dan yang terakhir adalah Turnbrigde Wheels. Hunting ground adalah tempat atau area yang digunakan untuk kota Traksi untuk berburu. Airhaven adalah sebuah kota Tier yang terbuat dari campuran logam yang melayang di atas tanah, atau bisa disebut kota terbang. Laut Khazak, terdiri dari banyak rawa air karat keperakan, tempat yang berbahaya bagi kota-kota traksi. dan yang terakhir adalah Medusa, satu-satunya senjata yang disebabkan oleh kehancuran cerita, senjata nuklir yang dikendalikan oleh sistem komputer dengan kecerdasan buatan. Untuk bertahan hidup di lingkungan apokaliptik tersebut, dua tokoh utama, Tom dan Hester menggunakan pandangan Burke tentang ekokritik untuk menghadapi krisis dalam novel, goaded by the spirit of hierarchy, separated from the natural condition, meta-biology, dan rotten with perfection.

TABLE OF CONTENTS

Cover Page Inside Cover Pagei
Approval Sheetii
Examiner Sheet
Declarationiv
Acknowledgementv
Abstractvi
Abstrakvii
Table of Contents
CHAPTER I INTRODUCTION1
1.1 Background of the Study
1.2 Statement of the Problems
1.3 Significance of the Study
1.4 Scope and Limitations
1.5 Research Method7
1.5.1 Research Design
1.5.2 Data Source
1.5.3 Data Collection
1.5.4 Data Analysis
1.6 Definition of Keyterms
CHAPTER II THEORETICAL FRAMEWORK
2.1 Ecoriticism
2.2 Greg Garrad concept's of Ecocriticism

2.2.1 Apocalypse & Post-Apocalypse	13
2.3 Green Theory of Burke's Perspective	14
2.3.1 Meta-biology	14
2.3.2 Separated from natural conditions	
2.3.3 Goaded by spirit of hierachy	17
2.3.4 Rotten with perfection	18
2.4 Previous Study	19
CHAPTER III ANALYSIS	21
3.1 The representation of the Post-apocalyptic environment	21
3.1.1 Traction Cities	
3.1.2 Hunting Ground	
3.1.3 Airhaven	
3.1.4 The Sea of Khazak	27
3.1.5 Airship	28
3.1.6 Medusa	29
3.2 The characters struggle to survive in the Post-apocalyptic environment	31
3.2.1. Tom uses goaded by the spirit of hierarchy's view to survive	31
3.2.2 Tom uses separated from our natural condition' view to survive	33
3.2.3 Tom uses a meta-biology view to survive	36
3.2.4 Tom uses rotten with perfection's view to survive	38
3.2.5 Hester uses goaded by the spirit of hierarchy's view to survive	40
3.2.6 Hester uses separated from our natural condition' view to survive	41
3.2.7 Hester uses a meta-biology view to survive	42
3.2.8 Hester uses rotten with perfection's view to survive	43

CHAPTER IV CONCLUSION	46
-----------------------	----

REFERENCES	
------------	--



CHAPTER I INTRODUCTION

1.1 Background of the Study

Humans, nature, and the environment are inseparable. God creates the earth for humans, and by doing so humans can get natural sources to maintain his life, like Qur'an said, "And He has created the earth for you. Therein is fruit and date-palms, and husked grain, and scented herbs. Which is it, of the favors of your Lord, that ye deny?" (Ar-Rahman; 10-13). Humans depend on nature in almost every activity, for example, in the process of respiring, human needs air, when eating and drinking, the human took it from nature, whether it is fruits, vegetables, animals, and water. Moreover, human can also get knowledge from nature, in the end, human receives energies from nature indefinitely. As mentioned by Stephan Kaplan, he said that in the beginning humans are a part of nature (1992, p. 134), even Kellert states that nature is a place for people to depend on physically, emotionally, and intellectually (1996, p. 7), thus since the history of life on the Earth, human has been depending on nature entirely. However, with the advancements in technology in this 21st century, humans begin to find more efficient ways of sustaining themselves and starting to ignore the impact on nature and alienated from nature. As the result, it leads to globalization, massive development of industries, and capitalism. Unfortunately, most of the impact of technologies is unfriendly to nature and the environment. Natural disasters and

man-caused disasters are the results of ignorance of nature, using the fullest resources in every method without noticing the consequences in the next decades.

Humans are the most responsible for the destruction on the earth, like in Al-Qur'an stated, "Mischief has appeared in the land and the sea because of what the hands of the mankind have earned, that He may make them taste a part of that which they have done, so that they may return (turn to Allah)."(QS. Ar-Rum: 41). Humans who are self-centered lead their action to disregard nature, they believe that humans favor other organisms (Garrad, 2004, p.183), resulting in superiority and ignorance over nature. Humans who do mischief while never repented are causing many disasters arises. According to Menely and Ronda, when humans expand their global capitalism, it is also increasing the destructive side effects of immiseration, deforestation, and pollution simultaneously, as the result, it reaches into self-deception, and self-destruction, and also humans are becoming more in denial of ecological limits and reality (Clark, 2015, p.2). As can be seen, disaster occurs nowadays that humans never expected, such as virus outbreaks, war, and natural disasters. Covid-19 is one of the examples virus outbreak that appears in December 2019. Various opinions and theories of the conspiracy emerged in case of finding the origin of this virus. Acquiesced to the Journal of Infection, Genetics, and Evolution, there are three theories of the origin of Covid-19, a naturally occurring virus, the man-made virus theory, and the bat-pangolin recombinant virus theory (Sironi, M., Hasnain, S. E., Rosenthal, B., Phan, T., Luciani, F., Shaw, M. A., Sallum, M. A., Mirhashemi, M. E., Morand, S., González-Candelas, F., & Editors of Infection, 2020, p.84). Regardless, this

outbreak would not happen if humans are still concerned about what cause and effect they earned in whatever has been done. Using too many natural resources without precision and caution leads towards feign ignorance of the impact on nature.

War is also one of the factors in the destruction of the land which is done by humans. The greediness, individualism, and capitalism of humans are the sources of a raging war. The annihilation of the environment is caused by an early conflict of human force, modern technology, and the massive intrusion of new weapons in the industrial age. The Great War has the potency to be a great example of man's exploitation of the land (Maggioni, 2016, p.54). The reason is that all areas of the land might be destroyed by the war, such as forests, deserts, hills, and mountains, especially in the open space, like many fields in the countryside, even the air, and the sea might be polluted. It can be imagined what kind of destruction humans would face if the war broke out.

Hence, the literary works containing an environmental crisis, which is being experienced by the characters is called Dystopian literature. Dystopian literature mostly describes various bad conditions arising around the environment in the novel. Moyland stated that the underside of the utopian imagination (which is dystopia) describes many years of environmental exploitation, such as depression, repression, state violence, war, famine, genocide, debt, and the deterioration of humanity by buying and selling their life to provide the needs in everyday life. (2000, p. 11). The importance of preserving nature and the environment plays a crucial role in it. Without the enlightenment, humans would still insist on disregarding their environment, resulting in the destruction of the world, primarily referred to as the Apocalypse. Lawrence Buell describes apocalypse as the disposal of nature that occurs in the contemporary environmental imagination (1995, p. 285), which means the destruction of the world is likely to happen. Thus, post-apocalypse describes as the aftermath of the apocalypse, like Curry said, 'the worsening crisis of today used as the reflection of the ecocatastrophe of tomorrow' (2013, p. 18).

Mortal Engines is the young adult post-apocalyptic dystopian novel written by Philip Reeve and published by Scholastic UK in 2001. Reeve's imagination of the future earth in the novel which is long been ruined because of the sixty minutes war, "...the Ancients destroyed themselves in that terrible flurry of orbit-to-earth atomics and tailored-virus bombs called the Sixty Minute War." (Reeve, 2001, p. 7). Thus, various disasters occur one after another, such as earthquakes, volcanic eruptions, and other instabilities. Then, to escape from disasters, a Nomad leader called Nicholas Quirke installed huge engines and wheels in London, which is the first traction city built since then, to keep it moving, it needs fuels and oils, but because of the scarce of fuels and oil, the city is becoming wilder to dismantle or eat other traction cities, "town eats town world", which called the law of "Municipal Darwinism." Global capitalism occurs in the novel. Even the main character of the novel, Tom at the beginning believes it is justifiable, "...But he knew he mustn't feel sorry for them: it was natural that cities ate towns, just as the towns ate smaller towns, and smaller towns snapped up the miserable static settlements." (Reeve, 2001, p. 9). However, as the start of

the old-tech nuclear weapon "medusa" threatened the balance in the environment, and Tom meet Hester, as the victim of how the weapon is acquired, Tom's vision begins to change.

