

Environmental Destruction in Novel *Extremophile* by Ian Green

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ABSTRACT

Environmental destruction caused by humans due to wrong actions can be a problematic of environmental balance. Environmental destruction is an environmental issue that still attracts public attention today. One form of this attention is presented in the form of contemporary literary works with environmental themes. Such as this study which discusses the novel *Extremophile* by Ian Green (2024) related to the environmental destruction and catastrophe that occurs in it. This novel represents natural disasters that occur in relation to industry, technology and human activities that make the environment unhealthy. This study aims to see how the representation of environment destruction carried out by humans is not limited to the environment but also due to technological developments through the ecocritical view of Greg Garrad's work. This study uses a qualitative-descriptive method to analyze the relationship between humans and nature, which causes environmental destruction. Through Greg Garrad's perspective on ecocritical study that enriches views on the environment and contributes to increasing public awareness of the importance of a healthy environment should be.

Keywords: environmental, destruction, ecological crisis, anthropocentrism

INTRODUCTION

According to the statement of Thiel et al.,p.3869 (2001) One form of damage caused by the misuse of technology is the impact of experiments that have the potential to cause damage to all sectors of life in the the misuse of technology. The environment is a place for humans to live. In the environment, there are many resources that sustain human life, such as water, soil, plants, and animals. Humans and the environment coexist because they are interdependent. If the environment in which humans live

is disturbed and polluted, life will not be sustainable, and vice versa. However, the relationship between humans and their living environment has begun to be disrupted due to greed and the misuse of technological advances, which have caused environmental pollution and resulted in a decline in human concern for the preservation of their own living space.

"Man's tragic flaw is his anthropocentric as opposed to biocentric vision, and his compulsion to conquer, harmonise, domesticate, violate and exploit every natural thing." (Mishra, 2016, p.169). The environment that humans should protect is being destroyed by various activities. Numerous scientific and industrial experiments have led to the rapid spread of hazardous chemicals. These experiments include ecosystem pollution, chemical leaks, rising temperatures, and even dangerous genetic experiments. Excessive industrial activity has led to various types of pollution. As a result, nature is depicted as having lost its balance, with extreme weather, air pollution, and uninhabitable environments being clear evidence of the damage. When humans attempt to control nature without limits by misusing technology, they are actually accelerating their own destruction.

"Humans, counting himself too, of being consumed by greed and selfishness towards nature, which has eventually resulted in its destruction." (Farooq, 2024, p.7). Through literary works, we can find depictions of human behavior that damages nature. Literature serves as a medium used to depict all forms of bad and selfish human behavior towards the environment and nature. Dominant selfishness is the driving force behind these bad actions. They ignore the damage that impacts all sectors of life, even ignoring it because they only focus on their own interest without considering the consequences. Bad behavior that should be stopped, instead continues to be manifested comprehensively, causing the damage to spread further. In the context, literature plays a role as a helper, giving voice to all forms of environmental damage perpetrated by humans, whose selfishness and sense of superiority make them indifferent to what is happening out there due to their own actions.

"This framework serves as the basis for a new perspective that emphasizes the dynamic and diverse relationship between humans and nature. In the context of literary studies, this framework can be aligned with simultaneously conditions depicted in novels. This, novel functions as a medium for explaining human-environment relationships while simultaneously building ecological awareness." (Welden et al., 2021, p.968). The literary perspective as a theoretical framework related to the environment and literature is represented in the novel. The literary perspective is used as a tool to analyze a situation and environmental conditions, then the relationship between the two in a novel. The novel is used as a forum for developing ideas, theories, and opinions by the author. Literature is no longer considered merely a metaphor but a foundation for

thought, so that it can explain the relationship between literature and the environment through the novel. Furthermore, the author believes that the novel can be an attraction to raise awareness of the environment and nature. Based on these things, literature is considered and chosen as a basic framework in theories related to the environment to facilitate analysis of problems that occur in the surrounding environment

"By moving between the various spaces and times depicted in the fictional climate, readers can grasp how complex and interconnected the aspects that need to be understood to realize the major impact of unsustainable consumerism, resource depletion, species extinction, and human-induced climate change."(Umiyati, 2021,p.17). The depiction of environmental damage in the novel *Extremophile*. The character Charlie shows that technology, if misused, can cause fatal damage to the environment. The misuse of technology, such as biohacking and bioengineering, is not for the common good, but for personal gain. These actions are based on selfishness, which reduces concern for the surrounding environment, leading to dangerous experiments oriented only for personal satisfaction. Dangerous experiments accelerate the destruction of fragile ecosystems, worsening environment imbalances. This novel reflects the fictional reality of the threat of environmental damage that occurs through literary works.

