

HUMANISING CLIMATE CHANGE THROUGH CLIMATE FICTION: A LITERARY  
EXAMINATION OF *NEW YORK 2140* (2017) BY ROBINSON AND *THE DROWNED  
WORLD* (1962) BY BALLARD

A THESIS SUBMITTED IN PARTIAL FULFILMENT  
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### **Abstract**

Cli-fi is a neologism that is accredited to Dan Bloom, and it is used to refer to novels, short stories and films whose main focus is on the consequences of climate change (Svoboda, 2016). This thesis employed a qualitative desktop literary analysis and purposively sampled two cli-fi novels, *New York 2140* (2017) by Robinson and *The Drowned World* (1962) by Ballard as they explicitly capture the main theme of this study. The study employed thematic content analysis to analyse gathered data which was systemised into different themes to ease the data analysis and presentation process. Through the ecocriticism theory and the econarratology theory, the study examined how climatic concerns are fictionally expressed in the selected novels, explored the complexity of the relationship between human systems and natural systems as presented through specific environmentally destructive events in the selected cli-fi novels and analysed how cli-fi narratives enhance innovative understandings of the human place in an expanded ecosphere as presented in the selected novels. The study found that in both novels, climate change is “humanised” by the abnormality of growth of humans, animals and plants too, as well as their declining health. Though the identified themes in both novels are similar, each novel expresses each theme uniquely. Under the climatic concern theme in *New York 2140* (2017), it was established that climate change is a consequence of human activities on the environment over a long period of time. Contrastingly, in *The Drowned World* (1962), climate change happens naturally, and humans have to adapt and figure out how to survive the calamity. Future studies are recommended to look beyond written cli-fi narratives and look at, for example, orality and visual narratives to examine humanised climate change. Future studies could also use the Rhetorical Narrative Theory (RNT) to explore the humanisation of climate change in cli-fi works.

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Above all, I thank the Almighty God, to Him be the glory.

## **Dedication**

To my parents, siblings and niblings. And to my number one fan, MJ.

## Declaration

I, Eva-Liisa Andima, hereby declare that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any institution of higher education.

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

This chapter introduces the study by providing a background of the study, statement of the problem and the objectives of the study. This introductory chapter also highlights the significance of the study, limitations of the study as well as the delimitations of the study, then lastly, the organisation of the study.

### **1.2 Background of the study**

Climate change fiction has recently emerged as a literary phenomenon with its own buzzword: cli-fi. Climate change fiction or cli-fi as it is affectionately known, is one of the most successful new genres of Anglophone fiction and though the exact origins of climate fiction are vague, massive credit is given to Dan Bloom for coining the term ‘cli-fi’ (Irr, 2017). Likewise, Svoboda (2016) asserts that the term ‘cli-fi’ was coined in 2007 by Taiwan-based blogger, Dan Bloom, and it notably refers to literary works which deal with climate change. The neologism, cli-fi, denotes novels, short stories and films whose main focus is on the consequences of global warming. According to Johns-Putra (2016), climate change has arisen as a prevailing theme in literature, and respectively, in literature studies during the last couple of years and its popularity has given rise to the term cli-fi. Climate change fiction works reflect and intensify the scientific data and patterns of the climate change phenomenon from the global discourse, thus according to Trexler (2015), this literary genre attempts to circumvent the closeness between climate change scientific facts and those depicted in fiction. Thus, what is depicted in cli-fi works may not necessarily be an exact reflection of how natural climate change and anthropogenic changes might occur in reality.

Dobson (2010) claims that 'true' climate change fiction appeared in the 1960s, once global warming developed as a social phenomenon, rather than just a scientific issue, and has, thus intensely diversified and expanded since then. Similarly, Trexler and Johns-Putra (2011) assert that cli-fi has a long and variable literary ancestry across a wide range of genres, and failure to acknowledge former climate change literature is to miss an important and influential phase on the changing relationship between man and the phenomenon, one which may give more understandings into the current and future behaviour of humans. It is, therefore a fact that cli-fi can be regarded as a continuation of tales which are addressing human responses to incalculable environmental changes (Trexler & Johns-Putra, 2011). Bracke (2015) asserts that cli-fi has a great deal of potential in terms of addressing modern climate change, consequently making it a fascinating subject. Climate fiction has thus far been defined predominantly on conditions of its content and thematic concerns, rather than on conditions of its narratology and formal features as it taps into older tradition of ecodystopian and apocalyptic literature (Bracke, 2015).

Though there can be some people who do not believe in climate change, Dave (2020) affirms that climate change does exist, and posits that the consequences of climate change will not only test the international system, but will as well activate social and economic upheavals. Moreover, Andersen (2014) asserts that global warming is much more than scientific data on changes in the atmosphere; it is also a cultural phenomenon in which meaning is being shaped by the films that are seen and the books that are read. These films and books are used to imagine what life and society might be like in the future when global warming has dramatically changed the world, because and as opposed to simply statistics and figures, fiction can make human beings feel and comprehend the changes (Andersen, 2014; Bracke, 2015). In concurrence, Irr (2017) posits that climate change fiction makes effort for the human race to

envisage the impacts of drastic climate change on human life and perceptions. Similarly, Murphy (as cited in Johns-Putra, 2016) posits that climate change fiction encourages humans to move from denial to recognition, then to acceptance as well as the will to act. This, according to Bracke (2015) is because the setting of climate change novels is quite similar and familiar to the present as to make the future and the present virtually indistinguishable. Also, Bracke (2015) affirms that climate change novels enable readers to travel from the real world to the textual world, to gain access to it and to a certain level, comprehend it.

Moreover, Johns-Putra (2016) points out that in cli-fi novels, climate change appears as part of a futuristic dystopian and or post-apocalyptic setting and thus, in such novels, climate change is portrayed not just as an internal or psychological problem, but for its external effects, often as part of an overall collapse including technological overreliance, economic stability and increased social division. Climate change novels humanises the complexities of climate change and they also personalise this issue. Moreover, Choi (2017) postulates that climate change literature genre differs from the traditional dystopian, post-apocalyptic novels that have historically included elements of ecological disaster. Choi (2017) posits that contemporary climate fiction engages with a changing climate and environmental devastation more realistically – drawing on situations and crises that are currently happening and appearing in society but dramatized for a fictional story.

Similarly, Loock (2016) concurs that cli-fi is virtually always set in the very near future or even in the present and the idea of de-familiarisation, which is also known as ‘cognitive estrangement’, is less important than the effects of climate change that inform the setting and plot. Trexler (2015) argues that cli-fi might be the only real hope that could help in waking people up and serving as an alarm bell to global warming, and believes that cli-fi serves as a

reminder to its readers to reassess how to live. Although much of the damage caused to the environment has already been done and is possibly irreversible, The Lancet (2018) argues that humanising climate change through the narratives could help realise that goal.

### **1.3 Statement of the problem**

A gap as well as representational deficiencies have been found in the ways and manner in which a universal problem such as climate change is communicated, yet literary criticism in this area is still deficient. A change in climate affects the entire planet and all its species – and it concerns the likelihood of the end of this planet as human beings know it (Trexler, 2015). When it comes to climate change, some people tend to debate about what is actually true and what is not, and climate change novels allow the reader to place oneself in the minds of the characters for an extended period whilst reading the novel, thereby also humanising climate change. Trexler (2015) affirms that novels are usually perceived as just ‘fiction’ with little to no truth to them; and when reading and interpreting these texts that are already “born” out of interpretation (in this instance cli-fi novels), there is usually a natural impulse of asking if and how these texts will make a difference; and if they will retroactively influence people’s attitudes and behaviour, hence the main aim of these texts is to ‘make-believe’ so that questions and doubts regarding climate change may be limited to a certain extent.

Good cli-fi novels portray realistic scepticism of climate change and environmental harm and interactions between scientists, individuals and communities, thereby humanising the experience of a changing climate and environment. Trexler (2015) proffers that cli-fi novels, particularly those set in the present day or the very near future rather than in a dystopian future, tend to show the political and psychological dimensions of living with climate change; and according to Stockens (as cited in Guernica, 2020), human beings tend to shy away from

climate change because the facts of global warming are too often presented in abstract or guilt-inducing ways. Thus, in order to actually face the phenomenon, there is a need for vibrant narratives that will help humans feel an emotional connection to what they could be losing, and visualising how planetary changes are occurring in their own backyards (Guernica, 2020). These narratives exemplify the cli-fi genre by exploring what the world might become if the issue of climate change continues without being fought against. Furthermore, Guernica (2020) and Rigby (2015) assert that not only can the novel help humans to cognise climate change, but can also inform the personified responses to the risk, impact and aftermath of eco-catastrophe. Thus, cli-fi novels are there for awareness, to make man feel and be more sympathetic as climate change becomes more and more real and threatening. Additionally, climate change novels have the power to make man to reassess the reality of climate change and make the necessary changes to better address this global phenomenon. Although some novels already present the problems faced with climate change, and more of these are still being written, the literary criticism on this phenomenon is still deficient, thus the purpose of this study.

#### **1.4 Research objectives**

This study was guided by the following research objectives:

- 1.4.1** Examine how climatic concerns are fictionally expressed in the selected novels;
- 1.4.2** Explore the complexity of the relationship between human systems and natural systems as presented through specific environmentally destructive events in the selected novels;  
and
- 1.4.3** Analyse how cli-fi narratives enhance innovative understandings of the human place in an expanded ecosphere as presented in the selected novels.

### **1.5 Significance of the study**

According to Ricoeur (as cited in Andersen, 2014), in an attempt to understand and to master the ‘manifold’ of the practical field of humanising climate change, human beings need to give themselves a fictive representation of it. There is therefore a need for fiction about what tomorrow may hold, not just for humans to come to terms with what a world changed by global warming may look like, but also in order for man as a species to be able to come to terms with what it will mean to live in a seriously changed environment. Thus, according to Johns-Putra (2016), climate change is no longer a peripheral topic in literature and literary studies and there has been an increase in the number of ecocritical analyses of climate change literature, particularly novels, to help shape the canon of climate change fiction. The present study, thus aims to add rise, awareness and valuable information to this phenomenon by analysing two cli-fi novels: *New York 2140* (2017) by Robinson and *The Drowned World* (1962) by Ballard. Also, the study aims to proliferate the understanding of the complexities of climate change and its philosophical, emotional, physical and economic implications, and how human beings deal with such catastrophes and their aftermath as depicted in the selected novels. Furthermore, the study aims to provide a renewed insight into climate change fiction which could be utilised by other researchers who will further explore this topic. Moreover, the study aims to encourage mankind to seriously rethink about the aesthetic and ethical dilemmas posed by the environmental crisis and serve to as a cautionary warning to man that the exploitation of nature over a period of time could lead to an outburst of nature. Finally, the study aims add valuable information to this phenomenon as well as add to the body of knowledge on the literary criticism of cli-fi, particularly from an African perspective.

### **1.6 Limitations of the study**

The study has analysed only two cli-fi novels which are written from Western countries’ lenses

and only using two theories - ecocriticism and econarratology theories; thus, the findings may not be generalised to other novels with the similar themes. Moreover, the study only made use of materials which were at the researcher's disposal and those that were not in the researcher's reach, were not utilised.

### **1.7 Delimitations of the study**

Although the two writers Robinson (2017) and Ballard (1962) have written many works relating to climate change, the study was limited to only one text per writer: *New York 2140* (2017) by Robinson and *The Drowned World* (1962) by Ballard. Also, the study was confined to the portrayal and analysis of the climate change themes, characters and the environments as presented in the two cli-fi novels: *New York 2140* (2017) and *The Drowned World* (1962). Lastly, the findings and conclusions of this study are based on the literary representation of the selected cli-fi novels and may, therefore not automatically be universal to other literary texts with alike thematic concerns.

### **1.8 Definition of terms**

In a study such as this that examines humanised climate change through climate fiction in novels, it is of great importance to highlight some of the most prominent terms overly used in this study in order to facilitate a clear understanding by the reader as to how the discussions develops. The terms defined hereunder are: climate change, climate fiction, environment and humanising climate change.

**1.8.1** Climate change – “is a change in the statistical properties of the climate system that persists for several decades or longer—usually at least 30 years. These statistical properties include averages, variability and extremes. Climate change may be due to natural processes, such as changes in the Sun's radiation, volcanoes or internal

variability in the climate system, or due to human influences such as changes in the composition of the atmosphere or land use” (Australian Academy of Science, 2020).

- 1.8.2** Climate fiction - fiction (novels, dramas films etc.) which is concerned with the climate change phenomenon (Schneider-Mayerson, 2018).
- 1.8.3** Environment - According to McConnell (2001), the environment refers to the physical surroundings of man and the characteristics of the place lived by man, also it further refers to the wider natural world of land, sea and atmosphere, and however the environment changes, it affects man in various ways.
- 1.8.4** Humanising climate change – refers to depicting the impacts of climate change on the lives of human beings (Richard, 2018).

## **1.9 Organisation of the study**

The following is how the study is organised;

In Chapter 1, the orientation of the study and the objectives of the study are outlined. The significance of the study is also highlighted. Furthermore, the limitations and delimitations of the study are presented and the statement of the study is underlined. Thereafter, the definitions of terms were presented. Chapter 2 specifies the theories that framed this study: ecocriticism and econarratology. Moreover, Chapter 2 outlines how other scholars have applied these two theories on other literary works in the literature review.

Chapter 3 expresses the methodology of how this study was carried out starting from the very beginning of critically reading the selected novels to the last stage of reporting on the findings, recommendations as well as the conclusion. Chapter 4 focuses on the analysis and discussions of the selected cli-fi novels, *New York 2140* (2017) and *The Drowned World* (1962), as shaped by the ecocriticism and econarratology theories and backed by the reviewed literature in

Chapter 2 of the study. Chapter 5 presents the conclusions, offer some recommendations and finally concludes the study.