Therefore, the researcher intends to analyze the novel using ecocriticism theory to obtain various types of information on how the post-apocalyptic environment reflected on the novel and how the main characters struggle to survive in the post-apocalyptic environment. The researcher uses Greg Garrad's concepts of ecocriticism and the Green Theory of Burke's Perspective to achieve more understanding in this study. In this study, the researcher also found two prior studies which are related to the current study. The first is correlated with the same novel, *Dystopian Visions of Global Capitalism: Philip Reeve's Mortal Engines and M.T Anderson's Feed* is the journal written by Elizabeth Bullen & Elizabeth Parsons (2007), and the second is correlated with the same theory as using ecocriticism by Gregg Garrad, *An Ecocritical Analysis of Young Adult Dystopian Novel in Veronica Rossi's Under The Never Sky* written by Rofi'atul Azizah (2017), the writer using Greg Garrad theory to analyze the novel *Under The Never Sky*. Thus, the researcher used two previous studies as the basis of knowledge to examine the novel.

1.2 Statement of the Problems

Based on all the explanations above, the researcher specified the main problems in the questions below :

1. What are the representations of the post-apocalyptic environment found in Philip Reeve's *Mortal Engines*?

2. How are Tom and Hester struggling to survive in the post-apocalyptic environment in Philip Reeve's *Mortal Engines*?

According to the statement of the problem above, this study would explain the discussions below :

- 1. To describe the representations of the post-apocalyptic environment found in Philip Reeve's *Mortal Engines*?
- 2. To describe Tom and Hester's struggle to survive in a post-apocalyptic environment in Philip Reeve's *Mortal Engines*?

1.3 Significance of the Study

The researcher hopes this study could provide the information and data for the material-related studies to other researchers or students in need to get more understanding of the study. The motivation of the study is to give a more necessary reminder of how important it is to preserve and care for nature through the theory and the results of the study from an ecocritical view. The researcher chooses dystopian work as the portrayal of the possibility of the future, in case humans' condition of their inability to maintain equilibrium with nature occurs in the work. Thus, the researcher chooses Philip Reeve's *Mortal Engines*.

1.4 Scope and Limitations

This study focused on the ecocritical issues that occur in Philip Reeve's *Mortal Engines* novel using the theory of ecocriticism by Greg Garrad and Green Theory of Burke's Perspective. It discusses the representations of a post-

apocalyptic environment also Tom and Hester's struggle to survive in a postapocalyptic environment. The researcher also found the novel can be analyzed by Marxist theory since the novel involves capitalism in the hope that others want to analyze the novel, but the researcher only focuses on ecocriticism. Many characters can be analyzed, however, the researcher only chooses two, they are Tom and Hester.

1.5 Research Method

1.5.1 Research Design

The researcher used the descriptive-qualitative method to analyze the novel. The method is used to find and describes the portrayal of the postapocalyptic environment, and also to analyze Tom and Hester's struggle to survive in the post-apocalyptic environment in Philip Reeve's *Mortal Engines*. The analysis used the ecocritical approach in literature. Using Greg Garrad and Burke's ecological perspective to analyze the novel.

1.5.2 Data Source

This research used the library and online research in the process of collecting data for this study. The primary source of this research is the novel Philip Reeve's *Mortal Engines*. The secondary source is taken from books, journals, articles, and websites online correlated with this study to obtain more valid data. The data gathered is related to the ecocritical of the post-apocalyptic environment in the novel Philip Reeve's *Mortal Engines*.

1.5.3 Data Collection

The technique used to collect the data is closed-reading. The object of closed reading is the novel *Mortal Engines* by Philip Reeve. The data collection of this study follows the instructions below :

- Searching data sources. The main data source of this research is the postapocalyptic environment in the novel *Mortal Engines* by Philip Reeve.
- Reading the novel to accomplish a complete understanding.
- After deciding on the data source, the researcher reads the novel and tries to find the post-apocalyptic environment, and then, how Tom and Hester's struggle to survive in the post-apocalyptic environment.
- Choosing the data that matched the relationship to ecocriticism theory.
- Classifying the selected data based on ecocriticism theory.

1.5.4 Data Analysis

In analyzing the data, the researcher used the theory or concept of ecocriticism by Greg Garrad and Kenneth Burke. There are two steps in analyzing the novel *Mortal Engines* by Philip Reeve. The first is analyzing, interpreting, and concluding the post-apocalyptic environment in the novel using Garrad's theory of ecocriticism. The second is analyzing, interpreting, and concluding Tom and Hester's struggle to survive in a post-apocalyptic environment using the green theory of Burke's perspective.

1.6 Definitions of Keyterms

1.6.1 Traction Cities: Traction Cities are giant metropolises built on tiers that rely on giant internal fuel-based engines to move on gigantic wheels or caterpillar tracks. Traction Cities range in size from enormous metropolises with populations of millions, to tiny villages and hamlets propelled by small engines. Traction Cities consume one another by gathering other, smaller cities in large hydraulic "jaws".

1.6.2 Tiers: A row or level of a structure, typically one of a series of rows placed one above the other and successively receding or diminishing in size, for example, like a wedding cake with three tiers.

1.6.3 Municipal Darwinism: a survival-of-the-fittest technological ecosystem that sees whole cities mounted on outsize tank tracks, picking off and consuming smaller, slower towns for their metal, fuel, and flesh. It's eaten or be eaten.

1.6.4 Medusa: A is a ground-based, quantum energy weapon, controlled by an artificially-intelligent computer system. It is described as having a huge, metallic hood shaped like a cobra's hood. It fires a beam of energy (either sourced from outside the real universe, the city's generators, or some other Ancient power source), at targets up to two hundred miles away.

1.6.5 Post-apocalypse: The existing or occurring events relating to the time following a nuclear war or another catastrophic event. A post-apocalyptic novel is a work of fiction set shortly after a highly destructive

event that has dramatically altered the world and, in most cases, killed most of the world's human population.

1.6.6 The Gut: The Great Under Tier is used to house the engines, machines, and fuel, as well as storage space which was later to be used as dismantling yards, all set on top of huge wheels.



http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/

CHAPTER II

THEORETICAL FRAMEWORK

2.1 Ecocriticism

An ecocritic Laurence Buell simply stated that the study of the connection between literature and the physical environment is called ecocriticism (Glotfelty, 1996, p. 18). As for Greg Garrard's claims about ecocriticism, he stated that ecocriticism is an open-minded analysis of political mode, compared with feminism and marxism demonstrates. Generally, ecocritics tie 'green' moral and political agendas to their cultural analysis. In this case, ecocriticism is closely related to environmental-oriented developments in philosophy and political theory (Garrad, 2004, p. 3).

Regardless, most ecocritical work shares the common goal of the troubling awareness of the environmental crisis and the consequences of human actions when they damage the planet's basic life support systems. Cheryll Glotfelty made a general observation about ecocriticism, besides searching through the major publications of the literary profession, you would find it easily the hot topics of race, class, and gender for the later twentieth century, even so, you would never suspect that the earth's life support systems were under stress. Indeed, you might never know there was an Earth at all, it is because you have limited knowledge of the environment. In contrast, if you were to scan the newspaper headlines of the same period, you would learn of oil spills, lead and asbestos poisoning, toxic waste contaminations, and the extinction of species at an unprecedented rate (Glotfelty & Fromm, 1996, p. 16.).

From Cheryll Glotfelty's statement, environmental crises tend to be forgotten because of the limited knowledge outside of the world, or it is caused by humans' ignorance of the environment. As Lawrence Buell said, "the environmental crisis involves a crisis of the imagination" (1995, p. 2). In this regard, the crisis in the environment could be predicted or imagined, as the consequence of disturbing the balance of nature. Moreover, ecocriticism is characterized as a project that "seeks to evaluate texts and ideas in terms of their coherence and usefulness as responses to the environmental crisis" (Kerridge and Sammells, 1998, p. 5). Based on the explanation above, ecocriticism is a study connected to the relation of humans and the natural environment in case of an environmental crisis which evaluates texts in literature.