"To describe something as an ecological problem is to make a normative claim about how we would wish things to be." (Greg Garrard- *Ecocriticism-2004*, n.d.,p.5). The essence of the interpretation of the major environmental issues described in the novel *Extremophile*. On this explanation emphasizes that the ecological crisis is not simply a matter of scientific data or the fact of damage, but increasingly penetrates the patterns of beliefs and cultural norms that govern every human preference and action. In the *Extremophile*, this situation is clearly seen in Charlie's personality, who normalizes biohacking systems for the sake of individual desires, reflecting extreme anthropocentric thinking. Charlie's actions in conducting these dangerous experiments are not the common good, but are rooted in selfishness and a desire for unlimited control over nature. Garrard suggests that we should not only look at the environmental damage that is occurring, but also examine the perspective and understand the human beliefs that underlie these destructive actions.

"It may seem obvious that ecological problems are scientific problems rather than objects of cultural analysis." (Greg Garrard- *Ecocriticism- 2004*, n.d.,p.5). This seems relevant when analyzed in the context of the extreme anthropocentrism demonstrated by Charlie in the novel *Extremophile*. Biohacking efforts are not only undertaken to achieve immortality, but also contribute to shaping social aspects that reinforce the normalization of human domination over the environment. As Garrard states, *"The voight-kampff test closely monitors involuntary eye movements in order to gauge*

empathy, and therefore identity..." (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.145), suggesting that the goal is to create individuals who are unaware of their negative impact on the environment. Garrard points out that if the system assumes this, it can damage nature and cause us to lose empathy for it. This behavior reflects a modern culture that prioritizes personal advancement over environmental balance. Through its narrative, it invites readers to re-examine cultural values that can separate humans from environmental balance.

"Environmental problems require analysis in cultural scientific terms, because they are the outcome of interaction between ecological knowledge and cultural inflection" (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.13). That clearly demonstrates that the environmental issues in the novel *Extremophile* are not solely scientific. Rather, they are cultural constructs that reflect human ideologies about nature. Humans follow their imaginations without considering the consequences. A lack of understanding of ecology often leads to this. The application of ecocriticism needs to be implemented and represented in contemporary cultural constructions, as it is hoped that it can serve as a common thread for humans, linking the importance of understanding ecological science in constructing reality and culture.

"The widest definition of the subject of ecocriticism is the study of the relationship of the human and the non-human"(Greg Garrard- *Ecocriticism*-2004, n.d.,p.5) The position of humans with nature, as their relationship with non-human beings. Also, how they interact with non-human beings, damage to nature occurs because humans feel they can do whatever they want by following the imagination in their minds without thinking clearly and rationally. This is illustrated in the novel, where Charlie's actions create false boundaries between humans, animals, and plants, from which he tries to control the ecosystem through his experiments. The relationship between humans and non-human beings, which was initially interdependent, ultimately causes crisis and damage to nature and the surrounding ecosystem.

As John Muir states, *"When we try to pick out anything by itself, we find it hitched to everything else in the universe"*(Greg Garrard- *Ecocriticism*-2004, n.d.,p.64). John Muir's quote emphasizes that all life in the universe is interconnected and inseparable. In the novel *Extremophile*, an ecocentric perspective emerges as a counterpoint to human arrogance and the desire to dominate nature, as seen in Charlie's biohacking experiments. Unlike the natural balance depicted by John Muir, Charlie's actions disrupt this relationship and have unforeseen consequences. The novel critiques the dangers of excessive desire, which ultimately destroys nature. In this case, it serves as a reminder that if humans continue to act selfishly towards nature, they will suffer the consequences. By learning to appreciate and line balance with nature, humans can help life continue to thrive.