### **1. 10 Chapter summary**

This chapter introduced the study, outlined the objectives of the study, and highlighted the significance of the study as well as the limitations and delimitations of the study. The chapter also provided the definition of terms that are most prominent in this study. It also provided the statement of the problem and the organisation of the study has been laid out. The following chapter (Chapter 2) presents the theoretical framework and the literature review.

## **CHAPTER 2**

### **THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

#### **2.1 Introduction**

The previous chapter (Chapter 1) introduced the study by clarifying the background of the study, outlining the objectives of the study and also the limitations and delimitations of the study. This chapter (Chapter 2) therefore, focuses on the theoretical framework and literature review which framed this study. The literature review provides a basis on which the study is established. According to Skills for Learning (2018), theories and concepts which strengthen a study, should be discussed in the study's literature review. This chapter starts off with the theories which have informed this study and discusses the theories in relation to the title of the study as well as why it is best for these theories to inform the study. Thereafter, this chapter discusses the literature review of this study. This is done with the aim to aid in reviewing the existing knowledge base and the establishment of the justification to carry out this study.

#### **2.2 Theoretical framework**

This section of the study presents the two theoretical frameworks; ecocriticism and econarratology, which were used to inform the study. These theories serve to acquaint the researcher to prevailing data on the topic of the study as well as to permit the reader to critically evaluate the existing knowledge. The ecocriticism theory was used to observe the interrelation between nature and man, as according to Pasi (2012), "there exists a symbiotic relationship between literature and the natural world" (p. 183). On the other hand, though the econarratology theory is coined from ecocriticism and narratology, this theory foregrounds the relationship between the narrative form and the environmental imagination, and the narrative should be used to tell stories by ecocritics as a constant or intermittent strategy for literary analysis (James & Morel, 2018). Thus, this theory was employed to provide nuanced literary

analysis of the environmental imaginations and experiences as portrayed in the two selected novels and how the human race can be innovative and be transformed in the ways of being that might prove, not only more adoptive, but also more just and empathetic.

### **2.2.1 Ecocriticism**

Since this study concerns the affiliation of man and nature, the present researcher found it critical to utilise the ecocriticism theory as one of the theories to underpin this study. And it is, thus of great importance that its meaning and origin are discussed, before outlining its use and importance to the study. Ecocriticism is an umbrella term for a range of critical approaches that explore the representation in literature (and the forms of other culture) of the relationship between human and the non-human, largely from the perspective of anxieties around humanity's destructive impact on the biosphere (Bracke & Corporaal, 2010; Marland, 2013). Additionally, according to Johns-Putra (2015), ecocriticism is a theory concerned with the investigation of the relationship between humans and nature. Similarly, Sahu (2014) defines ecocriticism as a semi neologism which is concerned with the relationships between living organisms in their natural environment as well as their relationships with that environment. Furthermore, Pasi (2012) asserts that ecocriticism is a contemporary academic discipline used to expound the interrelation and the purpose of nature and native knowledge systems. It is, thus that Andimba (2017) posits that ecocriticism "attempts to find a common ground between the human and the nonhuman to show how they can coexist in various ways, because the environmental issues have become an integral part of our existence" (p. 21). And though these definitions seem absolute, the present researcher has arguably noticed that debates about what really counts as ecocriticism still exist.

Fenn (2015) acknowledges that ecocriticism is still developing and as an explicit critical

response to the implicit dialogue between the text and the environmental surroundings, it attempts to rise it to a higher level of human awareness. The word 'eco' derives from the Greek root *oikos* which means house and ecocriticism, therefore it is the criticism of the 'house', i.e., the environment, as presented in literature (Fenn, 2015). Furthermore, Fenn (2015) recognises that, even with this definition, the questions as to "what is the environment?", "What is nature?" and many more, remain. This is echoed by Gladwin (2017), who affirms that ecocriticism remains difficult to define. Not only does ecocriticism give emphasis on the 'harmony' of humanity and nature, but it also embraces the annihilation caused to nature by the changes which take place in the modern world, of which most humankind is directly accountable (Fenn, 2015).

And even though discussions to what really constitute ecocriticism are still open, ecocritics regularly still invoke the 'simple' statement made in 1996 by Cheryll Glotfelty that ecocriticism is the study of the affiliation between literature and the physical environment (Gladwin, 2017; James & Morel, 2018 ). However, according to Buell (as cited in Pasi, 2012), this study should be carried out "in a spirit of commitment to environmentalist praxis" (p. 183), as it is an inquiry of the connection between nature and literature. Simply put, it is probably safe to say that ecocriticism is the study of the relationship between literature and the physical environment. With that said, Pasi (2012) avers that Buell (as cited in Pasi, 2012), demarcates ecocriticism from all other literary critical disciplines as the last-mentioned is inclined on the "write, the text and society" (p. 184), whilst the former moves beyond the general domain of other literary critical disciplines to encompass the whole biosphere.

Nonetheless, Gladwin (2017) asserts that the term ecocriticism originates from an idea called "literary ecology" by Joseph Meeker and first rose as a concept in the late 1970s. It was,

however first coined by William Rueckert in 1978 in an essay titled *Literature and ecology: An experiment in ecocriticism*, which argued for an approach to find the grounds upon which the two groups – the human and the nature – can cohabit, collaborate and flourish in the environment (DeMott, 2018; Gladwin, 2017). Furthermore, according to DeMott (2018), ecocriticism, sometimes referred to as ‘Green Studies’, did not arrive arbitrarily or through no visible cause; it has, on the contrary, derived from a number of events and activities pertaining to humans’ interactions with and the study of the environment. Buell (as cited in DeMott, 2018) highlights that because problems with the environment were formerly only scientific endeavours, the ecocriticism movement emerged slowly in the 1960s and 1970s, progressing to what it is eventually today.

Gladwin (2017) and DeMott (2018) assert that ecocriticism is divided into “waves” to historicise the movement in a clear route. The first wave of ecocriticism tended to take a dehistoricised method to nature, often overlooking more political and theoretical dimensions and tending toward a commemorative approach of wilderness and nature writing (DeMott, 2018; Gladwin, 2017). According to Irr (2017), the second wave of ecocritics focuses more on modern catastrophes and to call for a comprehensive modification of literary and cultural criticism project on ecological themes. Further, new ways of approaching literary analysis by, for example theorising and deconstructing human-centred scholarship in ecostudies; imperialism and ecological degradation; agency for animals and plants and so forth, are brought about in the second wave (DeMott, 2018). The third wave of ecocriticism on the other hand, is determined by object-oriented ontology (Irr, 2017) and it promotes for a global comprehension of ecocritical practice through matters like global warming; elements from the first and the second waves are combined in the third wave, however the third wave intends to move beyond Anglo-American eminence (Gladwin, 2017).

The relationship between man and nature is not just interdependent, but it is also interrelated and both nonhumans and humans rely on the environment as a place of sanctuary (Irr, 2017). It is, thus that the present researcher believes that ecocriticism is most suitably applied to work in which the setting itself is a dominant character where noteworthy interaction occurs between the author, place and characters. Therefore, this theory was best employed to this study to examine the connection and complexity of the relationship between man and nature as expressed in *The Drowned World* (1962) and in *New York 2140* (2017) as the environment itself in both novels is cast as one of the characters.

Additionally, Mwangi (as cited in Pasi, 2012) asserts that the alliance between literature and other structures of social disciplines such as pedagogy, psychology, politics, morality and philosophy, have been over several years analysed and examined by many ecocritics. It is, therefore through this that the affiliation and connectedness between the environment and man can be observed in the novels selected for this study. This is especially depicted through the characters of Bodkin and Kerans in *The Drowned World* (1962), wherein the two have ‘accepted’ nature as a part of them, instead of trying to fight against or alter it. Moreover, Andimba (2017) posits that ecocritical studies over the years have demonstrated that language discourse has the potential to aid in finding solutions to world problems such as environmental issues, in this case, climate change. Moreover, Barry (2009) posits that ecocriticism, on another level, deals with human beings’ experiences of joy, sorrows, fears, hopes, ambitions and disasters as reflected in the works of literature, in the light of environmental issues. It is, thus that Kandemiri (2018) asserts that the environment may offer a smooth or a rough terrain in its depiction in literary texts. In the light of these, the researcher deemed it vital to combine ecocriticism and econarratology theories to examine one of the world’s major issues, climate

change, though through fiction.

### **2.2.2 Econarratology**

The creation of econarratology came about when Erin James criticised postcolonial ecocriticism by contending that it has neglected imaginative representations of the environment in postcolonial literatures (James & Morel, 2018). This was done by suggesting that when ecocritics and narrative theorists read postcolonial works, it would help to improve in condemning manners in which culture, ideologies, and social environmental issues are expressed in narrative forms and structures, while also helping postcolonial scholars to fully consider the environment more alongside issues of political subjectivity and sovereignty (James & Morel, 2018).

Erin James merged ecocriticism and narratology in 2015 to form econarratology whereby prominence of this theory is placed on the process of reading – on what happens to readers when they mentally inhabit the imagined environments of the narratives (James & Morel, 2018; Weik von Mossner, 2017). James (as cited in Caracciolo, 2018), defines econarratology as a theory of narrative that foregrounds the interplay between narrative form and the environmental imagination. Furthermore, James and Morel (2018) note that the combination of the narrative and ecocriticism theories stand to strengthen the bond between critical scholarship and imaginative practice that has for a long time been the interest of literature scholars and scholars of environment. This is endorsed by Slovic (2008) who emphatically compares ecocriticism without narrative to “stepping off the face of a mountain...”, calling it the disoriented language of free fall (p. 34). Furthermore, Slovic (2008) emphasises that narrative scholarship promotes literary consciousness of where man stand in the environment and why man write. With this in mind, the present researcher deemed the econarratology theory also well suited for this study

as it allows room for examining and narrating, amongst others, how climatic concerns are fictionally expressed in the selected novels.

Moreover, James (as cited in Caracciolo, 2018) explains econarratology as a combination of ecocriticism and narratology which sets out to demonstrate the numerous manners in which such a theory rejuvenates our analysis of literary environments. Furthermore, Bracke (2015) notes that;

Econarratology embraces the key concerns of each of its parent discourses – it maintains an interest in studying the relationship between literature and the physical environment, but does so with the sensitivity to the literary structures and devices that we use to communicate representations of the physical environment to each other via narratives. (p. 1)

The relationship between ecocriticism and the narrative has been rapidly growing and man use the world as it is now as a basis to understand the world of the narrative (Bracke, 2015; Caracciolo, 2018; James & Morel, 2018). And since cli-fi novels allow readers to spend time in the minds of the characters for an extended period, cognitive gaps are filled when the reader reads the novel and according to Slovic (2008), cli-fi novels should be explained and analysed through econarratology. According to Norminton (as cited in Glass, 2013), it is vital that there is comprehension regarding climate change, and that the phenomenon is not a narrative, but a mare's nest, and the story is in the way humans react to this phenomenon. Additionally, Norminton (as cited in Glass, 2013) asserts that for man to actually comprehend this phenomenon, there is a need for the narrative, and though the cogent side of our brain can willingly admit that climate change is a problem, there is a need for the alchemy of narrative to convert scientific data into the emotional data it needs to comprehend the severity of climate

change.

Moreover, Siperstein (2016) argues that one of the most vital resources that environmental humanists have to confront climate change may be the narratives. The present researcher believes that the narrative scholarship provides opportunities to scrutinise the constitutive nature of one's own concepts and how they speak to one's subject position and self-location in the context of climate change. Furthermore, Siperstein (2016) affirms that the narrative scholarship helps to uncover deeply held cultural narratives that guide the work man does as a scholar, activist, educator and citizen; it is also useful as it opens up spaces for imagining potentially new modes of teaching and learning.

This theory was therefore well suited for this study, because not only could it foster empathy and care for nonhuman characters in the selected novels, but because it also allowed a more thorough comprehension of the cli-fi genre and its mechanics as presented in the two selected novels: *The Drowned World* (1962) and *New York 2140* (2017) and the theory also permitted an intense reading of the two selected novels which subsequently led to a broader understanding of how narratological features, such as setting, characterisation, focalisation, register and so forth, shape the representation of the future as presented in the two cli-fi novels. On a different note, the next segment of the study presents the literature reviewed for this study.

### **2.3 Literature review**

This section of the study is a critical examination of the literature that is related to the humanisation of climate change in climate change fiction as the well as to shed light on the previous studies who have made use of the theoretical frameworks similar to those of this study. This is done in order to clarify and direct the reader to a better comprehension of the study.

According to Fink (2014), a literature review examines scholarly articles, books and any other relevant sources to an area of study, a certain concern, or theory, and by doing so, gives a description, summary, and critical evaluation of these works in relation to the research problem under investigation. Similarly, Key, Rich, DeCristofaro and Collins (2010) affirm that a reviewed literature provides a synopsis of a specific topic by surveying of scholarly sources. Furthermore, Fink (2014) asserts that in order to demonstrate how a study fits within a larger field of studies, an overview of sources which have been explored while researching a particular topic is of the essence, hence the need for a literature review. Nunan and David (1992) assert that in a literature review, the writer “extracts and synthesises the main points, issues, findings and research methods which emerge from a critical review of the readings” (p. 217) to, thus construct a “coherent argument which leads to the description of a proposed study” (Rudestam & Newton, 2007, p. 63).

Moreover, Arshad and Danson (2015) argue that it is vital to establish what is already known about a subject area, and by association what is yet to be known, and to outline them in the literature review, thereby identifying any gaps in the literature relating to the issue at hand and suggesting how those gaps might be filled in the study being conducted (Coughlan, Cronin & Ryan, 2007). Consequently, O’Leary (2010) attests that “the production of new knowledge is fundamentally dependent on past knowledge” (p. 71). It is, thus of great importance that the researcher is acquainted with the past knowledge through the process of reviewing existing literature in order to building knowledge, which renders the literature review a spine from which the research is anchored (Kandemiri, 2018).