Considering the definitions mentioned above, the researcher uses one theory from two experts to analyze the novel, using Greg Garrad's concept of ecocriticism to analyze how nature is represented in the novel such as pastoral, position, and apocalypse, meanwhile using Burke's green theory to analyze the relationship of human and nature in the novel. The reason is that Coupe from the *Journal of American Studies* (2001, p. 416) stated that Buell's primarily concerned with the representation of nature in "environmental nonfiction" or "nature writing." meanwhile Burke is concerned with the question of practice, of how humans behave in its relation to the natural world. Burke agreed that humans' abilities and responsibility have become profound in their purposes, as much as they dispute with the planet. If Buell demands people on how they regard nature, but, Burke focuses on how people behave towards it. Moreover, Glotfelty also stated that when nature is ignored by psychology in its theory of the human mind, however, some psychologists are searching for the correlation between mental health and environmental conditions, concerning the basis of our social and psychological ills as the form of the modern estrangement from nature (Glotfelty, 1996, p. 21). The researcher also found that Greg Garrad's view is mostly similar to Buell's which is mainly focused on the representation of nature rather than how people's attitudes towards it.

2.2 Greg Garrad concept's of Ecocriticism The researcher chooses apocalypse according to Greg Garrad's concept of ecocriticism.

2.2.1 Apocalypse & Post-Apocalypse

As Buell has stated that Apocalypse is the disposal of nature that occurs as the contemporary environmental imagination (1995, p. 285). Similar to Garrad, he asserts that when people start thinking 'the world will end soon,' they will be far from optimistic (Garrad, 2004, p. 107). Garrad also said that the view of the end

of the world lies in humans' minds, how the world continues in their convictions, understanding of their responsibility and survival to keep the earth. Meanwhile, Post- apocalypse describes the aftermath of the apocalypse, like Curry, said, 'the worsening crisis of today used as the reflection of the ecocatastrophe of tomorrow' (2013, p. 18). Post-apocalyptic is a literary genre that deals with how people respond to a worldwide disaster that results in the deaths of many people and the destruction of society. This kind of major disaster is the most common apocalypse definition used in a post-apocalyptic. Thus, the Post-apocalyptic environment is related to the environment after the catastrophe or disaster events occur. It is also anything that represents the cause and effects of the destruction in a Post-Apocalyptic environment.

2.3 Green Theory of Burke's Perspective

According to Coupe, generally, Burke's green theory comes from the inferences from his poem (Wake & Mapas, 2013, p. 208), There are four kinds of perspective, they are meta-biology, separated from our natural condition, goaded by the spirit of hierarchy and rotten with perfection. The researcher uses this perspective to analyze the character's decision to survive in the post-apocalyptic environment.

2.3.1 Meta-biology

According to Burke from Coupe, meta-biology is the study of the relationship between humans as an organism with their environment.

Burke summarizes it, as if biology thinks about the purpose of nature, then, meta-biology studies when human words are added to biological purposes. And so, human language and its actions affect nature. According to Merleau-Ponty, they can make a full comprehension if only they understand the ideas and utterances in the context of the world (Merleau-Ponty, 1968, p. 131). Meanwhile, human is doing an action within the act of understanding, just like Abram said in his statement, 'we are implicating the physical world, as we can never separate from the flux of participation' (1996, p. 45). Therefore, humans would always participate in nature in their activities, whether it is consciously or subconsciously. Hence, every activity they have done indicated humans' capacity for language, likewise, Burke determines human beings as the 'symbolic actor.' As symbolic actors, humans perceived nature as a term of nonlanguage, so the only reason nature could be received as the object of exploitation. (1972, p. 51–52).

2.3.2 Separated from our natural condition

From Burke's perspective, there are two parts of symbolic actions done by humans, they are a 'part of nature and 'apart from nature, whether they can keep the balance is questionable. In the Modern era, the latter often predominates the previous, which means, they tend to be 'apart from nature' causing humans to alienate and degrade nature. Once humans

decide to distance themselves from their environment, hence, they made technology the proportions and power against the environment. If humans detached themselves from the be 'a part of' nature' then their actions would lead to ecological disaster. To avoid the misapplying of technology and destruction of nature, Burke made a new sort of humanism, from the current belief of 'Big Technology,' which is humans' benefit over nature, becoming 'anti-Technological humanism,' preventing boasting human status privilege, regarding the nature and even in the place of the natural order. (1972, p. 53–54).

Ironically, when humans alienate themselves from nature, the consequences would be 'epistemological error' as said by anthropologist Gregory Bateson, there are two kinds of error, the first is the failure to see the mind as the existence in nature, and the second is the wrong belief that an individual would be understood if he is isolating himself from the environment and so, human doing total isolation from nature, even to all species. As the result, 'a man against nature,' then the rule would follow as 'The creature that wins against its environment destroys itself' (Bateson, 1972, p. 501). In acquiescence to Burke's statement, about the human as the victim or as a 'scapegoat,' he said that when nature becomes the victim of the men, by doing so men victimize themselves, as Burke feared the ultimate impasse. (1972, p. 26).

2.3.3 Goaded by the spirit of hierarchy

Hierarchy comes from the Greek words, which means 'the sacred rule,' originally the idea derived from the existence in a divinely ordained pattern, that is the chain order. Burke states that there are two models, they are the chain on the negative side and the chain on the positive side. The chain on the negative side is the agreement that nature is being capitalized on appropriately by human beings in their government systems and economic association. Feudalism encouraged this chain, as the faith from God-given structure, that is only by becoming wealthy and powerful, so they could enforce the class divisions and make the poor and vulnerable compelled to their power. It stands for the order becoming both obsessive and oppressive, named 'hierarchical psychosis.' While on the positive side, the chain is becoming a reminder that there was an existence greater than themselves making them acknowledge it as the ultimate allegiance, to shape the divine harmony as the idea that manifests in nature. Likewise, the 'Gaia hypothesis' from the scientist James Lovelock which is named by ancient greek god mythology as the mother of the earth, told that we must conform to an organic harmony in the biosphere otherwise suffer the consequences. (1972, p. 15).

As Plumwood said in *Feminism and the Mastery of Nature*, claimed that nature has been systematically submitted to 'the protagonist' as 'the master of the story' since ancient times. (1993, p. 39). In Western thought, Plumwood traced how nature was always being degraded, dominated, and exploited, as humans always are 'the master' of nature, they justified it in the name of global profit and rational economics, consequently destroying the planet. Then, Plumwood made the dualism of the chain order, which is the former opposed and superior to the latter, such as culture opposed nature, reason opposed nature, male superior to female, mind versus body, rationality versus animality, and also self over other (Plumwood, 1993, p. 41–44)

2.3.4 Rotten with perfection

The definition of rotten with perfection refers to the idea/impulse/desire of an individual to achieve perfection natural to its kind (Burke, 1966, p. 17). If humans' capability to transform the natural environment increases, so does their determination to do so. The words such as progress, enterprise, development, and management, as the words suggest the striving for technological perfection, without the definitive assurance of whether it would be beneficial for nature, substantively, it would increase the chance of ecological crisis. For example, *Silent Spring* (1962) by Rachel Carson, describes the damage of using pesticides in agribusiness which is widespread and destructive. When humans lived in a town where all nonhuman life was dead, then consequently, they would also die, because they lost the only source of reliance (Carson, 2000, p. 22). When humans first began to intervene in the ecological balance, in the beginning, it was just affecting locally, but the present, 'global warming has now disrupted the ecological balance globally. Humans began to influence the atmosphere, causing humans to change the weather carelessly. Starting with changing the weather, humans would make imitations on every spot of the earth. Thus, when humans deprived nature of its meaning, then there would be nothing in it. (McKibben, 1990, p. 54).

2.4 Previous Study

The researcher found two sources of the previous study related to this research. The first is correlated with the same novel, *Dystopian Visions of Global Capitalism: Philip Reeve's Mortal Engines and M.T Anderson's Feed* is the journal written by Elizabeth Bullen & Elizabeth Parsons (2007), it examines the same novel Mortal Engines using Ulrich Beck theory called risk society, the result of dystopian visions found that the seriousness of individualization under globalism reflected on the Municipal Darwinism, it is considered as the negative side of globalization.