"This ecocriticism cannot contribute much to debates about problems in ecology, but it can help to define, explore and even resolve ecological problems in this wider sense." (Greg Garrard- *Ecocriticism*- 2004, n.d., p.6). The ecological crisis in the extremophile not only reflects the physical damage to nature but also reveals the rift in the relationship between humans and the environment. Charlie, as representative of modern humans, shows how ambition can erase moral boundaries for non-humans when nature is treated as an object of experimentation. The vital values of ecosystems are ignored and replaced by the human desire to dominate and exploit. An anthropocentric culture that places humans at the center and ignores ecological interconnectedness is manifested through the conflict and destruction it causes. *Extremophile* invites readers to reflect on the position of humans as merely one part of life, not the center of everything. Understanding ecocriticism is important as an ethical foundation so that humans can live in harmony with nature and no longer view nature as something to be exploited selfishly.

Previous research has extensively examined ecocritical theory regarding human exploitation directly carried out on the environment. For example, activities such as excessive water use causing droughts and pollution, which certainly lead to environmental damage, as seen in the novel *Dry* by Shusterman studies by Sri and Endah (2023), illustrate how this exploitation was conducted directly at a time when technology had not yet developed. Then, in this current study, environmental damage emerges because, over time, technology has advanced, leading to pollution from various aspects. These aspects can be observed from longstanding waste, chemical odors due to experimental actions, as well as actions from industries. This phenomenon certainly constitutes a new experience seen through the course of history and technological development.

In previous research, it was explained that wilderness is a place that has been lost due to the effects of human activities that damage the environment. Exploitation activities can worsen vegetation, drought, and unbalanced ecosystems. This study is different from the novel *Extremophile*, in which wilderness still exists, albeit in fragile parts as seen and declined swamps. Nevertheless, the birds there feel loved in their presence, and the trees are admired. Garrard's concept is presented not as pristine and pure, but rather with a shift in focus toward deconstruction, where the environment is depicted as a symbol and a source of hope.

Conceptually, this ecocritical theory previously tended to focus on human exploitation activities carried out directly and excessively, causing environmental damage. However, this study emerges as a step to understand ecocritical theory from a different perspective. This research focuses on human activities that harm the environment through bioengineering, human and non-human experiments, as well as mining activities. This study can certainly examine Greg Garrard's ecocritical

theory by looking at historical contexts, then observing how technological developments can also impact environmental destruction, as well as the relationship between humans and the environment being disturbed due to excessive consumption.

"Ecocriticism explores the ways in which we imagine and portray the relationship between humans and the environment in all areas of cultural production..." (Greg Garrard- *Ecocriticism*- 2004, n.d.). Ecocriticism in humanitarian, explores how human imagination can form both harmonious and destructive bonds with the environment as a part of human existence. This research encompasses all stages of cultural production. The aim is to interpret how depictions of nature in various cultural narratives fundamentally influences human identity and ethics in relation to the planet. Approach details hidden messages about the complex interaction between human and nature. Ecocriticism raises ethical awareness that moves humans to shift from domination to a life of mutual benefit. That ecocriticism is a crucial humanitarian insight for examining the environmental footprint of cultural expressions for the common well being of humans and nature.

Apocalyptic literature takes the form of a revelation of the end of history. Violent and grotesque images are juxtaposed with glimpses of a world transformed; the underlying theme is usually a titanic struggle between good and evil (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.86). Referring to the depiction of natural disasters on an extreme scale in *Instinctive*, the disaster is considered the end of civilization for all the living creatures on the earth. Apocalyptic not only describes comprehensively about environment exploitation by humans, but also makes a quick narration of the existence of moral imbalance, where the society is divided into two opposing on responding to this issue there are the caring and uncaring sides. This simplified narrative describes in detail about the human failure to protect their environment and maintain ecological balance. The formation of two paradigm branches, anthropocentrism only views human as a center of life, meanwhile ecocentrism sees all sectors in life as the holistic center of life without prioritizing any of them. Overlap between anthropocentrism and ecocentrism, the trouble caused by anthropocentrism is too dominated, humans always prioritize their selfishness and of course not in accordance with the interests of nature. Humans are portrayed as a preparators of ecological destruction, even though the environment is the key to their survival.