Additionally, Coughlan et al. (2007) state that a literature review should exhibit an adequate depth and breadth of reading around the area being discussed. Henceforth, in order to provide

a substantial analysis of the selected texts for this study, an in-depth literature review is required.

Conducting a literature review for any study is essential, and as such, Creswell (2008) contends that there is, however no single way to carry out a literature review. Thus, Arshad and Danson (2015) ascertain four main types of literature review: traditional/narrative, systematic, meta-analysis and meta-synthesis. Arshad and Danson (2015) stipulate that;

The primary purpose of a traditional or narrative literature review is to analyse and summarise a body of literature. This is achieved by presenting a comprehensive background of the literature within the interested topic to highlight new research streams, identify gaps or recognise inconsistencies. (p. 31)

Furthermore, Coughlan et al. (2007) explicate that this type of literature review can help to develop theoretical and conceptual frameworks, as well as to refine, focus and shape a study's research questions. Alternately, Arshad and Danson (2015) explain that the systematic literature review engages in a more rigorous approach to literature review, possibly because this approach to reviewing literature is frequently used to answer specific and highly structured research questions. On the other hand, Coughlan et al. (2007) proclaim that the meta-analysis literature review includes taking the findings from the selected literature and analysing these findings by the means of standardised statistical procedures. Meta-analysis approach is stated to aid in deducing and identifying the bonds between patterns and findings (Polit & Beck, 2006). And as for meta-synthesis, Arshad and Danson (2015) posit that this approach to reviewing literature evaluates and analyses findings from qualitative studies aiming to build on former interpretations and conceptualisations because it does not pertain to numbers.

Moreover, Arshad and Danson (2015) claim that amongst the four types, the traditional or narrative literature review and the systematic literature review are the most common approaches to conducting a literature review. However, Kandemiri (2018) posits that combining the four approaches, or a proper mix of any of the forms, aid in the generation of an inevitably communicative literature review.

On the ground of these enlightenments, this study combined some of these approaches in order to construct a comprehensive literature, to take into consideration what has already been done on humanisation of climate change in cli-fi works as well as what has already been done on the ecocriticism and econarratology in other literary works to use as a point of departure on which to analyse the two selected novels *New York 2140* (2017) and *The Drowned World* (1962). Also, these elucidations on the literature review are vital to the study in order to stimulate the reader and to provide more knowledge on the topic being researched by this study. And as earlier stated, Creswell (2008) asserts that a literature review is not done unanimously, but can be done using various approaches. It is, thus that this study has mixed the various approaches to review the literature this study deemed vital and so to also eliminate any form of knowledge redundancies of previous studies and provide in depth knowledge to the topic and acknowledge the research gaps for this study. It is, therefore necessary to contextualise to topic of this study which is provided in the next segment of this study.

### **2.3.1 Contextualising cli-fi**

This section contextualises the topic of this study by providing the reader with prior knowledge in regards to the topic of this study, which ultimately led to recognising and establishing research gaps for this study. Though cli-fi, is arguably a recent development dating back no further than the late 1970s, there has been massive emergent archival writings about the

anthropogenic climate change by literary authors, especially in novels during the past couple of decades, which as a result, Trexler and Johns-Putra (2011) posit have led to a vast increase of scholarship on the subject. According to Johns-Putra (2016), a book by Adam Trexler in 2015 is the first book-length study of climate change fiction with the focus on how the climate change novel can bring forth and examine the economics, politics, new technologies and disasters that define the period during which human activities have been the central influences on climate change and the environment. And since not many studies have been conducted to analyse humanised climate change as presented in climate fictions, this study sought to do so by providing a nuanced analysis of two selected cli-fi novels *New York 2140* (2017) and *The Drowned World* (1962) grounded by ecocriticism and econarratology theories.

However, what other scholars have inscribed in relation to this study cannot go unheeded, and as stipulated earlier, one should be acquainted with existing knowledge in relation to the study in order to construct content that is important to the study, and which should be a spine from which the research is anchored. Thus, this study examined previous studies in relation to the former. Johns-Putra (2016) focused on mainstream climate fiction, which refers to novels that have been well received in critical and popular terms, rather than enumerate more obscure instances and vanity publications. According to Johns-Putra (2016), this is due to the recent large influx of climate change novels. And by surveying such fiction, Johns-Putra (2016) found that contemporary cli-fi novels or those with settings in the very near future, climate change phenomenon necessitate individual's engagement as a political, ethical, or even psychological problem. And as for the cli-fi novels set in the present, the prominent theme is the problem of how to deal with future generations, which requires to remind the current generation of the importance of the future generations and these novels exhibit the significance of intergenerational commitment in order to persevere the climate catastrophe (Johns-Putra,

2016).

Ullrich (2015) analysed the manner in which different communication approaches influenced how and what people think about the altered climate by exploring whether a climate fiction film experience would elicit stronger reactions from participants than those who simply read a body of information about the causes and effects of climate change. Ullrich (2015) found that the respondents who read information about climate change registered a positive shift in their concern about climate change following the experiment. Additionally, the study found that those who watched the film reported a slightly higher willingness to improve their social ways in to cater to lessen climate change (Ullrich, 2015).

Moreover, a study by Schneider-Mayerson (2018) on cli-fi employed the concept of ecocriticism and acclaimed that cli-fi remains a concern to readers of the severity of climate change while impelling them to imagine environmental futures and consider the impact of climate change on human and non-human life. The study was qualitative and surveyed 161 American cli-fi readers and their detailed responses to open-ended questions offered empirical evidence about the readership of climate change fiction and the kind of meaning readers make from this type of literature. The participants' psychological, intellectual, emotional and behavioural responses to recent altered climate through their own words were considered and the study found that many cli-fi readers are younger, more flexible and more concerned about climate change than those who do not read cli-fi texts.

Furthermore, Schneider-Mayerson (2018) found that climate fiction literature could be effective at enabling or compelling readers to imagine potential futures and consider the fragility of human societies and vulnerable ecosystems. Moreover, Schneider-Mayerson (2018)

asserts that though it may not be a big influence to convince disbelievers and deniers to reconsider their positions (partially because they are less likely to read cli-fi works), it might effectively nudge those who are partial believers and serve as a reminder to the concerned ones of the severity and urgency of climate change.

Svoboda (2016) provided an overview on reactions to climate change in fictional films on climate change. A few concerns were expressed by the film viewers about how the messages on climate change were portrayed; instead of promoting action towards climate change, the film frightened the viewers about their chances on surviving climate change and its effects (Svoboda, 2016). Some viewers were, however more positive, seeing an optimistic role for storytelling if they project commitment to imagine community -based solutions to climate change as part of the shared future (Svoboda, 2016).

Similarly, Lowe, Brown, Dessai, Doria, Haynes and Vincent (2006) used *The Day After Tomorrow*, a 2004 film to investigate people's perceptions of climate change through surveying filmgoers in the UK. The study found that the film, at least during the viewing, changed some people's attitudes, whereby some viewers got more concerned about climate change, and about other environmental risks (Lowe et al., 2006). However, the study also found that even though the film increased environmental consciousness, some viewers had as difficult time in differentiating between climate fiction and dramatized science fiction which resulted in them critiquing and doubting catastrophic events caused by climate change (Lowe et al., 2006). In contrast, there are those viewers who expressed strong motivation to act on climate change, however they criticised that, even if the film may have sensitised and motivated them to act against climate change, some of them do not have the necessary information on what action to take to mitigate climate change (Lowe et al., 2006).

Rigby (2015) employed the econarrative theory and examined the perceptions of man towards climatic disasters; how the responses of man are influenced by historical relationships with catastrophes. Rigby (2015) asserts that through the econarrative theory, narratives can inform how man react to and recover from catastrophes caused by climate change. These narratives will determine whether humans' responses are geared towards maintaining current systems, relations and practices or whether they are transformative, enabling the emergence of innovative ways of being (Rigby, 2015). Moreover, David (2016) largely focused on how climate fiction can raise awareness about climate change and the ways in which climate change challenges the human race's imagination. David (2016) and Rigby (2015) both found that some human beings do lack the concepts to cognise climate change.

Contrary to David (2016) and Rigby (2015), a study by Trexler and Johns-Putra (2011) has provided an overview of climate change in literature, focusing on the representation of climate change in Anglophone fiction. The study evaluated the ways in which these fictional representations are critiqued in literary studies, and considered the extent to which the methods and tools that are currently employed are adequate to this new critical task (Trexler and Johns-Putra, 2011). Moreover, a study by Andersen (2014) analysed 40 different novels, short stories and films produced between 1977 and 2014 which all, in one way or another, employed global warming as a theme and these works all represented climate change in dissimilar ways. Though these works have thematic differences on climate change, Andersen (2014) found that they all have one central trait in common: if man do not take care of the environment, it will change and might feel unhomey and this type of feeling is exactly what cli-fi aims to leave with man.

Studies by Johns-Putra (2016), Lowe et al. (2006), Schneider-Mayerson (2018), Svoboda

(2016) and Woodrow (2019) focused on the climate change literary texts and novels, whilst Andersen (2014) and Ullrich (2015) surveyed a combination of climate fiction novels and cli-fi films to examine and or analyse respondents' views on climate change in fiction. It is with this background that this study found the gap to focus on examining two purposively selected cli-fi novels, instead of combining different types of cli-fi works (i.e. films and novels) to examine. Also, Woodrow (2019) investigated the issues and dilemmas in writing narrative fiction that brings the facts of climate science to life through a practice-led research. Woodrow (2019) selected creative writing as a practice-led research methodology which made provision for a two-pronged approach to the study's research question. This was also found to be a gap in the study as this study has chosen a desktop literary analysis.

Furthermore, though some studies (Johns-Putra, 2016; Schneider-Mayerson, 2018; Woodrow, 2019) were on climate change fiction, these studies (Johns-Putra, 2016; Schneider-Mayerson, 2018) focused on how the readers perceive climate change, and Woodrow (2019) focused more on the fiction narrative writing concerns. This study, therefore focuses on how the issue of how climate change is "humanised" in the two selected novels, which further serves a gap for this study.

Before heading further into the literature review of this study and before critically analysing the two selected novels, it is of great importance that this study looks at the book reviews of the two novels chosen for this study in the next segment. The next segment is significant to this study as it gives the reader a brief understanding as to why certain subheadings were selected and examined for the literature review, and these reviews also serve as an enticement to the reader on what to expect in the analysis of the novels in Chapter 4.

### **2.3.2 Book reviews for *New York 2140* (2017) and *The Drowned World* (1962)**

Not many studies have been conducted on the two selected novels: *New York 2140* (2017) and *The Drowned World* (1962), hence what is mainly available on the public domain are reviews of the selected novels. Adams (2018) describes *New York 2140* as a novel that is closely conscious about the predicted water level rises, including the geopolitical and financial complications that the rise of the water level will bring about; nevertheless Adams (2018) asserts that the novel “maintains an investment in the way people attempt to carve out contingent enclaves, imbued with radical possibility for social reorganization, in often harsh and unfamiliar terrain.” (p. 521). Rothman (2017) notices that the novel is surprisingly utopian, probably because Kirkus (2017) argues that, despite the climatic catastrophes that have flooded the city, the city and its people still persevere. Nussbaum (2017) and Roberts (2017) describes *New York 2140* (2017) as an ambitious novel which aims to examine, not just the experiences of characters from all levels of society, but to dramatise the social and economic relations in which they are entangled. Alexander (2018) notices that most of the technology in the novel is either what there is now or just a little advanced. Moreover, Klopp (2017) describes *New York 2140* (2017) as a novel which explores mankind’s resilience when confronted with extreme pressures, in this instance, extreme climatic changes. Similarly, Canavan (2017) reviews *New York 2140* (2017) as a novel that portrays human beings as versatile, problem-solvers, and who can easily adopt to new environments.

On the other hand, Sutton (2019) notes that all forms of life in *The Drowned World* (1962), including plants, are depicted to be adjusting and flourishing in the changing world, except for mankind, who seem to be finding it a little bit hard to adjust in the altered environment. According to Strauss (2000), the novel is thereby portraying that, humanity, compared to time and nature, is provisional, yet the latter endure and last. Furthermore, Strauss (2000) asserts

that *The Drowned World* (1962) contains violence surrealism and hallucinatory roots which are depicted through the weird dream, and this showcases the intelligence in the author's writing language, and the novel embraces ecological disaster, entropy and the devolution of human nature themes. Additionally, Strauss (2000) accredits Ballard for brilliantly depicting the descriptions of the transformed planet, as well as the environmental and psychological changes, which in turn, retain surrealism consistency that revitalises *The Drowned World* (1962) further than its structural peculiarities, making it a work of great essence. Gaya (2018) describes *The Drowned World* (1962) as a peculiar piece of work which combined science fiction with the concepts of Jungian psychology, and asserts that from a narrative genre, the novel first becomes an effective cognitive mean, and later a tool of self-examination, which then diverts into revealing the overflowing power of archetypes.

Moreover, Sutton (2019) asserts that *The Drowned World* (1962) has lavish nature scenes that display the reclaiming of the world thereby contradicting the apocalyptic overtones. However, Strauss (2000) posits that though the environment in this novel is too harsh, and there is a decline in human fertility, which in turn, has drastically reduced the population of mankind, life still goes on with, for example, the group of scientists going on survey expeditions to attempt mapping swamped areas for potential recuperation. Strauss (2000) also criticises the fact that the novel has not addressed, for instance, where or how the characters get food nor how water is purified.

These reviews aided in forming the different themes on which the two novels are analysed in Chapter 4, and having said so, it is critical that one explores the emergence of cli-fi so as to provide better comprehension of this study, and as such the next section explores this phenomenon.