The second is correlated with the same theory as using ecocriticism by Gregg Garrad, *An Ecocritical Analysis of Young Adult Dystopian Novel in Veronica Rossi's Under The Never Sky* the thesis written by Rofi'atul Azizah (2017) from the University of Islamic State Sunan Ampel Surabaya. The writer uses Greg Garrad's ecocriticism theory to analyze the novel *Under The Never Sky*, the writer found the portrayal of pastoral and wilderness in the Reverie and the Death shop, and the writer also found the experience and interaction of Aria and Peregrine with nature, how they learn knowledge and makes relation with nature.



http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/

CHAPTER III

ANALYSIS

In this chapter, the researcher shows a discussion of the data found in the novel and analyzes it based on the theory of ecocriticism. There are two applications of ecocriticism in the novel, the first is the presentation of the post-apocalyptic environment found in *the Mortal Engines* novel, and the second is the struggles and survival in the post-apocalyptic environment of two main characters, Tom and Hester.

3.1 The representation of the Post-apocalyptic environment

3.1.1 Traction Cities

Traction cities are giant metropolises built on tiers that rely on giant internal fuel-based engines to move on gigantic wheels or caterpillar tracks. Its range in size from enormous metropolises with populations of millions, to tiny villages and hamlets propelled by small engines. There are many traction cities mentioned in the novel, based on the plot in the story, only three cities are described in the novel, the first in London, the second in Speedwell, and the last is Turnbrigde Wheels.

The first is London, London's building describes as a wedding cake, it consists of up to seven tiers or layers, from the bottom up to the upper levels. It is supported by some engines or machines which keep it still moving and also the fuels it got from some smaller towns. The mining town saw the danger and turned tail, but already the huge caterpillar tracks under London were starting to roll faster and faster. Soon the city was lumbering in hot pursuit, a moving mountain of metal which rose in seven tiers like the layers of a wedding cake, the lower levels wreathed in engine's smoke, the villas of the rich gleaming white on the higher decks, and above it all the cross on top of St Paul's Cathedral glinting gold, two thousand feet above the ruined earth. (Reeve, 2001, p. 2)

From the quotation above, it mentions how the appearance of London Traction City which is built from metal like a machine that could move, using huge caterpillar-like wheels, it is rolling faster, and its Tiers classified into seven tiers up to its functions which also makes it like the social-class system as a corrupt and frenetic, lower levels is the place to burn the fuels produce engine smoke, meanwhile in the upper levels, as frenetic it seems to be, consist of the rich villas gleaming white on top also the glinting gold of St Paul's Cathedral.

There is an area that is very bad and poisonous in London called the Gut, which is an area in Tiers Seven. The Gut is a place to dismantle towns after being captured. The Gut is a very hot and disturbing place. The place with its many poisons hanging around the air and the temperature which is very hot and noisy, even Tom which is third class guildsmen hate to do the Gut duty because of it.

The Gut was where London dismantled the towns it caught: a stinking sprawl of yards and factories between the Jaws and the central engine rooms. Tom loathed it. It was always noisy, and it was staffed by workers from the lower tiers, who were dirty and frightening, and convicts from the Deep Gut Prisons, who were worse. The heat down there always gave him a headache and the sulfurous air made him sneeze and the flicker of the argon globes which lit the walkways hurt his eyes. (Reeve, 2001, p. 12) The quotation above describes how the Gut is a very disturbing and bad place, a part of London in which where the captured traction city is being dismantled as the fuel to keep London moving. The workers there are considered as the lowest tier (Tier Seven) in the guild. It could be seen from the appearance of the workers there from Tom's point of view. They are dirty and frightening, treated like a slave or criminals convicts in prison, moreover, the place is poisonous, the heat makes headaches and the sulfurous air is making the nose sneeze, and it is also hurting your eyes whenever you see the flicker lit of argon globes.

The second is Speedwell, it is a small traction city, which is moving on the land just like London. Speedwell city is built from woods. This city is so small just consisting of one tier, but it also has crooked chimneys on it.

By early afternoon they were walking under the shadow of the townlet's huge wheels, and Tom was staring up in amazement at its single tier. It was smaller than a lot of the houses in London, and it appeared to have been built out of wood by somebody whose idea of good carpentry was to bang a couple of nails in and hope for the best. Behind the shed-like town hall rose the huge, crooked chimneys of an experimental engine array. 21

The quotation above describes the appearance of Speedwell city. It is very small than some of the London houses, it is also made from wood, only a person who is good at carpentry can make it. Just like London, Speedwell is also supported by fuels to keep it moving, it can be seen from the crooked chimneys, it releases smoke just like a train.

The last is Turnbridge Wheels, it is a pirate city, a barbaric city which means the city does as it pleases, and disregarding the civilized way of capturing cities, it contrasts with London city. The city is just like pirates commonly, it has a skull flag as a sign the city is not an ordinary one.

The deck plates were rusty and pitted and the shabby houses were dwarfed by huge auxiliary engines that had been ripped out of other towns and bolted haphazardly to this one, linked to the main engines on the deck below by a cat's-cradle of gigantic ducts that wrapped around the buildings and burrowed down through holes cut in the deck plate. Beyond them, where Tom would have expected parks and observation platforms, a mess of gun emplacements and wooden palisades ringed the edge of the suburb. Welcome to TUNBRIDGE WHEELS Population: 500 467 212 and still rising! Above it flapped a black and white flag; a grinning skull and two crossed bones. 51

The quotation above describes the condition of Turnbridge Wheels city.

The city is rusty and full of shabby houses, which are like unclean and untidy buildings. The city combine the engines it got from other cities and built it so haphazardly. The city also has an observation place and many gun emplacements on the wooden fence of the side of the city. The population there is so crowded and it is still rising.

3.1.2 Hunting Ground

The Hunting ground is a place or area used for hunting, it stretches across most of Europe and part of Asia. Due to the constant movement of Traction Cities over the ground, the ground has been reduced to vast

muddy and scarred terrain. Even the hills and trees have not escaped, mining towns crush them in their path, or eat them for minerals, making the dismal plains even duller. So basically, it is bare earth in which the place for Traction cities hunt each other. The hunting ground is not as beautiful, mostly had been clawed by the wheels of Traction Cities, leaving the deep, sheer-walled trench mark on the muddy soft hunting ground.

> He flung the torn shirt away and ran after her, slithering in the thick, clagging mud, stubbing his toes on fragments of rock and torn-up roots. The deep, sheer-walled trench yawned on his left, and as he reached the crest of the rise he realized that it was just one of a hundred identical trenches; the huge track-marks of London stretching ruler-straight into the distance. (Reeve, 2001, p. 28)

The quotation above mentions the condition on Hunting Ground, when the first time Tom out of the city when he fell into the muddy soft hunting ground when he explored the ground, he saw the deep track mark on his left, he realized that it is "a huge track mark London left, it stretching like a ruler out of distance." (Reeve, 2001, p. 28). Moreover, the central Hunting Ground is very dangerous, it is because of the intense war between cities happens there, this area shows the fierce of Municipal Darwinism.

"Let me show you the central Hunting Ground," she chuckled, checking the charts that were fastened to the bulkhead beside her shrine. Down, and down, and then the cloud thinned and parted and Tom saw the vast Out-Country spread below him like a crumpled sheet of grey-brown paper, slashed with long, blue shapes that were the flooded track-marks of countless towns. For the first time since the airship lifted away from Stains, he felt afraid, but Miss Fang murmured, "Nothing to fear, Tom." (Reeve, 2001, p. 76)

The quotation above shows the conditions of central Hunting Ground through the airship, it describes as a crumpled sheet of grey-brown paper and flood with so many track-marks of countless towns. The earth was destroyed, making it like a crumpled sheet, it is also because of countless weapons used and many cities died, either being eaten by other cities or destroyed. Lately, the towns run off fuels because of the scarcity of prey, resulting in many towns' actions becoming more savage. So, with the fires and many dead cities, the ground becomes grey-brown, and Tom is afraid when he saw it.

3.1.3 Airhaven

Airhaven is a town that is once also a traction city, but it decides to escape from the other traction cities by flying it in the sky. It floats in the air beside the clouds in the sky. The city just consists of one tier made from alloy floating above the ground, it is supported by many colored balloons and turbines on the side of the town.