"Greg Garrard's accessible volume traces the development of the movement and explores the concepts that have most occupied ecocritics," (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.2) Garrard's statement present an easy to understand guide to understanding ecocriticism. The author explain the journey ecocritic became environment movements and describes important topic that divided into a several concept. Ecocritical concepts are

divided into six concepts which are pollution, wilderness, apocalypse, dwelling, animals, and the earth. This concept offers literary works viewed through a critical lens to understand cultural narratives about the environment, while also encouraging concrete action through ecological literacy and awareness. Essentially asserts that literature plays a crucial role in shaping environmental ethics and strengthening a more responsible relationship between human, nature, and all of the sectors of life.

Pollutions

Garrard states that, "*They are therefore not fixed entities but develop and change historically.*" (Greg Garrard- *Ecocriticism*- 2004, n.d.p.8). This phrase marks the concept of pollution is not a static concept, but moves along with technological developments so that knowledge about ecosystems is better. Technological developments introduce substances that have effects and impacts on the environment. The resulting impacts originate from activities between humans and the environment. By conducting a deep scientific understanding that if not done carefully will lead to technical errors and damage that causes environmental damage, even long-term. Of course, everything is seen from the perspective of social values when considering a decision.

Wilderness

"*The idea of wilderness, signifying nature in a state uncontaminated by civilisation,*" (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.59) in the context, Garrard describes untouched by human activity or civilization, defining it as pure and pristine. Clean here refers to the separation of humans from the environment, with their history, culture, and interference. Forests and wilderness often serve as spiritual escapes due to the influence of industrialization brought about by modern development. The emotional impact of this spiritual approach by natural surroundings. Garrard, in essence, reveals a cultural construct in which humans are often forgotten, even though they are part of the ecosystem. This concept explores how nature should be protected from exploitation.

Apocalypse

The most extreme natural disasters are often seen as the smaller example of apocalypse. Sometimes society believes this is the end point of destruction for humanity or the final destination of civilization. "*The fear of the end of the world arises due to dire depictions of an apocalypse, ranging from major wars to predictions of catastrophe...*" (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.85). Environmental destruction becomes higher as the time goes by, which is marked with the global climate change causing extreme weather. The triggered disasters are certainly not only related with environmental degradation or biological factors due to nature, it is caused

by human activity doing the continuous exploitation to the environment or anthropocentrism. Also main effect of anthropocentrism started by the pollution of air, soil, and a lot of sectors of life, which triggers the occurrence of biggest impact which is global warming and can be the main factor of environmental destruction, normalization of humans behaviour such as impact of ecosystem, causing a long term of consequences. A lot of humans always put their selfishness to prioritize, and always really want to dominate without thinking more clearly about the consequences that will happen as a result of their behavior. The destruction of nature so depicted clearly, becomes the final proof that life in this nature will be imminent soon due to the environmental destruction in the world. Nevertheless, only if we figure out that the planet has a future, however, we might take responsibility for it and it could be discussed that and moral challenge of ecology may lie in accepting that the world is not about to end, that human beings are likely to survive (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.107).

Dwelling

Relationships between humans and their living environments become the main focus. Humans live in their dwellings not just meant to be inhabited, but within that scope humans need to build the intensity of understanding between them and their dwellings. The environment bears witness to the phases of the life cycle of humans with all kinds of development and also the life journey. And then according to Garrard says that "*Dwelling is not a transient state; rather, it implies the long-term imbrication of humans in a landscape of memory, ancestry and death of ritual, life and work*(Greg Garrard- *Ecocriticism*- 2004, n.d.,p.108). In this era, humans need to build a chemistry or good relations with dwellings. By installing an understanding of ecological awareness, humans are expected to understand the sense of place, appreciate, and can represent the positive value for the living environment.

Animals

The sector of living environments also emphasizes the relationship between living creatures that must be viewed ethically. Humans and animals are both living creatures created to coexist on earth, have equal status in life. Humans do not represent and treat animals as normally living creatures; they should be protected. Garrard stated the relationship study between animals and humans in the humanities is separated into the philosophical consideration of animal rights and the representation of animals in historical and cultural analysis (Greg Garrard- *Ecocriticism*- 2004, n.d.,p.136). In the previous classification the animals are divided into two types, domestic and wild, representations of this related to animals that must be treated fairly and equally, this representation makes different types how animals are treated, one required decorative and the other one

treated as a symbol of living being. All of this refers to usage of animals used as a decorative symbolism, and occurrence of exploitation by human activity.