### 2.3.3 The rise of cli-fi

One could argue that stories about climate change have been in existence long before Christ with reference going back to the story of Noah and the ark, and different parts of the world can arguably relate to this story in the sense that climatic changes have been observed and experienced all over the world for some time now. The likes of high temperatures which could possibly result in heat stress in countries like China (Lane & Dieterlen, 2017), tsunamis, earthquakes and hurricanes in the Philippines (Law, 2019), melting of glaciers in the Himalayas (United Nations Framework Convention on Climate Change, 2007), the droughts and flooding in Namibia (Kaehero & Tjizu, 2019) or the recent Californian and Australian fires (Baldwin & Ross, 2020). Moreover, Adedeji, Okocha and Olatoye (2014) elucidate that the change in climate can occur naturally as a consequence of a change in the sun's energy or Earth's orbital cycle (natural climate forcing), just as it is depicted in *The Drowned World* (1962). And it could also occur as a result of persistent anthropogenic forcing, such as the addition of greenhouse gases, sulphate aerosols, or black carbon to the atmosphere, or through land-use change, just as depicted in the novel *New York 2140* (2017) (Adedeji, et al., 2014). With that said, it could be contended that climate change is a global phenomenon and over the past couple of decades, it has seen an abundance of literary works - growing focus in academia, and cli-fi has also become a subject of several blogs and reading forums on the internet.

In the mid-2000s, an article in the British *Guardian* appeared which challenged the literary world by asking where the literature of climate change is, where the creative responses to 'the most severe problem faced by the world' is (Schneider-Mayerson, 2018). Similarly, Glass (2013) states that Bill McKibben, an environmental activist and author, queried in an interview where the books, the plays and operas about climate change were. It was after these enquiries

that a plethora of cli-fi literary works started to appear, with novels such as *Solar* (2010) by Ian McEwan, *Flight Behavior* (2012) by Barbara Kingsolver and *The Road* (2006) by Cormac McCarthy as some of the prototypes of the cli-fi genre (Glass, 2013; Schneider-Mayerson, 2018).

The term cli-fi also known as climate fiction, has been accredited to Dan Bloom who coined it in 2007 as a genre which, one way or another deals with the topic of climate change (Irr, 2017; Mundler, 2019; Svoboda, 2016). Johns-Putra (2016) prefers to describe climate fiction as fiction that involves anthropogenic climate change or global warming. Whilst, Schneider-Mayerson (2018) defines cli-fi as literature engaged with climate change as an important theme, which usually use anthropogenic climate change as either their explicit or implicit subject. Forthomme (2014) notes that the neologism was coined after Dan Bloom realised that a number of books which appeared to be science fiction actually addressed climate change issues. Glass (2013) acknowledges that there has been a growing corpus of novels under the cli-fi genre compared to a decade or two ago which are set to alert readers of possible environmental nightmares to come. Similarly, Johns-Putra (2016) observed that until the 1990s, only a handful of novels used climate change as a setting, however since 2006, an estimate of about 150 novels were published, of which at least 50 had climate change as a central theme.

It is worth noting that first attempts to introduce the coined term ‘cli-fi’ to the world was met with immediate criticism, disapproval and dismissal from most people, however that did not stop Bloom from writing and posting about it on a blog called “cli-fi.net” (Bloom, 2013). Nevertheless, it was only when Margaret Atwood retweeted a tweet from Dan Bloom about cli-fi, and when the American National Public Radio (NPR), the *New York Times* and the

*Guardian* in London did media coverage and wrote articles which headlined the catchy word, that it went viral and thereafter, huge media houses in different countries like Australia, France, Italy, Spain and Taiwan started writing articles headlined by the term “cli-fi” (Bloom, personal communication, July 30, 2014). The popularity of climate change fiction over the first few years after its coinage was ‘accepted’, might have to do with the publicity that surrounded the appearance of the novel *Solar* (2010) by Ian McEwan which attempted the climate change fiction genre (Bloom, personal communication, July 30, 2014). However, Leikam and Leyda (2017) posits that cli-fi has now transitioned from a ‘subcultural/colloquialism’ to a ‘cultural buzzword’ and an academic staple word.

Additionally, the term cli-fi which was coined in the hope that it will alter beliefs and bring great awareness to climate change, and contribute to confront the problem of this great phenomenon (Woodrow, 2019). Though climate change is being cooperated in fiction, Trexler (2015) asserts that this does not mean that the dangers of it are ‘fictive’, but it is incorporated to add emphasis on the reality of the threat. The cli-fi novel is there to notify its readers of the unavoidable imminent dangers of global warming, as well as informing debates, motivating and empowering to think and to act on this phenomenon, and thereby facilitating attitude and behavioural change, without falling into various pitfalls (Woodrow, 2019). Johns-Putra (as cited in Bloom, 2013) elucidates that cli-fi has over a couple of years moved past simplistic apocalypse scenarios to engage intelligently with questions of science and policy, citing Kim Stanley Robison’s *Science in the Capital* trilogy as an example and environmental justice, referencing authors such as Barbara Kingsolver and Paolo Bacigalupi in very diverse ways. Furthermore, Bloom (2013) proclaims that these novels cannot help but interfere in the ongoing debate on climate change policies by making man ‘live’ both the devastating effects of climate change and ways of how to deal with them.

Moreover, Schneider-Mayerson (2018) observes that the majority of the cli-fi categorised novels might actually be considered dystopian or post-apocalyptic, which are generally set in distant and diminished futures where only a limited number of survivors live meagre and sometimes violent lives amid diminished environments and social complexity; these works present cautionary narratives of the Anthropocene which offers a blunt criticism of fossil-fuelled neoliberal capitalism and political inactiveness.

However, not everyone is convinced about the effective involvement of climate change into fiction. According to Ullrich (2015), George Marshall, the founder of the Climate Outreach Information Network, has some hesitations about cli-fi, in the sense that cli-fi might reinforce what is already assumed by people, especially those who do not believe, about climate change instead of actually assisting in changing their minds. Marshall (as cited in Ullrich, 2015) further explains that those who are not convinced that climate change exists might find reasons to limit this global phenomenon as simply fiction that is overstated for dramatic effect. Additionally, Marshall (as cited in Ullrich, 2015) goes on to say that those who do believe in climate change will be engaged, however the exaggerated apocalyptic storylines might distance them from the main issue and might even objectify the issue.

Equally so, a study by Lowe et al. (2006) also indicates that placing climate change in a fictional context might reduce the urgency readers might feel about the issue in reality, or simply limit it to an ambiguous concern with no practical solution. Ullrich (2015) argues that that is where the problem lies and quotes Barbara Kingsolver in *Flight Behavior* (2012) that “Science doesn’t tell us what we should do... It only tells us what is.” (p. 320), therefore these stories by themselves, should not be the key to resolve this issue and, however the capacity to

encourage change, lies with the stories. The present researcher therefore agrees with Ullrich (2015) because in as much as this huge, global phenomenon, climate change, is dramatized in literary works, and the ways in which it might be depicted in certain novels might be too frightening or reinforce what is negatively assumed by climate change non-believers, climate change fictions are vital as they can serve as cautionary tales of the Anthropocene. Additionally, the present researcher believes that these cli-fi novels can positively contribute to the climate change discourse, as well as possibly contribute to how environmental crisis debates, climate change in particular, can be communicated.

Moreover, Ullrich (2015) posits that, just like the science behind it, cli-fi often present bleak visions of the future, but within such frightening predictions is the key possibility that steering into a different direction is never too late, citing Margaret Atwood in the cli-fi novel *MaddAddam* (2013), “People need such stories, because however dark, a darkness with voices in it is better than a silent void.” (p. 154). Thus, the present researcher contends that no matter how climate change is represented in certain literary works, this literary genre and its tales, are still vital to the climate change discourse and they are needed to help shape and inform the canon of climate change.

The next segment of the study presents cli-fi as a literary genre as often, it is labelled as a literary ‘category’, a subgenre of similar genres, amongst others. It is, therefore important to distinguish it as a parent genre in its own right.

#### **2.3.4 Cli-fi as a literary genre**

It is vital to this study to establish cli-fi as a literary genre in its own right, and not a shadow genre or a ‘category’ of any other genre that might be deemed similar to it. With that said,

before stating why cli-fi is a literary genre, it is also important to look at what exactly the term 'genre' implies. The term genre has been defined in numerous ways in the different English discourses, however Chandler (1997) posits that what counts as a genre and what does not, mostly depends from one theorist to another. According to Chandler (1997), the term genre, which is widely used in rhetoric, literary theory, media theory, and more recently linguistics, though originally from Latin, comes from French, and it means 'kind' or 'type' in English. Wang (2006) asserts that the most prominent definitions are from three different traditions of genre studies. Firstly, the tradition of new rhetoric genre studies, whereby Miller (1984) advocated for genre as rhetorical action based on situations which are recurring, and for an open principle of genre classification in relation to rhetorical application, instead of a closed one exclusively developed on construction, substance, or aim. Thus, Wang (2006) concludes that genre studies in the new rhetoric emphasises more on the affiliation between context and text, and less emphasise is given on features of the text, which is commonly done by often by utilising ethnographic research or case study methods.

Secondly, Wang (2006) posits that genre is defined from the perspective of systematic functional linguistics, which Martin (1984) describes as a genre that is "staged, goal-orientated, and purposeful social activity that people engage in as members of their culture". (p. 25). And lastly, is from English for Specific Purposes (ESP) proposed by John Swales (Wang, 2006). Swales (as cited in Wang, 2006) contends that this genre is a type of communicative events with specific shared set of communicative aims. Furthermore, Swales (as cited in Wang, 2006) asserts that;

These purposes are recognised by members of the professional or academic community in which the genre occurs, and thereby constitute the rationale for the genre.

This definition is extremely influential in ESP work on genre analysis. SFL and ESP traditions of genre studies put much emphasis on identifying structural elements in texts and make statements about the patterning of these elements. (pp. 38-39)

Nonetheless, Schneider-Mayerson (2018) claims that there are certain observable generic structures and conventions in which both the reader and author locate in a genre. Devitt (1993) declares that the main understanding of genre is that it is;

A relatively trivial concept, a classification system deriving from literary criticism that names types of texts according to their forms. Viewed in this way, genre is not only a rather trivial concept but also a potentially destructive one, one that conflicts with our best understandings of how writing, writers, and readers work, one that encourages the dichotomies in our field. (pp. 573-574)

However, Bhatia (2004) claims that;

Genre essentially refers to language use in a conventionalised communicative setting in order to give expression to a specific set of communicative goals of a disciplinary or social institution, which give rise to stable structural forms by imposing constraints on the use of lexicon-grammatical as well as discoursal resources. (p. 23)

It, therefore could be said that because of the numerous definitions of the term genre, there are a lot of debates and sure confusion as to whether climate fiction is a subgenre of science fiction or it qualifies to be called a genre on its own. However, it should be noted that there are significant ties between cli-fi and sci-fi which make provision for the former to be scrutinised

the within the sci-fi discourse. Sperling (2019) echoes this, stating that the relation of cli-fi as a genre has most certainly been one of the greatest deliberated facets of climate fiction. The present researcher has observed that this debate has gotten to a point whereby some studies concurrently refer to cli-fi as a subgenre at some parts and at other parts, they refer to it as a genre. This is evident in Evans (2017) who refers to cli-fi as “a genre that seems capable of anticipatory and articulating future prospects of a warning world.” (p. 94) and subsequently, suggests that cli-fi is “not a coherent genre, but rather a literary preoccupation with climate futures, that draws from a wide range of popular genres.” (p. 95), which goes to show that the debate of whether cli-fi is a genre of its own, seems perennial and confusing to some scholars.

With that said, Johns-Putra (2016) has reservations as to whether cli-fi is a genre on its own, arguing that one must ponder on the fact that the character of literature is ‘slippery’ and is a human endeavour subject that is subject to human shortcomings, thus making genre fluid in nature. Therefore, Johns-Putra (2016) contends that, cli-fi is instead a ‘topic’ which can be found in several genres, exemplifying thriller, romance, science fiction and dystopia - the latter two being where much of the cross-fertilisation occurs. Similarly, Goodbody and Johns-Putra (2018) state that cli-fi copies from and comprises features of already existing genres, hence in a scholarly sense, it lacks the plot formulas and stylistic conventions that a genre, like sci-fi has which qualifies it as a genre, and cli-fi not. Schneider-Mayerson (2018) also posits that cli-fi is more of a ‘category’ than it is a genre on its own. Likewise, *The New York Times* (as cited in Schneider-Mayerson, 2018) portrays climate fiction as a mushroom subgenre of speculative fiction. And Glass (2013) denotes to cli-fi as a subgenre of sci-fi, whilst Atwood (2012) refers to climate fiction as speculative fiction and realist fiction, as forming a spectrum without effortlessly being defined in the genre boundaries. Additionally, Milner and Burgmann (2018) contend that, for two key reasons, contemporary climate fiction is a subgenre of science fiction

rather than a different genre. Firstly, climate fiction texts and authors primarily relate to the ‘selective tradition’ of science fiction, and secondly, a ‘structure of feeling’ that resembles centrality to science and technology can be observed in climate fiction texts and practitioners (Milner & Burgmann, 2018). Moreover, Johns-Putra (2016) recognises that climate fiction names a vital new category of contemporary literature and a remarkable recent literary and publishing phenomenon, however it is essentially not a genre.

In contrast, there are some scholars who acknowledge cli-fi as a literary genre that is self-standing. Forthomme (2014) classifies cli-fi as a promising, fast-moving, dynamic genre of which Haq (2013) postulates that this genre describes a dystopian present. Similarly, Tuhus-Dubrow (2013) argues that a new genre is born with the coinage of cli-fi. Liggett (2017) refers to cli-fi as a genre of science fiction that is usually currently set or at set in the near future which radically depicts an altered environment due to proceeding global warming, which outlines that, in order to survive, the characters have to adopt and manage within a different world. Moreover, Ullrich (2015) acknowledges that though cli-fi has emerged from a subgenre of sci-fi, it is in a league of its own and unlike traditional science fiction, climate fiction stories barely, if ever, make fantasy science and technology of faraway planets as their focal point; the central themes to cli-fi are all about the earth, examining the impact of pollution, rising sea levels and global warming on anthropological societies.