They went and stood behind her seat and looked, and far away across the sea of clouds, they saw the westering sun glint on a single tier of light-weight alloy and a nimbus of brightly colored gas bags. Long ago, the town of Fairhaven had decided to escape the hungry cities by taking to the sky. It was a trading post and meeting place for aviators now, drifting above the Hunting Ground all summer, then flying south to winter in warmer skies. Tom remembered how it had once anchored over London for a whole week; how the sight-seeing balloons had gone up and down... 36

The quotation above describes the appearance of the Airhaven city which is made from lightweight alloy and also consists of one-tier. From history, the reason why the city floats in the sky is that it does not want to be eaten by other cities, which means the city wants to escape from Municipal Darwinism. Fairhaven is also a place for many aviators gathering there since, after the Sixty Minutes War, many decades after the airships have become very advance, since it is very possible to fly out and stop it in the sky.

3.1.4 The Sea of Khazak

In Mortal Engines, The Sea of Khazak is beautiful but less picturesque, often feared rather than admired by many Traction Cities, it consists of many silvery rust water marshes, even the aviatrix Anna Fang could tell Tom and Hester through the song she knows from some old land shanty.

To the southeast, there were none at all, just a dingy layer of mist above a tract of marshland, and beyond that the silvery shimmer of water. "That is the great inland Sea of Khazak," said the aviatrix, when he pointed to it. "I'm sure you've heard the old land-shanty," and in a lilting, high-pitched voice she sang, "Beware, beware of the Sea of Khazak, for the town that goes near it will never come back..." (Reeve, 2001, p. 76)

The quotation above describes The Sea of Khazak when Anna Fang sings

a famous song about the Sea of Khazak, it told how dangerous the place is

whenever the town goes near it, it would not survive. The reason why it is

named "rust water marshes," is because it is full of the towns which sunk in it, and the rest of the town making it stained with red color, there is also silvery color, which means it comes from the trace of fuel from the sinking towns. The less variance is also mentioned in the Sea of Khazak when Tom and Hester arrived there.

He was recalling the huge map of the Hunting Ground that hung in the lobby of the London Museum, and the great sweep of marsh-country that stretched from the central mountains to the shores of the Sea of Khazak, mile after mile of reed-beds and thin blue creeks and all of it marked, Unsuitable for Town or City. He said, "I think this must be the edge of the Rust water Marshes. They call it that because the water is supposed to be stained red with the rust of towns that have strayed into it and sunk. Only the most fool-hardy mayor would bring his town here." (Reeve, 2001, p. 104)

The quotation above explains how Tom recalled how dangerous the Sea of

Khazak is from the map of Hunting Ground in the Museum, and what kind

of place around it, the shores of the Sea of Khazak is the place where there

is the great sweep of marshes of country, surrounded by mountains, the

mark on the map told that it is unsuitable for any Town or City to live on

it. Tom thought only the fool Mayor want to pass through it. Thus, the Sea

of Khazak is a beautiful place that is less varied, rather than admire it, it

tends to be feared.

3.1.5 Airship

The airship is the only transportation used in the novel, it is a type of aircraft held by gasbags that contain hydrogen and helium gases and are usually powered by piston engines. The airship is the main long-distance transportation on the earth developed in the Traction Era, in kind more advanced than air flight or airplane in the novel. "In the long millennia since the Sixty Minute War, airship technology had reached levels that even the Ancients had never dreamed of." (p.42). Airships varied from tiny hot air balloons to fighter airships from fighters to gunships. One example is Jenny Haniver's airship in the novel.

Tom wanted to stop and check that the men were all right, but she led him quickly past and up a ladder to Quay Six. The ship that hung at anchor there was not the elegant sky-clipper Tom had been expecting. It was little more than a shabby scarlet gasbag and a cluster of rusty engine pods bolted to a wooden gondola. "Junk?" laughed Miss Fang. "Why, the *Jenny Haniver* is built from bits of the finest airships that ever flew! An envelope of silicon silk from a Shan Guo clipper, twin Jeunet-Carrot aero engines off a Paris gunship, the reinforced gas cells of a Spitzbergen war-balloon... It's amazing what you can find in the scrapyards..." (Reeve, 2001, p.60)

The quotation above describes the Jenny Haniver airship owned by Anna Fang. Jenny Haniver builds from many useful pieces of some destroyed airships, it is one of the examples of a fighter airship, because it has Paris gunships pieces and also a war balloon from Spitzbergen and others. It is the combination of many fighter airships, that is why Anna Fang is so proud of her Airship.

3.1.6 Medusa

Medusa is the weapon that represents the cause of destruction, the root of Apocalypse and Post-apocalypse in the story. Medusa is a groundbased, quantum energy weapon, controlled by an artificially-intelligent computer system. It is described as having a huge, metallic hood shaped like a cobra's hood. It fires a beam of energy (either sourced from outside the real universe, the city's generators, or some other Ancient power source), at targets up to two hundred miles away.

> "Of course, these fragmentary plans were not enough to let us reconstruct MEDUSA." Crome was saying. "But seven years ago, thanks again to Valentine, we acquired a remarkable piece of Old-Tech, taken from a long-lost military site in the American desert. It is perhaps the best preserved Ancient computer core ever discovered, and it is more than that; it is the brain of MEDUSA, the artificial intelligence that once powered this remarkable machine. Thanks to the hard work of Dr. Splay and his comrades in the B Division, we have at last been able to restore it to working order. Guildspersons, the days when London had to run and hide from other hungry cities are at an end! With MEDUSA at our command, we will be able to reduce any one of them to ashes in the blink of an eye!" (Reeve, 2001, p. 166)

From the quotation above, it explains how London's Mayor, Chrome wants his city to never be afraid of other bigger cities, he wanted to make his city more powerful, then he asked the guild of Engineers to revive or repaired "Medusa," the destructive weapon used by ancients in Sixty Minutes War, although they know how the Earth destroyed because of that terrible weapon.

Thus in Mortal Engines, Apocalypse happens before and after the

Traction City era started, which is caused by Medusa. The ancients had

long been destroyed by the terrible flurry of atomic and virus bombs,

which they called the tragedies as Sixty Minutes War.

The Engineers applauded wildly, and Bevis Pod nudged at Katherine to join in, but her hands seemed to have become frozen to the metal arm-rests of her seat. She felt giddy with shock. She remembered everything she had heard about the Sixty Minute War and how the Ancients' terrible thunder weapons had blasted their static cities and poisoned the earth and sky. Father would never have helped the Engineers to recreate such a terrible thing! (Reeve, 2001, p. 166)

The quotation above describes what Katherine and Belvis Pod felt, they are in a frozen and shocked state in recalling what haven been explained to them about Medusa in the meeting, especially Katherine, she realized the terrible thunder weapon which poisoned the earth and blasted the ancient's static cities is called "Medusa."

3.2 The characters struggle to survive in the Post-apocalyptic environment

3.2.1 Tom uses goaded by the spirit of hierarchy's view to survive

Tom is an orphan who lives all along in the London Traction City. The city of London models itself on a kind of Victorian-era society. London's society is divided into four major and several minor Guilds. The Engineers are responsible for maintaining the machines necessary for the survival of London, many of which are found by the Guild of Historians. The Historians, are in charge of collecting and preserving highly prized, often artifacts.

Tom is a third-class apprentice of the Historian guild, which is the lowest class in the guild. Tom used goaded by the spirit of hierarchy's view to survive in London, which is how he always obeys the rules in his guild. His work hours are decided by the guild rules, seldom free, and often took care of the cleaning in the guild. He never leave the city, never knew the nature outside of the world beyond the city, he thought living inside the London traction city with its move and vibration is good, even when the city caught prey he is excited to see it.

He wasn't alarmed. He had lived in London for all of his fifteen years, and he was used to its movements. He knew that the city was changing course and putting on speed. A prickle of excitement ran through him, the ancient thrill of the hunt that all Londoners shared. There must be prey in sight! Dropping his brushes and dusters he pressed his hand to the wall, sensing the vibrations that came rippling up from the huge engine rooms down in the Gut. Yes, there it was - the deep throb of the auxiliary motors cutting in, *boom, boom, boom,* like a big drum beating inside his bones. (Reeve, 2001, p. 3)

The quotation above shows how Tom had lived in London all his life for fifteen years, he thinks this is what normal people would feel, the movements and vibrations when they lived in it. When the vibrations of huge engine motors got louder and louder, he knew there must be a prey London wanted to capture. Tom believed Municipal Darwinism is a fair and good law, like "the belief" from Burke's as "the chain of being was encouraged from feudalism. The belief from the consensus that it was a God-given structure only by the rich and powerful to enforce rigid class divisions and wield power at the expense of the poor and vulnerable," he never once questioned it and he thought it was normal for cities to eat towns, therefore he never sympathized with the people in the towns that London caught, since this law had been used a long time ago.