The Earth

Globally the earth is considered the center of life for every sector of life. The earth is described as something very lush, comfortable, and peaceful, because the earth is a place to live and carry on life. As a proper place to live, the earth obviously must be protected because life depends on the existing ecosystem. The plan that was supposed to be, has changed, When humans are exploiting or implementing anthropocentrism. "*Earth is thereby inflected as an errant subject requiring techno-scientific correction*" (Greg Garrard- *Ecocriticism- 2004*, n.d.,p.166) That quote narrates about the conflict between human and nature, the correlation the earth must have to the safe places, but instead underwent drastic changes, as a result of never ending exploitation, that threaten and destroy the balance of nature. The gas pollution caused by human actions, also triggers global warming and dangerous climate changes. The selfishness disrupts the original plan of the ecocentrism, then toward antropocentrism. Also significant distraction occurs on the system of ecology, of course the impact can affect all sectors of life.

METHOD

The research using descriptive qualitative methods. Qualitative research describes the problems interpreted include matters, which is broad in nature or encompasses perspectives to all aspects (John W. Creswell & Cheryl N.Poth, 2018). This research is objective, because it encompasses all aspects containing long explanations but systematic, so that can help the reader to process the information received. The primary data source that is used in this research is *Extremophile* novel by Ian Green, as for the secondary data used is article journal, foundational book of ecocriticism, also the previous study that examined the environmental destruction, anthropocentrism, and include the theory of Gregg Garrard. All of the data used is textual and obtained from the search and deep discussion towards the novel also supporting literature.

The data collection techniques that are used are divided into three parts, first one is close reading, these techniques used for understanding the context from the reading material to describe the issues that happened in environmental destruction which is relevant to the research topic. The second is heading word, using the highlight techniques towards the word, phrase or sentence showing the incident of destruction in the novel. Last is the data tabulation, its purpose is to make it easier to categorize these concepts which are pollution, wilderness, apocalypse, dwelling, animals, and the earth. The purpose of collecting these data, to categorize the data

textually that can be analyzed to prove the incidents, happened in the novel. Categorization or grouping in theory is highly desirable to make it more focused and in line with the conceptual framework research. In the conceptual framework, if one of the concepts occurs, for example pollution, that will include textual evidence from those incidents to help the reader distinguish if each concept exists.

Analysis techniques for this research, not only described in comprehensive terms but also using the word data analysis or highlighting process. This highlight process is done by filtering the information and categorizing the word or the most important phrase including in each paragraph or citation, that can represent the harmony of theory and concepts. Garrard (2004) states that ecocriticism portrays the relationship between humans and non-human, is elaborated by six main concepts in ecocriticism; pollution, wilderness, dwelling, apocalypse, animals and the earth. The information of filtering techniques, based on the six main concepts that have been disclosed. The information of categorization through the highlight analysis, certainly shows the important demands which are closely related with the portrayal of relationship between humans and the environment in all areas of cultural production, as the connection that must be established between nature and other sectors of life, also the reality in real life. Seems as Carson (1999) stated in her book *Silent spring* "*On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh*". (Ashwood-Smith *et al.*, 1977).

FINDINGS AND DISCUSSION

This section discusses findings and discussion. The findings in Ian Green's novel *Extremophile* were using Garrard's (2009) ecocriticism theory. Six concepts will be used in the research including pollution, wilderness, dwelling, apocalypse, animals and the earth. The discoveries will be following the findings that are uncovered.

Pollution

The visible pollution caused by the dirty rivers doesn't limit the pollution that occurs. These can be seen from the achievement by humans slowly but continuously. In this context, rivers filled with the whole trash and the over-damaged environments are commonplace in urban areas. Agnes emerged as a hero who tries to improve the situation by cleaning the environment and restoring it to its original state. Agnes' efforts are significant and so purposeful. The role of the concept of pollutants here is seen in terms of pollution caused by the passage of time, which proves that pollution is historical, as it has been occurring for a long time. Then there is technological development, which has made new products such as

chemicals, waste in canals, and so on, also can cause pollution and the last one of course a damaged environment begins with humans modifying the environment.