There are some authors who acknowledge cli-fi as a self-standing genre (Bloom, 2013; Forthomme, 2014; Haq, 2013; Shelby, 2017; Tuhus-Dubrow, 2013; Ullrich, 2015) and others who contend that cli-fi is not a genre, but a subgenre (Glass, 2013; Goodbody & Johns-Putra, 2018; Johns-Putra, 2016; Milner & Burgmann, 2018; Schneider-Mayerson, 2018). All in all, the present researcher posits that genres can be defined as ‘unclear’ categories which may not

be defined by essential and adequate circumstances, but how one should define genre is contingent on one's purposes; the adequacy of defining this word in terms of social science must be related to the light that the exploration sheds on the phenomenon. Therefore, from the foregoing, the present researcher argues that cli-fi is a genre on its own, and it is equally critical to make a differentiation between cli-fi and sci-fi as these two are, in many times, mistakenly bunched together, yet there is a clear distinction between the two genres. This statement is further elucidated in the next part of this study.

### **2.3.5 Cli-fi versus Sci-fi**

It is crucial to establish the difference between cli-fi and sci-fi due to the fact the previous segment (cli-fi as a literary genre), established that some scholars (Glass, 2013; Goodbody & Johns-Putra, 2018; Johns-Putra, 2016; Milner & Burgmann, 2018; Schneider-Mayerson, 2018) contend that cli-fi to be a subgenre of sci-fi, whilst others (Bloom, 2013; Forthomme, 2014; Haq, 2013; Shelby, 2017; Tuhus-Dubrow, 2013; Ullrich, 2015) contend that cli-fi is, indeed a genre on its own. Nonetheless, though the two genres have a lot in common, the present researcher, with evidence from the former and this segment, argues that they are also two distinct genres.

Climate fiction or cli-fi as coined in 2007 by Dan Bloom, is a literary genre for literary works which deals with the climatic changes in the environment (Trexler & Johns-Putra, 2011; Mundler, 2019; Svoboda, 2016), whereas science fiction or sci-fi in short, is defined by Suvin (1979) as the genre of intellectual estrangement which necessitates two elements: firstly, estrangement, or a difference from the lived experience of the real world, produced by the introduction of a '*novum*', or 'strange newness', and secondly, intellectual, which entails a common metaphysics between the world of the author and that of the text, to an extent that the

reader can engage in a critical process to make a connection between the two. Moreover, Wysocki (2012) proclaims that hard science fiction is defined as literature based on either already established or well extrapolated science. Gernsback (as cited in Putt, 2011) refers to sci-fi as “a charming romance intermingled with scientific facts and prophetic vision.” (p. 3).

In so many ways, cli-fi is a sister genre to sci-fi, but with specific focus on climate change concerns. Merriam-Webster (2020) asserts that just like science fiction, climate fiction also contends to real and imaginary worlds, however, the climate fiction narrative has more to do with how mankind manages to remain alive in harsh environments which are altered by climates. Evans (2017) affirms that there are some similarities between the two, especially structurally – noting that the defence of cli-fi is over and against escapist genres and the defence of sci-fi, against some. Arguing that the genres against which the defenders of cli-fi distinguish it from sci-fi includes fantasy and science fiction; for another, cli-fi is typically defined as the literature of extrapolation, or the realistic forecast of reasonable features from the present world (Evans, 2017), whereas Suvin (1979) clearly identifies sci-fi as a genre that combines both extrapolative and analogic representations. Nonetheless, Evans (2017) postulates that it is because of such similarities between these critical receptions that help in identifying the critical thin lines which have continued in the cli-fi discourse. Moreover, Evans (2017) argues that sci-fi is mostly used for escapism and entertainment, whereas cli-fi involves facing a possible reality posed by climate change. However, McLeod (2010) contends that the science fiction fraternity is more critical and tends to be quick at realising science errors or implausibility compared to other literature fraternities which causes sci-fi authors to be held at a different standard of scientific truth-telling.

Bloom (2013) maintains that cli-fi is not a subgenre of sci-fi, but a genre of its own which has

attracted its own community of authors and readers globally. Also, Bloom (2013) clarifies that the two genres are not competing against each other; if anything, they complement each other. Additionally, it should be noted that cli-fi is usually filled with didactic implications of the climate change crisis, whereas sci-fi is usually filled with the intention of exploring the possibilities of science and its relationship to humankind (Bloom, personal communication, 30 July 2014). Echoing this, Ryan (as cited in Bracke, 2015) compares cli-fi to sci-fi by arguing that cli-fi gets more points when it comes to accessibility relations, most significantly on the compatibility with the textual world and the real world. Furthermore, Bracke (2015) explains that cli-fi is successful because it really challenges man with life in the Anthropocene by placing the reader through a two-step process which transports man from the real world to that of the text.

Works of sci-fi are arguably set in the future, allowing the reader with temporal distance to speculate what the future might hold, accessing them becomes more difficult for readers as they are not familiar with it, whereas with cli-fi, the setting is quite close to the present (Bracke, 2015) which many might be able to identify with. This is to say that in cli-fi textual works, there is a thin margin between the worlds portrayed and that of the actual world, yet big enough nonetheless to realise that they are not wholly the same. Though many early examples of climate fiction could possibly be categorised as science fiction, it is the narrative engagement with climate change that differentiates these works from sci-fi (Schneider-Mayerson, 2018). Glass (2013) posits that the works of cli-fi come primarily from a place of warning rather than discovery, unlike sci-fi.

Whitely, Chiang and Einsiedel (2016) recognise that there vital connections between cli-fi and sci-fi which make way for cli-fi and sci-fi to be discussed within the sci-fi discourse. Though

climate fiction work is arguably set in the future too, Haq (2013) differentiates between cli-fi and sci-fi by arguing that climate fiction describes a dystopian present, as opposed to a dystopian future, and it is not non-fiction or even science fiction: cli-fi is about literary fiction. Bracke (2015) asserts that while sci-fi usually takes place in a dystopian future, cli-fi mostly happens in a dystopian present, similarly to what Haq (2013) has asserted to differentiate between sci-fi and cli-fi.

As such, the present researcher argues that though there are quite some parallels between the two genres, cli-fi is a genre on its own, because unlike sci-fi, cli-fi is more relatable to man than arguably, sci-fi could ever. This could be because of the plot in cli-fi works which are not so different from what man can already observe in the world, just like the examples that were given by Lane and Dieterlen (2017), Law (2019), Kaehero and Tjizu (2019), about the current ongoing droughts, floods, wildfires, heat stress and so forth, which are currently being observed and experienced around the globe. It is, thus that whilst reading cli-fi novels, the econarratology theory comes into play, unlike when reading a sci-fi novel. And because sci-fi works are more of imaginative, and depicting non-existent worlds, it could be argued they are farfetched from reality, and this could be one of the reasons why sci-fi readers can barely relate to its plot. With that said, it is also important to look at the relationship between man and the environment to enforce the importance of the ecocriticism theory for this study.

### **2.3.6 Man and the environment**

One of the study's theories is ecocriticism, which according to Andimba (2017), attempts to create a mutual understanding between man and nature to show how they can cohabit in various ways. Also, it was stated earlier in one of the fore segments that this theory investigates the bond between man and nature. It was then established that the relationship between man and

the environment is unquestionable as it has been, debatably, in existed since the being of both man and the environment. This segment of the study, thus explores the relation between man and nature further. Pasi (2017) asserts that the earth and its nature are significant to the existence of man as the environment provides for and sustains man. This is echoed by Turner (2001) who affirms that human beings are key inhabitants of the environment and there is constant interaction between the two; from the water drank, food eaten, air breathed, and so on, and with every change that nature goes through, bad or good, it one way or another affects mankind.

Similarly, Seymour (2016) asserts that the link between humans and the environment has been proven through numerous studies done over the last century and The Royal Bank of Canada (1960) too, asserts that man and nature are one and are inseparable. However, human beings tend to be a great threat to the environment by doing unjustly things to it, such as releasing of toxins into the environment (air, water, soil), burning of carbons, cutting down too many trees without replacing them, and so forth, and these threats could result in an altered environment (Turner, 2001).

Furthermore, Kaebnick (2013) and Turner (2001) warn that extreme changes to the environment can not only result in devastating effects on the environment, but can also pose a threat to the existence of man, animals and plants, in several ways and could eventually result in an uninhabitable environment. Some of the devastating effects on nature can be observed in particularly one of the selected novels, *New York 2140* (2017), whereby the environment in that novel has been transformed due to climatic changes brought upon by human being's actions over long period of times, and resulted in man, the fauna and flora at the receiving end of these consequences. Additionally, Reser (2007) asserts that "environmental degradation is

in large part caused by human behaviours and it directly affects human health and well-being” (p. 2), and this is especially highlighted in *New York 2140* (2017) as humans are the ones responsible for dilapidating the environment.

Moreover, McConnell (2001) posits that human-induced alterations to the earth’s global warming has caused significant disruptions in nature, and good weather, fertile soil, accessible drinking water for man are aspects of the physical environment that enable man to flourish. However, when the environment is not well taken care off, it could lead to harsh living conditions, such as limited access to clean water, extreme temperatures, infertile land, droughts, wildfires, and so forth which will eventually culminate to displacement of the inhabitants of the earth, injury to them, loss of life and destruction of livelihoods (Kaebnick, 2013; McConnell, 2001; Seymour 2016).

Some of these consequences are that which are being experienced by the characters in the two selected novels. In *The Drowned World* (1962) health issues, flooding and extreme temperatures are some of the consequences of climate change expressed, whilst in *New York 2140* (2017), flooding, extinction, loss of lives and so forth are being experienced. Additionally, displacement is also experienced in both the two selected novels. It is, thus crucial that man protect and take good care of the environment in order to bear great fruits from it.

Nonetheless, The Royal Bank of Canada (1960) posits that there are laws in nature which are designed to maintain balance; once the number of any living species excessively increases, there will be a force that will step up and have power over it. Similarly, Pizzi, Caroli, Landini, Galluccio, Mezzelani and Milanesi (2013) affirms that during the recent years, there has been a massive proliferation in endangered animals and conservation of these species is significant

in order to preserve these animals. The present researcher, however, notes that the definition of power in the man-nature relationship faculty differs from its definitions in other faculties. In the context of the human–nature relationship, Seymour (2016) asserts that the term can be applied by both nature and humanity, and concerning to nature’s power against humankind, it has the ability to withstand humanity as well as emphasize its conditional awareness, environmental constraints, and fragilities.

Contrastingly, Seymour (2016) further asserts that the power of mankind, as opposed to that of nature, is able to take the form of institutions, artefacts, practices, procedures, and technique. Thus, in order for the resources of the earth to never go idle, there is an equilibrium in place for the uninterrupted nature between the food and the feeder, the hunter and the hunted (The Royal Bank of Canada, 1960). Furthermore, The Royal Bank of Canada (1960) asserts that although mankind should dominate and have the power over all the other living organisms, there should be an order to be maintained to preserve the balanced operation in the environment.

It has often been said that healthy eating and working out enhances good health, however Seymour (2016) asserts that although eating healthy and working out are good for the health, several studies have also proven that exposure to nature is equally effective for regulating diurnal body rhythms to ensure physical vitality for mankind. This is reinforced by Ulrich (1984) who posits that patients in hospitals who are exposed to any form of natural scenery [from a window view] usually experience reduced levels of pain and tend to recovery in a shorter period of time compared to those who have not been privileged to the natural scenery. Moreover, Seymour (2016) asserts that social cohesion and group-based activities which are crucial aspects for maintaining social ties, developing communities, and increasing individual’s

well-being, such as horticulture and ecological restoration, are promoted through the presence of green space. The relationship between the man and nature is further discussed in Chapter 4 as the researcher elucidates further how the ecocriticism theory is portrayed through the characters in the selected novels. Moreover, though there exist a relationship between man and the environment, the environment can be antagonistic towards man sometimes, thus it is important to understand how man endure and survive the ever changing environment, and how man remain resilient and persevere in hostile environments.

### **2.3.7 Human resilient nature**

It has already been established in the previous segment that man and the environment do have a bond, and because the environment can be antagonistic, the resilient nature of man is often put to test. Climate change has a lot of impacts on man and the environment, and these impacts need to be met with resilience in order for humans and nature to persevere. Resilience plays a vital role in this thesis, because the human characters in the two selected novels *New York 2140* (2017) and *The Drowned World* (1962) are faced with a lot of challenges, yet they remain resilient.

Cherry (2019) postulates that resilience is what enables people with mental strength in order to deal with hardship and stress, and posits that individuals who are resilient are better at coping with difficulties, and are able to easily rebuild their lives after a catastrophe. Zautra, Hall and Murray (2010) assert that resilience is “best defined as an outcome of successful adaptation to adversity.” (p.3). Moreover, Mlambo (2013) affirms that resilience is “the capacity for strategically absorbing disturbance and challenges, and for coping with the complex uncertainties in life, so as to survive and move beyond survival” (p. 36). It is, thus safe to say that resilience is about being able to remain strong in the face of almost unbearable losses, and

adapting to change as it happens, and Dave (2020) posits that mankind has, several times, proven to be highly flexible and resilient.

El-Ashry (2009) postulates that adaptation is about building resilience and reducing susceptibility. According to Goering (2015), there are ways to build genuine resilience, including finding and engaging leaders who can inspire thinking, and turn ideas and concepts into action. Also, more inclusion of women, minorities and others whose voices may have been ignored or silenced, into major decision and policy making, as well as lobbying governments for change (Goering, 2015). And though there are numerous contingency plans to mitigate the effects of climate change, El-Ashry (2009) affirms that they are not substantial enough to diminish further greenhouse gas emissions. And as the climate changes, the poor people are the ones to suffer the most, yet they are the ones who have contributed the least to greenhouse gas emissions (Dave, 2020; El-Ashry, 2009). Resilience is a pervasive theme in the chosen novels, and is depicted in several characters in the two selected novels.