> The little town was so close that he could see the ant-like shapes of people running about on its upper tiers. How frightened they must be, with London bearing down on them and nowhere to hide! But he knew he mustn't feel sorry for them: it was natural that

cities ate towns, just as the towns ate smaller towns, and smaller towns snapped up the miserable static settlements. That was Municipal Darwinism, and it was the way the world had worked for a thousand years, ever since the great engineer Nikolas Quirke had turned London into the first Traction City. " (Reeve, 2001, p. 7)

The quotation above describes how Tom sees ant-like people who want to escape from their town which is soon being eaten by London. He know they might be frightened when their town would soon disappear, Municipal Darwinism made him must not feel sorry for them because this is something normal for him since thousand years ago the law established, "the city ate town, town eats smaller town and smaller town eat the poor static settlement." (Reeve, 2001, p. 7). Just like survival in the wilderness, the strong prey the weak. The world had been like this since London is built by engineer Nikolas Quirke, making London turned becoming the first Traction City. To survive in the Traction world, Tom believes this view.

UIN SUNAN AMPEI

3.2.2 Tom uses separated from our natural condition' view to survive

Tom is expected first to be included as a person who both is "a part of" and "apart from nature," but he is inclined to be "apart from nature." At first, Tom can not accept the fact that he is outside of London, he is unaccustomed to Out-country, he missed his bunks in the dormitory, and he even missed the noise of other apprentices in his dormitory. Silence. Silence. He couldn't understand it. Even when London wasn't moving there was usually some sort of noise in the dormitory; the whirr of ventilators, the hum, and rattle of distant elevator shafts, and the snores of other apprentices in the neighboring bunks. But now - silence. His head ached. His bunk felt strange, too, and when he moved his hands there was something cold and slimy that oozed between his fingers like... MUD! He sat up, gasping. He wasn't in the Third Class dormitory at all. He was lying on a great humpbacked mound of mud, on the edge of a deep trench, and in the thin, pearl-grey light of dawn, he could see the girl with the ruined face sitting nearby. (Reeve, 2001, p. 26)

The quotation above shows the event when Tom is shoved into the waste chute by the head historian guild, Valentine, it took such a shock for him, furthermore, he still can not accept between reality and dreams, he still thought he was inside the dormitory in London. Tom was accustomed to the noise of London, with its blow of ventilators, the elevator shafts, and the snoring of the apprentices. When he woke up, he is surprised to find out that he is lying in the mud on the ground of our country, it felt cold and slimy. It took some time to realize that he is not in his dormitory at all. Even after some walks with Hester in our country, he still felt that the bunks in the dormitory were still the best for him.

However, after the long journey with Hester, Tom realized the fact that he is also "a part of nature." While Tom as an unstable teenager is confused and pondering whether his views are right. When Tom is observing Shan Guo, and sees it, making Tom decided to protect the beautiful view from being destroyed by London. To survive in this world, Tom realizes that always being with nature is the best way, a good environment is a good place to survive. Alone, he mooched down to the terrace where the taxi balloons waited and sat on a stone bench there, feeling angry and betrayed and thinking of things that he should have said to Miss Fang, if only he had thought of them in time. Below him, the rooftops and terraces of Batmunkh Gompa stretched away into the shadows below the white shoulders of the mountains, and he found himself trying to imagine what it must be like to live here and wake up every day of your life to the same view. Didn't the people of the Shield-Wall long for movement and a change of scene? How did they dream, without the grumbling vibrations of a city's engines to rock them to sleep? Did they love this place? And suddenly he felt sad that the whole bustling, colorful, ancient city might soon be rubble under London's tracks. (Reeve, 2001, p. 205)

The quotation above describes Tom's dilemma, he started to question himself, and he also felt guilty about what he had said to Miss Fang when he wanted to defend London. Then, he thought about how it might be to live there, he is unable to imagine seeing the same view every day, because he never experienced it all this time, which raises some questions for him, and he starts to compare it with life in London. He is making himself hypocritical again and felt terrible at the thought of a bustling, colorful ancient city might be destroyed. However, after Tom meets Valentine in Shan Guo, he realized he was wrong all this time, all Traction Cities were never better, along with the lesson he got from Turnbridge Wheels, every traction city destroyed the habitats, the environment, and of course nature, thus, Tom chooses to help Hester go back to London to kill Valentine.

3.2.3 Tom uses a meta-biology view to survive

As the meta-biology included, every activity and action that take an effect on human, in term of exploitation and the way to solve problems, like Burke says "human beings are always *doing* something with words to have some effect on the particular situation in which they find themselves." (1972, p. 51). When Tom and Hester are in Weyland Town, he chooses to trade his Seedy to get the food to satisfy his hunger, which is algae, which grows at the side of the engine rooms of Weyland town, because the Weyland town is made from wood, the algae could grow fast there, Tom relies on nature to eat.

He was right: it wasn't very good, but Tom and Hester ate greedily anyway and then held out their bowls for more. "It's made from algae, mostly," explained Orme Weyland, as his wife slopped out second helpings of the bluish muck. "We grow it in vats down under the main engine room. Nasty stuff, but it keeps body and soul together when pickings are thin, and between you and me, pickings have never been thinner. That's why we were so glad to come across this mound of trash we're scraping through." (Reeve, 2001, p. 45)

The quotation above describes how Tom solved his hunger by trading his precious Seedy, although the algae are not tasty because the algae could be considered as one of the vegetables which does not have a taste, and is even more bitter. However, Weyland and his wife still do not appreciate this food very much because they called it "the mound of trash," (Reeve, 2001, p. 45), because of how fast it grows and does not tasty, they depend on it to satisfy their hunger.

36

Tom and Hester's journeys are not a smooth one, Weyland wants to sell them as slaves, which is something Tom would never think about, he faced the betrayal again the reason for the scarce prey and resources for them to run the town, but Tom still a smart person, he began to observe the environment so they could escape of being sold as a slave.

Wooden walls rose on either side, with morning sunlight glinting through the gaps between the planks, and overhead a mad confusion of pipes and ducts and tubes crawled over the ceiling. It was Speedwell's plumbing, and its burblings and grumbles were what he had mistaken for the song of the whale. He turned his attention to the wall, feeling his way along the planks. At last, he found one that felt slightly loose, and gradually, as he worked at it, it started to get looser still. It was slow, hard, painful work. Tom's fingers filled with splinters and sweat ran down his face and he had to stop each time someone passed along the walkway outside. (Reeve, 2001, p. 59)

The quotation above proved that Tom was not giving up to survive, he began to observe the surroundings, he found the way when he saw the wooden plank loose, and he knew he still could do it when he saw the gap in the plank shows the sunlight glinting through of it, with the help of the sunlight, Tom still could make a way for them to escape with the help of nature. Therefore, these all proved that Tom is *"doing* something with words to have some effect on the particular situation in which they find themselves." (Burke, 1972, p. 51).

3.2.4 Tom uses rotten with perfection's view to survive

According to Burke's view, "rotten with perfection" refers to the idea of an individual reaching perfection naturally to its kind (1966, p. 17). The idea of an individual believing that technology is perfect, just like Tom when he believed Municipal Darwinism is a perfect and fair law, but Tom misjudged it. Technology would often destroy the environment rather than keep it, just like Traction city. Tom did see the reality in Tunbridge Wheels. Humans often never stopped being conceited, some humans would think they could overpower nature by themself, it was happening when Tom meet the Mayor of Tunbridge Wheels, Peavey.