“can look left and right and the canal is trashed in each direction as far as I can see.” (Ian Green,2024:32)

However, even with serious efforts, the environment continues to show itself as being full of rubbish due to human behaviour that goes beyond the limits. The context presented also describes the invisible or imperceptible pollution that is nevertheless felt in everyday life. The word “faint acrid” proves the chemical smell that slowly penetrates in the sense of smell. This smell comes subtly, but continuously, indicating that pollution comes not only in visible forms such as garbage, waste, etc, but also in the form of a pungent smell. It is marked by the smell from the factories that have been around for years. The context here shows the concept of pollution describes that pollution is always running parallel with history, and giving rise to new technologies that created industries in that environment.

“There is a faint acrid chemical underlying it all - someone is cooking hard drugs in one of the abandoned blocks of flats deliquescing around us, or in a canal boat, but the Met couldn’t give fuck what happens outside of Zone 1.” (Ian Green,2024:11)

Where there is a faint smell of chemistry that indicates an unstable scientific development. Continued by a statement from the narrative story that a cigarette can make a metabolism booster into pollution in humans that slowly kills humans instead of being a metabolism enhancer. The concept of pollution here is seen from history, technological developments, and not only the damaged environment but also humans who can be polluted. Pollution is represented not only as environmental damage, but also because of the ongoing history and advancing technology.

Wilderness

The canal, which should ideally be a beautiful and clean place, appears here in damaged and polluted form. The green, brown, and yellow hues of the bullrushes depict a healthy environment and serve as an emotional refuge for humans. The presence of a decaying river in “fetid water” reflects the degraded environmental condition, while passing trains contribute to pollution as time progresses.

“I take a shower and then I go and stare out of the window at the marshes, green and brown and yellow, dancing bullrushes and liminal sumps of brackish water.” (Ian Green,2024:3)

This depiction makes the wilderness no longer authentic, resulting in fragile fragments, aligning with Greg Garrard's deconstruction of wilderness concept. Additionally, the appearance of birds and trees signifies the enduring hope and life in the remaining environment, as it remains connected to ongoing history, existing technology, and human activities. Although fragile, the tree still stands with a green color that signifies life.

"It is a stunted thing, a twisted dust brown cling of a thing reaching up between rocks, but there is green." (Ian Green, 2024:54)

The depiction of the desert, which looks barren and has a limited ecosystem, does not make the environment incapable of surviving the existing conditions. Life still exists there with green trees growing. Humans, who feel awe and find it an emotional escape. Trees become a symbol of the environment's continuation even in threatening conditions. This, regarding marshes and growing trees, they support the deconstruction of the concept of wilderness, which is no longer pristine but fragile remnants that remain important to humans.

Apocalypse

Environmental damage is always interpreted as the destruction of the world, but all the forms of destruction that have occurred in nature did not happen suddenly because nature, rather this damage occurred gradually over time as a result of human greed and selfishness always seeks to dominate nature. Signs of destruction are beginning to appear bit by bit, such as a drastic rise in temperature that exceeded the narrator's predictions due to industrialization. The emergence of the climate crisis could trigger a series of subsequent disasters that could potentially be more extreme for London will face.

"Global temp is already 2.8°C above pre-industrial-the 1.5 dreamed of decades ago was blown past the year I was born, and the models saying sea levels might fuck the Gulf Stream and actually make London colder were, well, shit models." (Ian Green, 2024:23)

The state of earth approaching the brink of destruction, marked by significant increase in global temperature. The consequences from the continuous industrial practices and other conflicts, This is the result of the continuous industrial practices and other conflicts, which have worsened the environmental conditions and also triggered a climate crisis and continuous destruction of nature. In apocalypse it signifies a world that is already beyond the safe limits of In apocalypse, signifies a world that has exceeded ecological limits itself, and justifying a natural environment that was originally stable, but has fallen into an undesirable condition, located

in a part of landscape that has been damaged by the whole human activities that are too dominant in nature.