And although the characters in the two selected novels have remained resilient through the struggle with the changing climate and changing environment, they have also established a need to move away from certain areas that are not fit for their survival. It is, thus that the next segment will further elaborate on how a changing climate can result in migration.

### **2.3.8 The migration-climate change nexus**

Migration is a prevailing theme in the two novels, and as such, it needs to be explored and how it is imposed by climate change. Migration due to climate change is inevitable, because extreme weather conditions can result in the displacement and relocations of both animals and people. According to Castles (as cited in Warner, Afifi, Kälin, Leckie, Ferris, Martin, & Wrathall,

2013), since the 1980s several studies have been investigating the relationship between the earth's changing environment and the migration of people; from voluntary and involuntary migration, displacement, on to relocation. These studies have estimated and predicted the number of people that might relocation because of climate change (Warner, et al., 2013).

Thus, a report by the World Bank in 2018 has predicted that the Latin America, sub-Saharan Africa, and Southeast Asia regions will produce about 143 million immigrants by 2050 due to climatic changes (Podesta, 2019). This is because already in 2017, an estimate of 68.5 million people were forcibly displaced due to sudden climate change conditions such as flooding, forest fires after desertification, sea-level rise, ocean acidification, air pollution, rain pattern shifts and loss of biodiversity droughts, and intensified storms and so forth (Klepp, 2017; Podesta, 2019). Klepp (2017) postulates that because of anthropogenic climate change, the occurrence and the dominance of storms and flood, droughts and desertification as well as increment of sea-level rises are expected, which will, subsequently increase migration and displacement of human beings as well as of the fauna and flora.

And while the cases of climate change as a lone factor in migration are so far limited, climate change still happens to be the dominating factor that is influencing and aggravating migration all over the world (Podesta, 2019). Thus, Podesta (2009) elucidates that challenges such as food shortages, limited access to clean water, agricultural degradation, capitalism and so forth, are also factors that lead to migration, however these are intensified by climate change.

Migration is a major theme in the two novels chosen for this study, as displaced people and animals are and have migrated, voluntarily and involuntarily, to environments they can thrive. In *New York 2140* (2017), there are several migration issues; undocumented people, assisted

migration of endangered species, and people losing their dwellings due to buildings collapsing as a result of climate change. On the other hand, in *The Drowned World* (1962) people migrated, because of rapid temperature rises as well as thermal storms which are making it difficult for them to survive. This theme in the two novels is further discussed in Chapter 4.

### **2.3.9 Humanising climate change**

One of the theories informing this study, ecconarratology, has to do with what mentally and emotionally happens to the reader when they read cli-fi works as is asserted by James and Morel (2018). It is, thus significant to understand how climate change is humanised in cli-fi novels. According to Watts (2018), health possibly holds the key to humanising climate change conversations which can enhance quicker and more effective changes in human behaviour. Glass (2013) affirms that when the issue of climate change is humanised, it helps man to broaden their understanding of it and explore possible futures which will encourage second thoughts about the kind of world man would want to live in. Equally, Tuhus-Dubrow (2013) suggests that humanising climate change means that the novel attempts to open man's eyes to the importance of respecting the environment before it might be too late. Moreover, Schneider-Mayerson (2018) elucidates that the stories of climate change might lead towards wider and deeper climate consciousness in man.

Furthermore, Watts (2018) explains that describing the effects of climate change through a humanising lens could also mean that climate change will then not necessarily be framed with subjective cut-off dates such as 2030 or 2050 like most scientists often do and this phenomenon could be approached intergenerationally and from multiple perspectives. Additionally, Woodrow (2019) asserts that cli-fi novels contain verisimilitude which causes the reader to add their own real-world knowledge to that of the story world and Richard (2018) asserts that

climate change should be humanised by, for example broadcasting the direct effects of extreme weather on people and wildlife in the media. This is replicated especially in *New York 2140* (2017) through the character of Amelia and her cloud show where she directly puts the effects of the raging storm in the spotlight to heighten and humanise the aftermath of an altered climate.

Schneider-Mayerson (2018) affirms that though cli-fi might not necessarily convert many of whom are in climate change denial, cli-fi might just be more effective in nudging them from being cautious, to the concerned and to alarmed, reasoning that these novels might reinforce and confirm their beliefs. Haq (2013) postulates that when the issue of global warming is tackled through novelists, they tend to reach more people in such a way that scientists and their statistics might not. Similarly, Evancie (2013) echoes this by asserting that climate fiction is an untapped way of smuggling some serious topics, such as global warming into the consciousness of readers, compared to scientific data. Forthomme (2014) concurs that involving cli-fi in the climate change debates is far more effective in serving as a wake-up to the public than the strings of scientific data projections as these cli-fi novels appeal to the affective side of the readers.

Schneider-Mayerson (2018) asserts that it is frequently assumed that climate fiction always has a positive ecopolitical influence which enables the readers to envision possible climate futures and influence them of the climate change urgency, however Watts (2018) posits that it is how humanised climate change is positioned that makes a change, because it is supposed to somehow influence man to rethink their place in the world and not frighten them or assuming that climate change is not real. Since feeling is an integral aspect of most reading experiences, if cli-fi novels have over the top conditions and use terms such as ‘doomsday’, it may seem

ridiculous, cause negative emotional responses and reinforce scepticism (Marshall, 2014; Schneider-Mayerson, 2018).

Woodrow (2019) asserts that humanising climate change personalises the climate change phenomenon and there are several ways it is done in novels. According to Johns-Putra (2017) some novels such as *Clade* (2015) by James Bradley, *Gold Fame Citrus* (2015) by Claire Vaye Watkins, humanised climate change by using a child as the trope, which (Johns-Putra, 2017; Woodrow, 2014) serves as both a trigger and for caring about the distant time, evoking emotional connection, and as a way for the reader to critically reflect on the meaning of caring. In *The Drowned World* (1962), there are quite a number of events which evoke empathy in the reader as per the econarratology theory, for example when the characters started having strange dreams whenever they slept which resulted in deteriorating health, fertility issues whereby conceiving is described as an almost impossible thing and only one out of ten couples managed to have an offspring, and this fertility issue is further reinstated by having one female character only in the entire novel, amongst others.

Moreover, Johns-Putra (2017) contends humanising climate change in cli-fi novels provides the readers with the space for a nuanced visualisation that can expect several meanings; a space to think as well as to feel their way around the notion of responsibility for the future. It could, therefore be argued that the best cli-fi novel is that which will allow man to be briefly, but intensely frightened, causing man to rethink about how they treat the environment and to allow the reader to empathetically connect with the characters so as to imagine, in human terms, the effects of climate change projected by it beyond the reader's own lifetime as it is portrayed in the two selected novels.

On another note, since cli-fi in the selected novels is ‘humanised’, amongst others, through fertility and health, the present researcher deemed it important to look at the world’s new coronavirus pandemic and highlight the parallelism between this pandemic and the climate change phenomenon, so as to assist in the world’s curbing and minimising strategies towards the fight against climate change.

### **2.3.10 Parallelism between climate change and Covid-19**

Having looked at how climate change is humanised in climate fiction, the present researcher reckoned it necessary to relate health as a humanisation trope in cli-fi works, especially with the recent coronavirus outbreak in the world. Therefore, the present researcher argues that, in so many ways, manners in which the climate change phenomenon and the coronavirus pandemic can be deliberated and tackled, might be similar. One could argue that the imminent dangers of climate change and the coronavirus pandemic, also known as Covid-19, parallel each other in various ways, and according to Gardiner (2020), climate change experts have claim that the outbreak of the coronavirus pandemic could possibly hold lessons for the urging climate change. If anything, the pandemic might just have taught man that addressing an issue early could make tremendous difference in resolving it than waiting for it to expand and then react. Similarly, Linke (2020) postulates that Covid-19 may just be a ‘dress rehearsal’ for the most crucial problem that mankind has been observing and addressing for years, which is climate change.

Furthermore, Gardiner (2020) affirms that warnings from scientists to the world about possible new threats which can cause unfamiliar routines, disrupt the world economies and endangering lives have been issued for many years, just as the warnings of global warming, yet some people, especially political leaders, have ignored these warnings and are now scrambling to respond to

the Covid-19 crisis that could have possibly been prevented, or at the very least, eased had there been earlier action towards the forewarnings. Thus, the present researcher argues that this pandemic might just be the ‘evidence’ that some people might need to understand that it is better to try and prevent a crisis before the actual effects are visible as it might just be too late to stop it afterwards. This coincides with the health issues observed in particularly *The Drowned World* (1962), whereby the characters are confronted with mutating cancer which resulted in blindness observed in Hardman, tropical illnesses, like malaria, due to the rising of water levels and in *New York 2140* (2017), the dispersion of disease-carrying species, plague of waterborne illnesses are what the characters are facing, yet had they reacted earlier to the forewarnings, it could be argued that these health issues would have been prevented or at the very least, contained or minimised.

Moreover, Sawin (2020) comparatively argues that Covid-19 and the climate change crisis are problems of exponential growth against a limited capacity to cope; whereby in the case of the Covid-19 pandemic, the danger is the amount of infected persons who are overwhelming the health care systems, whilst with the climate change phenomenon, it is the emissions growth which might eventually overwhelm the ability of man to manage climate change consequences such as droughts, floods, wildfires and others. Alike, some of these climate change consequences can be observed in the two selected novels. In *The Drowned World* (1962), temperatures are rising as high as one hundred and forty degrees just before noon, rising water levels have turned the city into tropical lagoons, evolution of animals and humans has accelerated whereby mosquitos have become the size of bats, alligators are fifty feet long, and human beings physique has been altered and people appeared older than their actual ages, respectively. Additionally, in *New York 2140* (2017) rising sea levels, rising of temperatures, animal species extinction, and many effects of climate change can be observed.

Furthermore, the outbreak of the coronavirus could serve as a learning curve on how man could possibly ‘manage’ and respond to, or at the very least, deal with climate change, which could possibly have greater consequences than Covid-19 (David, 2020; Sawin, 2020). However, the present researcher contends that, though the coronavirus is possibly spreading much faster than what the effects of climate change to the environment can be observed, the principle could be argued to be similar. Wagner and Weitzman (2017) postulates that the longer man act to ‘address’ the climatic changes and make the necessary adjustments, the more likely extreme climatic events might keep occurring, referencing to cities that might go under water, extreme heatwaves, animal extinction and so forth, which is exactly what is happening in *The Drowned World* (1962) and in *New York 2140* (2017).

Furthermore, Sawin (2020) claims that climate change is an issue that is often overwhelming and beyond man grasp. Thus, in an attempt to ‘contain’ or ‘slowing’ down the spread of Covid-19, the world has observed how the entire nations across the globe shut down and only the “essential workers” were permitted to retain their status quo (Figueres, 2020; Linke, 2020; Sawin, 2020). And though the coronavirus as a pandemic could be argued to be bad for humans, David (2020) reasons that it might have proven to be good for the environment as everything that was not a necessity, was shut down for a couple of weeks and in some countries (i.e. China, South-Africa) for a couple of months, which in turn led to mother nature taking a well-deserved break from all sorts of pollutions and dangers to it. Additionally, Figueres (2020) notes that though the world might go back to ‘normal’ after the Covid-19 pandemic, the same cannot be possibly said about climate change as the consequences thereof are conceivably more permanent and irreversible. Some of the irreversible consequences of climate change are alluded to in the selected novels for this study and are further discussed in Chapter 4.

Figueres (2020) further asserts that emotions which are possibly often experienced when one thinks about the threat of climate change; how to help, what to do about it and so forth, ought to make a person feel anxious because the phenomenon could feel too big to comprehend. It is, thus that Figueres (2020) claims that this kind of cosmic anxiety that fiction writers are arguably exploring in their work; through stories of characters grappling with how to live through a global crisis—while also dealing with personal ones. Although it could be argued that the Covid-19 pandemic needs to be effectively addressed through self-isolation, the climate change phenomenon arguably requires the whole world to collaborate and work together as one to effectively tackle this phenomenon, as it is evidently arrayed in the chosen novels, though it is more dominant in *New York 2140* (2017).

Moreover, it could be argued then that, the earlier one is acquainted with the climate change phenomenon, the better it could be to address and tackle this issue. It is, thus that the present researcher contends that including this topic in the classrooms could be vital so as to foster nature nurturing in children whilst still young, which is discussed in the next segment of the study.

### **2.3.11 Incorporating cli-fi in classrooms**

Climate change is arguably a serious global phenomenon, and as such, the present researcher renders it of great significance that cli-fi works be incorporated in the classrooms, especially in language classrooms; this way, learners will be exposed to knowledge on the phenomenon and hopefully, the knowledge will inspire them to look well after the environment, assist in preserving the environment and possibly reduce human-induced climate change. Cli-fi is debatably a relatively new genre and because of that, not much has been published about

utilising it as a teaching tool in the classroom to foster further comprehension on the phenomenon. However, several studies (Goodbody & Johns-Putra, 2018; James, Nussbaum & Weik van Mossner, 2017; Liggett, 2017; Thornber, 2016) have encouraged and shown positivity in the inclusivity of climate fiction in education, identifying several motives thereof.

Furthermore, Ring (2016) attests that the cli-fi literary genre which kingpins the climatic changes happening to the environment, is widely being integrated in curriculums by several educational institutions universally. Echoing this, Goodbody and Johns-Putra (2018) sustain that many universities across the world have integrated cli-fi in pedagogy which could possibly result in frequent analysis of cli-fi works, focusing on the potential of narratives and narrative conventions to raise more climate change awareness and initiate a shift in attitudes towards the phenomenon in a lot of university goers. Thornber (2016) asserts that the integration of climatic changes and its effects in the pedagogy context gives students unparalleled insights into how communities and individuals deal with the impending climate change, also it provides room for these young people, considering especially that they might be affected by climatic changes more than the older generation, to already take the necessary steps to forestall even greater sufferings and challenges that come with climate change.