His men had not been told either, but they were happy enough snapping up the tiny townships which had taken shelter in the mazes of the Rustwater, semi-static places with moss-covered wheels and delicate, beautiful carvings on their wooden upperworks. They were so small that they were barely worth eating, but Tunbridge Wheels ate them anyway, and murdered or enslaved their people and fed the lovely carvings to its furnaces. It was a horrible, confusing time for Tom. He had been brought up to believe that Municipal Darwinism was a noble, beautiful system, but he could see nothing noble or beautiful about Tunbridge Wheels. (Reeve, 2001, p. 143)

The quotation above shows that Tom's belief in Municipal Darwinism is questionable. In the beginning, he thought that Municipal Darwinism was a fair and beautiful system, but after seeing what Turnbridge Wheels had done, he starts to understand, that it is not simply just a law. Tom thinks like this because he has never seen it before, he just knows what the pirates' town is and how they run it. This is also proved Tom's ignorance of his environment he would never think there were the dark sides of

London he would never know about.

In Tunbridge Wheels, Tom is also almost becoming a slave in the engine room, but he survived using his identity as a Londoner. As the Mayor of Tunbridge Wheels, Peavey wants his city to become like London. Tom knows that Peavey sees London as the perfection of Traction City, so Tom lies about his identity as Tier Two person to survive.

"You're from London, ain't yer?" asked Peavey. "I'd recognize that accent anywhere! And you're not from the Nether Boroughs, neither. What Tier d'you come from?" "T-two," stammered Tom. "Tier Two?" Peavey looked around at his companions. "You 'ear that? That's almost High London, that is! This bloke's a High London gentleman. What did you want to go slinging a gentleman like this in the lock-ups for, Maggs?" "But you said..." Maggs protested. "Never mind what I *SAID*," screamed Peavey. "Get him OUT!" (Reeve, 2001, p. 146)

The quotation above describes the mean of survival in Tom, which is by lying about his identity as a Tier Two Londoner. He sees how Peavey admires London as a respectable Traction city, so, to escape from becoming the engines room's slave, when Peavey's subordinate, Maggs wants to shove Tom in a cage, Tom immediately said that he is Tier Two person in London, judging as a rich respectable person, meanwhile when he is just a third class guild apprentice. Then, Tom's statements help him to survive in Tunbridge Wheels.

3.2.5 Hester uses goaded by the spirit of hierarchy's view to survive

Hester is an orphan just like Tom, she lived on the bare earth before. Unfortunately, her parents are murdered by the head Historian of London, Thaddeus Valentine, and he also ruined her face. Hester becomes more pessimistic about herself since the tragedy, it makes it impossible for her to think about anything except revenge on Valentine, that is why she does not care much about nature for her nature just a place to be admired, a place to survive and the resources to eat. When Hester met Tom, she thought Tom liked her, but when she saw her face, she thinks of reality.

He turned to Hester in the hope that she would take his side, but she was lost in her thoughts, her fingers tracing and re-tracing the scars under her red veil. She felt guilty and stupid. Guilty because she had been happy in the air with Tom, and it was wrong to be happy while Valentine was wandering about unpunished. Stupid because, when he gave her the shawl, she had started to hope that Tom liked her, and thinking of Valentine made her remember that *nobody* could like her, not in that way, not ever. When she saw him looking at her she just said, "They can kill everybody in London for all I care, so long as they save Valentine for me." (Reeve, 2001, p. 205)

The quotation above describes that Hester is goaded by the spirit of hierarchy, which means she thinks "the beautiful face always likable," but "she was not." When everybody in Shan Guo starts a plan to prevent London from destroying Shan Guo using Medusa, Tom disagrees, he wanted Hester to take his side, but Hester thinks she is incapable of saving anything, even nature, even herself. She chooses "reason over nature," so the only way to save herself and survive is to kill Valentine, rather than she will be killed by Valentine later.

3.2.6 Hester uses a separated from nature conditions view to survive

Hester is a person who regard herself as "a part of nature" rather than "apart from nature." Then, Hester is a person who is knowledgeable about nature, she knew the direction through the stars. When Hester and Tom are being chased by robot-like man Shriek, they survived and escaped in the direction of the stars pointed out by Hester.

Tom looked over his shoulder again, horrified. "Still," she said, "at least we're heading in the right direction for London." He peered gingerly over the edge of the basket. The clouds lay below them like a white eiderdown drawn across the land, hiding anything that might give a clue as to where they were, or where they were going. "How can you tell?" he asked. "From the stars, of course," said Hester. "Mum showed me. She was an aviator, too, remember? She'd been all over the place. She even went to America once. You have to use the stars to find your way in places like that where they don't have charts or landmarks. Look, that's the Pole Star, and that constellation is what the Ancients used to call the Great Bear, but most people nowadays call it the City. And if we keep that one to starboard we'll know we're heading northeast..." (Reeve, 2001, p. 94)

The quotation above shows how Hester is proud of her knowledge about

the stars which her Mom once told her. There are so many stars in the sky, she told Tom how to use stars to find the direction in the places where none of the landmarks or signs could be found. It would be impossible to know, but "From the stars, of course," (Reeve, 2001, p. 94). Hester shows Tom that nature also can help people in need when they lose their direction.

Hester is a strong person in surviving through nature, before meeting Tom, the only thing she persistent about is to reach London with everything she have and everything she got, she started on foot in Out-Country along with many ways of survival she came through to London, it took her two years longer to reach it.

"I've got to get back into London, haven't I? she said. "Two years it took me to find it, trudging across the Out-Country on foot, jumping aboard little townlets in the hope it would be London that scoffed them. And when I finally get there and find Valentine, come down to strut around the yards just like the scavengers told me he would, what happens? Some idiot stops me from cutting his heart out as he deserves." She stopped walking and turned to face Tom. "If you hadn't shoved your oar in he'd be dead, and I'd have fallen and died beside him and I'd be at peace by now!" (Reeve, 2001, p. 28)

The quotation above shows how Hester got mad at Tom when he stopped her to kill Valentine, it took "two years for her to survive in Out-Country from walking to jumping across little towns." (Reeve, 2001, p. 28), hoping the London would eat them, it was a long journey for her. Hester is a person who never cared about anything, except revenge, ever since she remembered how her parents killed her.

UIN SUNAN AMPEL

3.2.7 Hester uses a meta-biology view to survive

When human actions are added to biological purposes, then it is called Metabiology. Then human language and actions affect nature, it is the same with Hester. Hester is also a person who is close to nature, just like other humans generally, she depended on it while surviving in Out-Country, she knew how to cook, and what kind of herb will make it delicious. Thus, Hester survived with "biological purposes" as humans' needs always relied on nature.

In the early afternoon, they came across a few dull, greyish bushes that London's tracks had not quite buried, and Hester tore some leaves off and mashed them to a pulp between two stones. "They'd be better cooked," she said, as they ate the horrid vegetable goo. "I had the makings of a fire in my pack." Later, she caught a frog in one of the deep pools that were already forming in the chevroned track-prints. She didn't offer Tom any, and he tried not to watch while she ate it. (Reeve, 2001, p. 39)

The quotation above shows Hester's familiarity with nature, when she cooks with every instruction in mind, like something she has done every day, just like every human, she depends on nature to get food. Hester mashed some leaves between two stones into a pulp, even though it is not delicious as to refers to the word "horrid," then, she makes a fire, and after that, she catch a frog in the pool from the track prints as if this was "a kind of routine she does every day in our country."

3.2.8 Hester uses rotten with perfection's view to survive

Hester realizes the meaning of her actions, in the end, the false belief if she kills Valentine everything will be "perfect." However, when she is almost killed by Valentine, she is saved by Valentine's daughter, Katherine.

Hester stared back at him. She had come all this way to kill him, through all these years, and now that he was at her mercy she felt nothing at all. His sword lay on the ground where he had dropped it. No one was watching her. Even with her wrists bound she could have snatched it up and stuck it through his heart. But it didn't seem to matter now. Dazed, she watched his tears fall, plopping into the astounding lake of blood that was spreading out from his daughter's body. Confused thoughts chased each other through her head. He loves her! She saved my life! I can't let her die. (Reeve, 2001, p. 274)

The quotation above shows Hester is trying to forget about her revenge

and saving Katherine who blocked her from being killed. She decides that she will help Valentine to save his daughter's life. Hester's attitude shows her maturity in which she prioritizes what is the most important, she has sympathy, like she actually "cares about nature," but it was never her priority from the start. She is good at observing her surroundings, even when Tom blames himself for how London is destroyed by Medusa. But for Hester, it was not his fault at all, because she was there when the catastrophe happened.