All of the damages occurs has implications for all the sectors of living creatures, because all depend on nature. The climate crisis being the trigger for the disasters. Human activities that are transcend the normal of limits and violate established regulations, such as catching large quantities of fish using nets certainly worsen the condition of nature. The happening is acidification of the ocean , certainly very dangerous for marine life and also for humans if accidentally consumed as experienced by Parkers and Zoot, who unintentionally consumed the cod fish by Plaistow fishermen from the sea had been damaged by ocean acidification.

"Whatever. I can't get angry at fish people. Fishing people? Fish were fucked anyway, oceans turning acid, etc etc." (Ian Green,2024:41)

That fish has been destroyed, as a narrative of destruction of living creatures in the ecosystem and nature, where destruction has already occurred and cannot be avoided or reversed. Ocean is the biggest example of natural ecosystems that have been excessively contaminated by acidic substances as an outcome of the environmental crisis. The ocean, as one of the most important ecosystems in the world for the living creatures is on the brink of destruction, means that environmental damage is not just a mere fantasy, but a destruction that lies ahead, has already been experienced as a consequence of humans selfishness.

Dwelling

As usual humans always learn to adapt with nature, but here nature seems to be forced to adapt with human desires. Build a dwellings in swampy areas is bound to be damp, the ground is unstable, and there are lot of pests such as rats, snakes and so on. Houses that have been painstakingly built, can collapse any time due to the structure and texture of the soil, is definitely risk. They absolutely feel uncomfortable, living in damp places, and of course not suitable for the permanent dwellings. As the narrator describes in the paragraph , it is about how they survived amid the destruction and far from the city.

"The volcano lair overlooks what was once marshland, then brownsite industrial, then microbreweries. " (Ian Green,2024:25)

Conducting dwellings inhabited by humans, where it begins to feel uncomfortable, because the places they have built feels so unstable due to natural conditions, especially surrounding areas of their dwellings, making the dwelling seem incompatible with nature. Humans find it difficult to adapt with nature also their dwellings dwelling seem incompatible with

nature. Humans find it difficult to adapt with nature and their dwellings. The great relationship between humans and their dwellings should be harmonious, if humans make, if humans make ecological adjustments and understand nature. It feels, humans are considered too selfish, they always force surroundings nature to adapt like what they want, without considering surroundings, namely that the dwellings they have made without considering surroundings are swamp areas, obviously not suitable for building a permanent shelter. The previous swamps' environment had indeed been disturbed due to human intervention to build dwellings, without considering the natural conditions around the location where they wanted to build permanent places to live. As a consequence of this lack of harmony, the dwellings built were unable to last long, because humans were not ecologically harmonious and still lacked understanding of nature.

Place that was supposed to be a proper dwellings turned out to be nothing more than a pipe dream. The dwellings that were supposed to be safe and shelter from danger instead became a place to survive amid ongoing destruction. The place becomes dwellings that were supposed to be properly constructed for decent life were instead old buildings left over from previous destruction, uninhabitable and dangerous.

“Just tunnels and storerooms, some small and some large, corridors half-blocked by old crates, and in and around them all action.”
(IanGreen,2024:25)

Those places mostly inhabited by humans are structurally unsafe, or built without the ideal structural planning dwellings in *Extremophile* only consist of the ruins of the old buildings left behind after the destruction happened, and are used as place of refuge and survival, with a limited space. A dysfunctional human life that is limited on all sides, the access to life in dwellings is hampered in terms of both activity and mobility, because all of the space in dwelling cannot function fully due to destruction and ecological imbalance after nature is hit by the disaster or destruction. Dwelling in the *Extremophile* formed as the adaptation from the previous destruction, and makes the dwelling feel limited, uncomfortable, and unsafe, with the worn out object from the past trade always still remaining around the dwelling. These various worn out objects are the signs that current dwelling is remnant of the previous destruction

Animals

The focusing of animals are divided into two types according to Greg Garrard, which is wild and domestic. However, here animals are treated as experimental subjects. Humans should treat animals in equally as a living creatures, because human are still related to animals. This incident still related to Garrard's concepts, he emphasizes ethics towards animals.