Moreover, James et al. (2017) suggest that the inclusion of cli-fi in education could aid in fostering students' attentiveness to nature seeing that they might study how meticulous literature is and how it evokes senses which gives the storyworlds some accuracies and authenticities thereby also countering the numbing of the senses which has blocked consciousness of the impact of global warming and man's own implication in its causes in everyday life. Ontell (2004) adduces that parents, teachers, professors and psychologists have always extolled imagination and creativity in learning and posits that in order to develop these

faculties, students should be provided with tools to expose them to new ways of intellectual thinking. Furthermore, Ontell (2004) believes that science fiction is one of the vehicles for inculcating such tools in a variety of subjects by stimulation and according Liggett (2017), this approach in teaching results in students fully engaging in the learning process.

Moreover, Collier (2017) argues that some aspects of climate change such as social, historical, ethical and human realities may not necessarily come up nor be fully explored in science classes as they would in English literary studies, thereby making English literary studies an exciting way to alert the young generation about climate change and its effects, therefore also serving as an opportunity to foster critical thinking. Similarly, Putt (2011) concurs that cli-fi fosters critical thinking, analytical research and technical writing whilst Brady (2018) argues that fiction has a crucial role and a social purpose in promoting climate change education and activism.

It could, therefore be concluded that not only can integrating discussions of world literature on climate and discussions on climate change into courses of world literature alert students of all study fields to deep connections between cultural products and world crises, but it also provides students with a wider variety of perspectives on climate change and its likely effects on the environment and on human societies. Additionally, the present researcher believes that teachings about climate change literature in classes likewise provides them space to envision probable multiple future scenarios of the world within the climate change scope and to think imaginatively about the changes which might be needed to be made to increase flexibility, facilitate adaption, diminish fear amongst man, and to help control the possible dangers accompanied by climatic changes. Though school-going is not clearly depicted in the two selected novels *New York 2140* (2017) and *The Drowned World* (1962) as such, learning about

climate change and the dangers of it are particularly depicted in *New York 2140* (2017) through the character of Amelia through her ‘Assisted Migration’ cloud show which aids with migrating endangered species to ecozones and depicts how the environment is altering due to climatic changes, and it has millions of viewers. She, therefore educates the other characters on climate change and its likely consequences through this platform.

## **2.4 Gaps identified**

From the foregoing segments, it has been established that the available reviews of the selected novels are not from an academic perspective and as such, by analysing them from a global south academic literary perspective and using econarratology and ecocriticism as theoretical lenses, new views are provided to enrich the available literary discourses on cli-fi. Additionally, contrary to the studies by Andersen (2014) and Trexler and Johns-Putra (2011) that analysed Anglophone novels and films which consist of dystopian and utopian themes, this study has moved beyond the dystopia/utopia dichotomies through providing nuanced analyses of the two selected cli-fi novels which were read by the present researcher from a different context with possibly different cultural gradations and multiple perspectives. Moreover, Andersen (2014) as well as Trexler and Johns-Putra (2011) did not include the two novels selected for this study, therefore also creating a gap for the study. Studies by David (2016), Johns-Putra (2015), Johns-Putra (2016), Kerridge (2015) and Trexler (2015) in their own ways, each examined and critiqued the use of climate science to inform works of fiction through ecocritical analysis of the cli-fi literature and though this study also made use of the ecocritical theory, it has also integrated econarratology theory to inform it, which further provides another gap for this study.

## **2.5 Chapter summary**

This chapter focused on the literature review and the theoretical frameworks for this study.

Chapter 2 also discussed the two theories which have informed this study: ecocriticism and econarratology, and how they are employed as the theoretical frameworks for this study. Additionally, other studies who have employed the two theories were highlighted and served as a basis for which the selected novels *New York 2140* (2017) and *The Drowned World* (1962) were examined. Furthermore, Chapter 2 also provided the book reviews of *New York 2140* (2017) and *The Drowned World* (1962). The rise of cli-fi and how cli-fi is ‘humanised’ is also highlighted, as well as other related issues such as the relationship between man and the environment, mankind’s resilience, and the migration-climate change nexus were discussed. These issues are magnified in the analysis of *New York 2140* (2017) and *The Drowned World* (1962) in Chapter 4. Chapter 2 also noted the identified gaps which stemmed from the reviewed literature. The following chapter (Chapter 3) looks at the methodology employed for this study.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

The preceding chapter (Chapter 2) dealt with the theoretical framework and literature review of this study. The present chapter centres on the methodology of the study which considers and outlines the research approach and design, population, sample, procedure, data analysis as well as the ethics of this study.

#### **3.2 Approach and design**

Trochim (2020) asserts that in order to try and address the central research question, a design is used to structure the research to show how all the major parts of the research project – the samples or groups, measures, treatments or programs and methods of assignment – work together. According to Kothari (2004), a research design “constitutes the blueprint for the collection, measurement and analysis of data; thus, it includes an outline of what the researcher will do from writing the research problem to the final analysis of data” (p. 31).

For the present study, the researcher employed the qualitative desktop literary analysis approach. Creswell (2013) defines qualitative research as a type of research in which the researcher studies a problem that calls for an “exploration of a phenomenon; relies on the views of participants; asks broad, general questions; collects data consisting largely of words (or texts) from participants; describes and analyses these words for themes; and conducts the inquiry in a subjective and reflexive manner.” (p. 54). Furthermore, Creswell (2009) posits that qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem or situation.

Moreover, due to the fact that the study has chosen the qualitative desktop literary analysis approach, the study did not require fieldwork and is restricted to a desktop design. The study utilised primary data which are the novels selected for the study, and these were critically examined by the present researcher so as to attempt to wholly comprehend the crucial phenomenon of humanisation of climate change. Primary data is elucidated by Kothari (2004) that it is data which is anew and for the first time, and therefore, will be in its indigenous form.

Also, the qualitative approach is based on arguments and interpretations aimed at understanding the complex nature of the social world within a specific context (Kandemiri, 2018). Similarly, Readings (n.d.), postulates that the strength of qualitative research is its ability to provide complex textual descriptions of how people experience a given research issue. It provides information about the ‘human’ side of an issue – that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals. Therefore, given these definitions, the qualitative nature of this study and the mere fact that the congenital relationship existing between humans and the environment may not simply be reduced to statistics, the qualitative approach was the most appropriate approach to explore this study because it will allow the researcher to utilise texts as primary data to critically examine climate change fiction through a humanising lens.

### **3.3 Population**

Population is defined by Hanlon and Larget (2011) as “all the individuals or units of interest; typically, there is not available data for almost all individuals in a population” (p. 7), which means that the ‘population’ of this study consists of all the subjects which want to be studied. Similarly, Burns and Grove (2003) define a research population as that of all the components which best suit to be included in a study. Therefore, the population of this study comprises of

all cli-fi novels written in English.

### **3.4 Sample**

According to Hanlon and Larget (2011), a sample is “a subset of the individuals in a population; there is typically data available for individuals in sample”, (p. 7). Burns and Grove (as cited in Kandemiri, 2018) define sampling as “a process of selecting a group of people, events or behaviour with which to conduct a study” (p. 31). Also, a study on a population is quite demanding, as one cannot possibly study the entire population because of several reasons, such as feasibility, the duration process, amongst others. It is, therefore imperative that a sample is selected for a proposed study. With that said, from all the cli-fi novels written in English, the researcher has purposively selected two novels: *New York 2140* (2017) by Robinson and *The Drowned World* (1962) by Ballard for critical examination in this study. The two novels have been purposively sampled as both are cli-fi novels which capture the main theme of the present study explicitly and excellently. Additionally, the two novels have been intentionally selected to represent the portrayal of cli-fi narratives from the 1960s and those of the 21<sup>st</sup> century.

According to Creswell (2003), purposive sampling, which is also referred to as relevance sampling method, is used in qualitative studies which requires of the researcher to choose individuals and sites for the study because they can purposively inform a comprehension of the research problem and the main phenomenon in the study.

### **3.5 Procedure**

The study is a desktop study where data was composed through a close reading of the selected novels whilst the researcher made notes of all the relevant thematic and character aspects in the novels selected for the study. The research considered secondary sources such as journal

articles, academic presentations, scholars' research papers, literary critics, book reviews and other studies to complement the analyses of the selected novels. These eventually culminated in informed findings and judgements which are grouped and presented in narrative form for the conclusions. The researcher further considered the reviewed literature to supplement the analysis, and link it to the theories employed for this study.

### **3.6 Data analysis**

The study has employed thematic content analysis (TCA). Thematic content analysis is a descriptive presentation of qualitative data which may take the form of interview transcripts collected from research participants or other identified texts which reflect experientially on the topic of the study (Anderson, 2007). Nahole (2016) asserts that data analysis simply refers to the interpretation of the assembled data in a study. Data of this study was gathered and systematised into different themes to ease data analysis. Subsequently, the data was then interpreted in narrative form under the different themes and the interpretation of the data was done in conjunction with the ecocriticism and econarratology theories. Finally, findings were examined and extracted from the interpretation and analysis to formulate discussions and conclusions.

### **3.7 Research ethics**

According to Walton (2016), research ethics is specifically interested in the analysis of ethical issues that are raised when humans are involved in a study as participants. However, because this study was a desktop literary analysis and is based on fictional novels which are readily available to the public and characters in these books are fictional, no human participants were involved in the data collection process. Moreover, the researcher sought ethical clearance from the University of Namibia's Research and Ethics Committee before conducting the study.

Additionally, the researcher has duly acknowledged all sources used in the study by applying in-text citations as well as including them in the reference list. Conflicting findings as presented in the chosen novels have been guided by the theoretical framework and research objectives.

### **3.8 Chapter summary**

Chapter 3 of this study detailed the approach and designed used for this study and it also highlighted the procedures used to compile this study. This chapter has also highlighted the population and sample of this study as well as the ethical considerations of the research. The next chapter (Chapter 4) focuses on the thorough and critical analysis of *New York 2140* (2017) and *The Drowned World* (1962) bound by ecocriticism and econarratology frameworks and as informed by the literature review in Chapter 2 of this study.

## CHAPTER 4

### ANALYSIS AND DISCUSSION OF *NEW YORK 2140* (2017) AND *THE DROWNED WORLD* (1962)

#### 4.1 Introduction

This chapter analyses and discusses the two selected cli-fi novels for the study, *New York 2140* (2017) and *The Drowned World* (1962), based on the reviewed literature in Chapter 2 of this study. These analyses and discussions were framed by ecocriticism and econarratology as theories. The chapter will analyse and discuss the novels one by one, starting with *New York 2140* (2017) by Kim Stanley Robinson and thereafter, *The Drowned World* (1962) by J.G. Ballard so as to effectively provide thorough analyses and discussions of the different themes found in each novel and these themes were divided into subheadings. However, before the analysis and discussion of each novel was provided, a bibliography of each author of the selected novels and a summary of each novel was produced in order to give the reader an idea of what the selected novels are about and how the lives of the authors have helped shape their works chosen for this study, respectively.

Moreover, the researcher deemed it necessary to include the research objectives in this chapter in order to refresh the reader's memory so that the reader is able to follow the analyses and the discussions provided. Thus, the objectives that guided this study remain to:

- examine how climatic concerns are fictionally expressed in the selected novels;
- explore the complexity of the relationship between human systems and natural systems as presented through specific environmentally destructive events in the selected novels;  
and
- analyse how cli-fi narratives enhance innovative understandings of the human place in an expanded ecosphere as presented in the selected novels.

#### **4.2 About the author - Kim Stanley Robinson of *New York 2140* (2017)**

Kim Stanley Robinson, born on 23 March 1952, is an American sci-fi author (Rowcroft, 2018). Robinson is widely regarded as the finest, and perhaps the greatest living sci-fi writer (Kreider, 2013; Rowcroft, 2018). Though Robinson is well-acknowledged as a sci-fi writer, Milner and Burgmann (2018) asserts that he is too, nonetheless, a well-established, professional cli-fi author whose works are at the core of the climate fiction genre. Robinson has authored over 20 books and has won several sci-fi awards in the 90s as well as some in the 2000s, and has served as a guest honour at the World Sci-fi Convention in 2010 (Kreider, 2014; Milner & Burgmann, 2018; Rowcroft, 2018). In 2008, Robinson was named a 'hero of the Environment' by *Time* magazine (Morton, 2008). Robinson's works are recognised by the very verisimilitude of his characters and the meticulously researched hard science basis of his work (Gold, 2020). Additionally, majority of Robinson's work is politically informed on what needs to be done by man to effectively attempt to survive climatic changes; and amongst other themes, Robinson's works include science, politics, economics, cultural, ecological; how to deal with the state of the earth and the effects that climate change has on human civilisation (Gold, 2020; Liptak, 2020). Beauchamp (2013) alleges that Robinson's sci-fi work may not only be fiction in about 300 years, and consequently, according to Gold (2020), Robinson warns that the books set in the future need to address climate change or else, risk coming across as just fantasies.

It is, thus with this enriching background of Kim Stanley Robinson that this study chose to analyse and examine one of Robinson's cli-fi novels, *New York 2140* (2017).

#### **4.3 *New York 2140* (2017) – Summary**

The plot of this novel by Robinson is set in New York City a few hundred years from now and

explores a wide range of topics and themes in relation to climate change. The city, which is nicknamed Super Venice, has been altered by climate change and sees that streets have been replaced by canals, airplanes are replaced by lighter-than-air airships and skyscrapers have become islands, amongst others. The novel, nonetheless explores how humans juggle through and adopt within this new world brought upon them. *New York 2140* (2017) is divided into 8 parts of which each consists of several chapters centring one or a group of characters outlining events through their perspectives.