Hester was watching too, staring back at the place where St Paul's had been as if she could still see the after-images of Katherine and her father lost in the brightness there. "Oh, Tom, no," she said. "It was an accident. Something went wrong with their machine. It was Valentine's fault, and Crome's. It was the Engineers' fault for getting the thing to work and my mum's fault for digging it up in the first place. It was the Ancients' fault for inventing it. It was Pewsey's and Gench's fault for trying to kill you and Katherine's for saving my life.. ." She sat down beside him, wanting to comfort him but afraid to touch him, while her reflections sneered at her from fractured dials and blades of window glass, more monstrous than ever in the fluttering glare of MEDUSA. (Reeve, 2001, p. 282)

The quotation above describes how Hester starts to explain the cause and

effect of the explosion in London so that Tom would stop blaming himself

for it. Hester knew too well who started all of this, the loss, pain, and

everything started from the greed of humans. It starts from something that

is meant to be lost, she is not denying it, even her mother is at fault for digging this weapon just to sell it to Anti-Traction League. Humans' greed would never end, but it would also be solved by the nature in the end. Humans thought "the perfect old technology weapon" could "destroy nature, indirectly they destroy themself."



http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/

CHAPTER IV

CONCLUSION

Based on all of the data, information, and findings in the previous chapters, the researcher found many representations of the Post-apocalyptic environment in the Mortal Engines novel, they are Traction Cities, Hunting Ground, Airhaven, the Sea of Khazak, Airship and especially the weapon named Medusa. Traction cities represent a post-apocalyptic environment in which the giant metropolises built on Tiers that rely on giant internal fuel-based engines to move on gigantic wheels or caterpillar tracks, There are many traction cities mentioned in the novel, but based on the plot in the story, only three cities described in the novel, the first in London, as a big metropolitan city, the second is Speedwell, a small town made from woods, and the last is Turnbrigde Wheels, the pirate or barbaric city. The hunting ground is a place or area used for Traction cities to hunt, it stretches across most of Europe and part of Asia, the ground has been reduced to vast muddy and scarred terrain because of the constant movement of Traction Cities. Airhaven is a Tier city made from alloy floating above from the ground, it is supported by many colored balloons and turbines on the side of the town, or it can be called the flying town, only using an airship to reach there. The Sea of Khazak is beautiful, it consists of many silvery rust water marshes, the place dangerous for any traction cities. and the last is Medusa, the only weapon which is caused by the destruction of the story, the nuclear weapon controlled by an artificially-intelligent computer system.

To survive in those apocalyptic environments, the two main characters, Tom and Hester use Burke's view of ecocriticism to face the crisis in the novel, they are goaded by the spirit of hierarchy, separated from the natural condition, meta-biology, and rotten with perfection. To survive in London City, as a person who was born in London, Tom is always submissive to the law and regulations in London which include him using goaded by the spirit of hierarchy view, thus he obeys the hierarchy in London as a third-class of Historian Guild apprentice, but in the Hunting Ground he realized that without nature he can not survive, thus, he used separated from natural condition's view that is be a part of nature, then, Tom using meta-biology in how he depends on nature to eat and how he escapes from sold to be a slave and also using rotten with perfection's view, using his intelligence to deceive Mayor from making him into a slave for the engine room.

As for Hester, since the tragedy of her parents being killed by Valentine and her face disfigured, her purpose and motivation to survive always one that is to kill Valentine, because Hester is goaded by the spirit of hierarchy, that is beautiful always happy, meanwhile, she is ugly can not get happiness and all of those are caused by Valentine. Hester uses the separated from natural condition view for her tenancy to reach London for two years to kill Valentine, in the middle of the Journey she survived from being captured by a robot-like human, Shriek, using her knowledge of stars to guide her way, like human generally, Hester uses meta-biology when she depends on nature to eat, Hester intelligence also helps her when London destroyed themselves because of Medusa, she escaped with Tom using Airships, and also to appease Tom, when he blamed himself, she knows the reason why London destroyed, it's not Tom or her fault, the root of this is the greediness of human, including her Mom who dig Medusa, Valentine who kill her parents to get it, and also Chrome who activated it. When they acquired "the perfect old technology weapon", it "destroys nature, indirectly they destroy themself." this view including in rotten with perfection.



http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/http://digilib.uinsby.ac.id/

REFERENCES

- Azizah, Rofi'atul. (2017). An Ecocritical Analysis of Young Adult Dystopian Novel in Veronica Rossi's *Under the Never Sky*. Surabaya : UIN Sunan Ampel Surabaya. 2017. Print.
- Bateson, G. (1972). Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology. Chicago: The University of Chicago Press.
- Buell, L. (1995) *The Environmental Imagination: Thoreau, Nature Writing and the Formation of American Culture*. London: Princeton University Press.
- Bullen, Elizabeth and Parsons, Elizabeth. (2007). Dystopian visions of global capitalism : Philip Reeve's *Mortal Engines* and M. T. Anderson's *Feed*, Children's literature in education, vol. 38, no. 2, pp. 127-139,10.1007/s10583-007-9041-9 retrieved from http://hdl.handle.net/10536/DRO/DU:30007625
- Burke, Kenneth. (1966). Language as Symbolic Action: Essays on Life, Literature and Method. Berkeley, CA: University of California Press.
- Carson, Rachel. (2000) Silent Spring. London: Penguin
- Cohen, M. P. (2004). Blues in the Green: Ecocriticism under Critique. Environmental History, 9(1), 9–36. https://doi.org/10.2307/3985943
- Coupe, L. (ed.) (2000). *The Green Studies Reader: from Romanticism to Ecocriticism*. London: Routledge.
- Coupe, L. (2001). Kenneth Burke: Pioneer of Ecocriticism. Journal of American Studies, 35(3), 413–431. http://www.jstor.org/stable/27557004
- Clark, T. (2015). Anthropocene disorder. In Ecocriticism on the Edge: The Anthropocene as a threshold concept (pp. 139–158). London: Bloomsbury Academic. Retrieved June 18, 2022, from http://dx.doi.org/10.5040/9781474217484.ch-007
- Curry, Alice. (2013). Environmental crisis in young adult fiction : a poetics of *earth*. Houndmills, Basingstoke, Hampshire. New York : Palgrave Macmilla.
- Garrad, Greg. (2004). Ecocriticism. New York: Routledge.

- Glotfelty, C.,& Harold,F. (1996).*The Ecocriticism Reader: Landmarks in Literary Ecology*. Athens and London: The University of Georgia Press.
- Kaplan, S. (1992). The restorative environment: Nature and human experience. In D. Relf (Ed.) The role of horticulture in human well being and social development. Portland, OR: Timber Press. Pp. 134-142
- Kerridge, R., & Sammells, N. (1998). Writing the environment: Ecocriticism and *literature*. London: Zed Books.
- Kellert, S. R., & In Wilson, E. O. (1993). The Biophilia hypothesis.
- Kellert, Stephen R. & Kellert, Stephen H. (1996). *The Value of Life: Biological Diversity and Human Society*. Island Press.
- Maggioni, E. (2016). "Earth! have they gone into you?" An Ecocritical Reading of the Relationship Between Man, Nature and War in Isaac Rosenberg's Poems. L'ANALISI LINGUISTICA E LETTERARIA, Anno XXIV, 53-62.
- Marx, L. (1964). *The Machine in the Garden: Technology and the Pastoral Ideal in America.* London: Oxford University Press.
- McKibben, B. (1990). The end of nature. New York: Anchor Books.
- Moylan, T. (2000). Scraps of the untainted sky: Science fiction, utopia, dystopia. Boulder. Colo: Westview Press.
- Plumwood, V. (1993). Feminism and the mastery of nature. London: Routledge.
- Reeve, Philip. (2001). *Mortal Engines*. New York: EOS HarperCollins, London: Scholastic,.
- Sironi, M., Hasnain, S. E., Rosenthal, B., Phan, T., Luciani, F., Shaw, M. A., Sallum, M. A., Mirhashemi, M. E., Morand, S., González-Candelas, F., & Editors of Infection, Genetics and Evolution (2020). SARS-CoV-2 and COVID-19: A genetic, epidemiological, and evolutionary perspective. Infection, genetics and evolution : journal of molecular epidemiology and evolutionary genetics in infectious diseases, 84, 104384. https://doi.org/10.1016/j.meegid.2020.104384
- Wake, P., & Mapas, S. (2013). *The Routledge Companion to Critical and Cultural Theory*.Routledge.