Human activities in exploiting animals demonstrate bioengineering, and they disregard the animals suffering. Pigs are one of the examples of animals that are always used as the experiment subject by John and some of his partners, such as Samantha and Julio. They only thought of modifying pigs that were still in embryo and modifying organs, as not to incur the high cost for the budget efficiency, but John heard about the rumors of cloning involving the lobotomies. For this context, cloning was a process of obtaining the organ copies that were placed in small capsule shaped containers as a medium Tetapi John mendapat rumor tentang kloning manusia yang di lobotomi terus beredar, it can be harvested whenever we need them. Actually before the rumor spread, it turned out that John had already practiced it he preferred to do the experiment with pigs, because cloning was considered less challenging than cross species modification.

“ The pig is the acceptable face of the same trade. It's not that John doesn't think the clone organ harvest works well (he knows it does), but it is even more boring than the pig alterations.” (Ian Green,2024:21)

Human selfishness involves animals as a biological objects in the experimental actions. Their bodies are used for human interest, while animal exploitation is considered a normal thing, also disregarding morality. Practices involving animals are considered more acceptable, because a lot of people view them as normal actions to help humans discover medical research or treatment. This practices is not seen an extreme experimental practices. The success of technology in exploiting animals is prioritized over animal suffering, so their suffering is ignored. That the empathy and moral values are diminishing, and cross species relationships are challenging. The character's perspective on practices involving the differences between more than one species is considered a technical difficulty or challenge, rather than an ethical value.

Trade in organs proves that exploitations of animals considered acceptable, even though this clearly violates animal ethics. Wild animals are instead turned into domestic animals that treated merely as decorations. This has normalized the exploitation of animals in industry and technological development. Animals are always used as experiment subject conducted by humans for their own. This is what John was done, like all he had in his mind only experiment and modifications to the internal structures such as DNA of the pigs he owned. All the experiments he conducted were a reflection of his selfishness and lack of conscience, without consideration of the suffering of the animals by his inhumane actions, who always prioritize his selfishness above anything else.

“Let the pig be sick for a few days as he alters the DNA in near every cell of its body. Who cares if the pig is sick? It is horribly complicated, of course.” (Ian Green, 2024:.67)

Sadly, here pigs are used as object of experimental for humans experiment. Judging from suffering experienced and felt by the animals, as a consequences of being used as experimental objects during the experiment process. The pain and physical condition of animals are only considered as side effects that don't need to be considered, and don't need to be considered in terms of moral values. It also highlights how animal suffering is normalized as a means of experimentation, and shows the loss of the ethical boundaries between humans and non humans, also has led the humans to dominate the ecosystem and everything in nature. Apart from this, creates a new stigma about humans, where humans are now in power and can do whatever they want with their selfishness.

The Earth

Seeing the dense population, ongoing industrial activities and experiments that are carried out make the earth treated as a place for experiments. As in the quote that shoots “sulphur dioxide” ,who think they can improve the earth but instead worsen environmental destruction. In accordance with Garrard's concept of the earth, this focus on anthropocentrism causes a disharmonious environment and an unhealthy earth.

“Sulphur dioxide being shot into the atmosphere to slow the warming by half a dozen states, war in a dozen others.” (Ian Green,2024:23)

Highlighting environmental destruction, both urban and natural, there is still hope for a return to its former beauty.

“One day the wind blows through London, and the plants sway and the seeds are lifted off and up and away, dancing across open sky and blown where they need to be.” (Ian Green,2024:251)

Earth still holds hope, with the seeds of plants still present, which will become the seeds of a clean environment in the future. Humans are unable to overcome their mistakes by making the earth beautiful again. However, the earth still has the strength to survive human actions.

CONCLUSION

This research states that Ian Green novel “Extremophile”, presents a perspective on environment destruction caused by human actions, driven by antropocentric behaviour, supported by technological and industrial

developments that cause environmental pollution. Using greg Garrard's ecocritical theory, the novel depicts an unbalanced relationship between humans and nature. Human exploitation of nature can disrupt environmental balance and the sustainability of life. This research explicitly depicts not only literary works as a greater concern for the environment but also as a medium for reflectio on the mutually dependent relationship between humans and nature. Humans cannot damage the environment through continuous exploitation, as this would have detrimental impacts on both parties. Humans lack a safe place to live, and nature cannot stabilize its ecosystem. This research aims to contribute to increasing public awareness and the importance of nature as a harmonious life. The researcher further researches ecocritical theory using different media for greater depth and specificity.

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