The characters in this novel are all, in one way or another, connected by the Met Life building. Most chapters of the book are written in a limited third person narrator, with the exception of the Franklin character chapters which are in the first person narrative and those of The Citizen, whose sarcastic character is not dramatized neither does it interact with other characters, however gives a lot of information through his commentaries as an omniscient narrator, and lastly the chapters of Mutt and Jeff which are solely written in dialogues. The climatic changes in the novel are brought about by what they call 'The Pulse', which is the rise of sea-level when the Antarctic and Greenland ice sheets melted, which consequently submerged the majority of the world's coastal cities, including New York City.

Inequality and capitalism is at its height in the novel, with 80% of the world's wealth being owned by only one percent of the population. The extremely rich people live uptown in a forest of skyscrapers, the middle-class combined and together have formed a Householders Union and they mostly reside in the Met Life building, whilst the poor reside in the half-inundated downtown squatting in buildings that are falling apart. Thus, most characters in the novel are anti-capitalists and have been trying to find ways to put an end to capitalism. The very first quest to end capitalism occasioned the kidnapping of Jeff and Mutt.

The disappearance of Jeff and Mutt was investigated by Gen Octvaidiorr, a black imposing and well-connected NYPD senior officer, and her two young assistants, but they did not have much luck in finding the two men. However, the two were later discovered by Vlade and his acquaintances after they picked up heat waves under the water when they were on the hunt for lost treasure which they called the 'Husslur'. This treasure was discovered by two young water rats, Roberto and Stefan, with the help of an old man called Mr. Hexter with whom they have built a close relationship. The old man often reminisced, and told stories about his youth days in a not flooded New York City from a bohemian point of view. He also tried to teach the two boys how to read by giving them a hardcopy book as well as its audio so they look at the words whilst listening to the audio since they could not read and did not go to school. Nonetheless, the duo is usually out and about New York City doing one thing or another whilst indulging in Mr Hexter's tales from his days.

The novel also offers a glimpse of romance through the characters of Franklin and Jojo, Valde and Idelba, and Charlotte and Larry Jackman, and towards the end, Franklin and Charlotte. The Franklin character first started off as an egocentric playboy, but gradually became more collectively minded. At his first sight on Jojo, he claimed to have fallen in love with her, and thereafter they saw each other on several occasions, however she later asked him to just be friends, and towards the end of the novel, they became business partners. Charlotte Armstrong is a lawyer and a co-op's executive board in her fifties, and an ex-wife to Larry, who is currently a powerful man working as the CFO of the Federal Reserve. And though exes, they stayed in touch with each other and would occasionally meet up for coffee and mostly spoke about business. So, towards the end of the novel, Charlotte and Franklin, who is several years Charlotte's junior, became a couple. The love story of Vlade and Idelba is not fully outlined in

the novel, however it is revealed that they were once married and have lost their child through drowning, and it is something they never spoke about, consequently this contributed to their separation. They did, however rekindle their relationship towards the end of the novel.

Another character in the novel is Amelia Banks who is a bubbly 'cloud' star who documents the friable nature of the world's biosphere, as well as assist with the migration of endangered species with her cloud show called 'Assisted Migration'. She was left traumatised after her mission to assist polar bears to migrate to the Antarctica was compromised: the 'Antarctic Defense League', a group against assisted migration, killed the bears upon their arrival.

Moreover, a ferocious storm raged the city for several days and left many people who resided in downtown New York homeless and take refuge in Central Park, whilst the wealthy's skyscrapers were left unharmed. It is then that Charlotte asked the mayor of the city to open up the uptown towers so that those left homeless by the hurricane could take refuge there as more than half of the apartments were unoccupied because most of the rich people who owned them, lived elsewhere. The mayor declined this request, and thus, Charlotte and her friends started to plot against the capitalism. However, it was only after Amelia returned to the city, and whilst floating in her aircraft, noticed how horrible the environment looked like, that the plan against capitalism was put into a faster gear.

That was done when Amelia showed on her cloud show (with millions and millions of viewers) the aftermath of the hurricane on the city: piles of dead animals in the park, some trees were uprooted leaving the ground looking like an open cemetery and others flattened on the ground, water levels have risen more, people looked like ants crowded in the central park, most buildings downtown have collapsed, but the uptown towers were still standing firm, amongst

others. Consequently, there was a huge contrast between the uptown and downtown and thus, with the assistance of Charlotte and Franklin, Amelia asked everyone to join the Householders' Union so that the union could go an 'everybody' strike against capitalism. By striking she explained that people would stop paying their rents, mortgages, student loans, insurance payments, private debt, and they would only spend their money on daily necessities of existence.

All in all, the novel explores human resilience as they are faced with extreme economic issues and a changing environment. And despite the environmental catastrophe, life in the still vibrant, vitality city goes on as usual. The novel also depicts the numerous changes that human beings made and adopted to prevent the extinction of endangered species, and to minimise the effects of climate change and how man persevere through climatic changes as well as through economic issues. With that said, the next segment explores how climatic concerns are fictionally expressed in the novel.

#### **4.3.1 Climatic concerns expressed in *New York 2140* (2017)**

The climate change in this novel is depicted as a consequence of human activities against nature, just like Adedeji, et al. (2014) in Chapter 2 of this study assert that climate change can be as a result of anthropogenic forces to the atmosphere. Right from the beginning of the novel, there is a glimpse of climatic concerns as Jeff tells Mutt that they are “in a mass extinction event, sea level rise, climate change,...” (Robinson, 2017, p. 12). Manhattan is flooded and looks like a majestic “super-Venice” (Robinson, 2017, p. 14). The rise in sea water levels has inundated New York City as well as all the coastal cities worldwide, and this came about when the “ice monster melted ten thousand years ago, sea level rose about three hundred feet”, subsequently inundating all the world's coastal towns (Robinson, 2017, p. 42).

Furthermore, the two big surges that swamped the coastal cities in the world called ‘The Pulses’ were each a “complete psychodrama decade, a meltdown in history, a breakdown in society, a refugee nightmare, an eco-catastrophe, the planet gone collectively nuts” (Robinson, 2017, p. 44), and according to The Citizen character, they were the “first-order catastrophe” in the world to bring much destruction to the environment (Robinson, 2017, p. 153). The Citizen further claims that the First Pulse came as extreme shock to people, however the second one not. The Citizen elucidates that people’s profound ignorance for the ramifications of “their carbon burn” had “unleashed the ice” resulting in sea water levels rising, which severely damaged the “global distribution system”, and caused a “depression that was even more damaging to the people of that generation than the accompanying refugee crisis, which, using the unit popular at the time, was rated as fifty katrinas” (Robinson, 2017, p. 153). That period was quite bad, however the extreme disruption of world trade was far worse as far as business was concerned because it came with a lot of economic challenges to the world which led to and intensified capitalism worldwide, which is in conjunction with Gardiner (2020) who asserts that threats such as climate change can disrupt the world economies, just as it is happening in *New York 2140* (2017).

Furthermore, the ‘First Pulse’ caught a lot of people’s attention, and they therefore attempted to make some ameliorations in hope to curb the climate change effects, or the very least, to slow the process down (Robinson, 2017). This they did by, for example, “stopped burning carbon much faster than they thought they could before the First Pulse (Robinson, 2017, p. 153), amongst others. Nonetheless, despite the amendments that were made to ease climate change, it was already “too late”, because “global warming was initiated before the First Pulse was baked in”, and there was nothing that the “post pulse people” could do to stop it (Robinson,

2017, p. 153). Thus, regardless of “changing everything” and “decarbonizing as fast as they should have fifty years earlier, they were still cooked like bugs on a griddle” (Robinson, 2017, pp. 153-154). This proves that though man attempt to make alterations to how they live in order to attempt minimising the effects of climate change, it could be argued that it might be relatively too late, as the effects of climate change might already be in effect. This is reinforced by Wagner and Weitzman (2017) who maintain that the longer man take to confront climate change and make essential alterations, the more presumably intense climatic affairs keep intensifying.

Moreover, in the 2060s, a volcanic eruption was mimicked by tossing a “few billion tons of sulfur dioxide” in the atmosphere in order to “deflect a fair bit of sunlight, depressing temperatures for a decade or two”, nevertheless it was not adequate to “halt the warming” (Robinson, 2017, p. 154). That was because the “pertinent heat was already deep in the oceans, and it was not going anywhere anytime soon, no matter how people played with the global thermos at imagining they had godlike powers” (Robinson, 2017, p. 154). It is, therefore “that ocean heat” that triggered the First Pulse to ‘pulse’, and later caused the Second Pulse (Robinson, 2017, p. 154). In conjunction, according to the ecocriticism theory as asserted by DeMott (2018), climate change did not just appear from nowhere nor through invisible causes, but as a result of several events and activities concerning human beings’ dealings with nature. In this regard, the present researcher, therefore similarly argues that, even with the possible changes that man made after observing and experiencing the effects of an altered climate, these were still not sufficient to put an end to these effects that were in place. This is also endorsed by El-Alshry (2009) who affirms that though numerous contingency plans to mitigate the effects of an altered climate, they could potentially never suffice to diminish further greenhouse gas emissions.

Additionally, *The Citizen* asserts that sometimes people claim to not have anticipated the Second Pulse, but he contends that “they did” know that it was coming (Robinson, 2017, p. 154). *The Citizen* argues that they knew, because the people “played with the global thermostat imagining they had godlike powers”, but they did not (Robinson, 1960, p. 154). This proves that though humans might be aware of their actions which could result in an altered climate, the consequences thereof might not sink in until it is almost too late to do anything about the phenomenon. Similarly, Gardiner (2020) asserts that warnings about climate change have been issued for several years, however certain people, especially political figures tend to ignore these, and these threats could be avoided or at the bare minimum, eased if earlier actions towards these forewarnings were reckoned with.

Correspondingly, *The Citizen* maintains that people knew that the Second Pulse was coming, because they have “published their papers, and shouted and waved their arms” in relation to the changing climate and a few “canny and deeply thoughtful sci-fi writers” have brilliantly depicted “such an eventuality” in their writings, yet everybody else ignored these and went on “torching” the earth like a “Burning Man pyromasterpiece” (Robinson, 2017, p. 154). Furthermore, *The Citizen* asserts that that is how much these “knuckleheads cared about their grandchildren, and that’s how much they believed their scientists, even though every time they felt a slight cold coming on they ran to the nearest scientist (i.e. doctor) to seek aid” (Robinson, 2017, p. 154). The present researcher postulates that, having read the published papers and broadcasted news on climate change, people are ought to make great modifications to aid in slowing down global warming, and even though the results of this phenomenon is not immediate, it could affect the next generations more than those who are actually currently contributing to this phenomenon. This is in line with *The Lancet* (2018) and Trexler (2015)

who posit that the damage caused to the environment might be irreversible, however if climate change is 'humanised' through narratives, it could serve as alarm bell to humans and reconsider how to live. Additionally, Watts (2018) posits that this global phenomenon should be approached intergenerationally, and through multiple perspectives, thus the present researcher believes that it is could be up to the current generation to make sure that the environment is well taken care off for future generations, because as earlier stated by The Lancet (2018) and Trexler (2018), these damages might be irreversible and they could affect the future generations more than they are affecting the current generation.

Similarly, The Citizen character, whom one could arguably claim to represent nature in this novel, criticises everyone for being reckless with the environment, despite the fact that they are aware of the dangers it can bring, and bashes them for being careless towards the future of those that are still to inhabit the earth long after the current inhabitants have perished. The same could arguably be said about today's generation, whereby humans actively partake in activities which could possibly harm the environment and possibly lead to an altered environment, yet one could argue that, little is being done to curb climate change contributing factors. The Citizen, however also asserts that perhaps people do not really have the kind of "mental capacity" to envision that a catastrophe will hit until it actually does, and if they did, they would constantly be "stricken paralytic with fear", because despite all that, there are some "guaranteed catastrophes bearing down on you that you aren't going to be able to avoid (i.e. death)" (Robinson, p. 154). As a result, evolution has "strategically located a mental blind spot, an inability to imagine future disasters in any way you can really believe, so that you can continue to function, as pointless as that may be" (Robinson, 2017, pp. 154-155). It is, therefore here that the econarratology theory comes in to play as Norminton (as cited in Glass 2013) asserts, man need the narratives to actually comprehend the climate change phenomenon, so that the

alchemy of narrative can convert scientific data into emotional data that man need to understand the seriousness of climate change. Similarly, Irr (2017) postulates that cli-fi makes an effort to ensure that humans imagine the impact of drastic climate change on human life as well as humans' perceptions towards this phenomenon.

Moreover, endangered species in the novel migrate to escape the harsh environments, often with the help of Amalia. This is done to help prevent their extinction as most of the fauna and flora have perished due to unjust climate changes which have altered their living habitat (Robinson, 2017). Not only does Amelia help with the migration of endangered species due to climatic changes, she also makes sure that these species have food to eat wherever they are migrated to. The bears she assisted with migrating to the Antarctica would feed off biomass and some “weddeell seals because the orcas, which would prey on them, are not as many as they used to be” (Robinson, 2017, p. 54). This is in line with Klepp (2017) who asserts that due to anthropogenic climate change, an increment of displacement and migration of not only human beings, but of animals and plants as well, can be experienced and observed. And this is exactly what is happening in the novel – animals, plants and human beings have been displaced and migration is also observable and experienced in the novel due to climatic changes.

Moreover, after the food scarcity in the 2070s, there were a lot of improvements done by the governments of the world to aid with the issues that came with climate change (Robinson, 2017). Numerous of those were based in the science materials, “although there was such consilience between the sciences and every other human discipline or field of endeavour that really it could be said that all the sciences, humanities, and arts contributed to the changes initiated in these years” (Robinson, 2017, p. 396). Additionally, all the governments in the

world were immediately forced to refocus their attention not just on agriculture, but also more on the use of land generally, “meaning civilization’s technological base as a first order of business” to what they called “rapid decarbonisation” (Robinson, 2017, p. 396). Therefore, regardless of the chaos and disorder “engulfing the biosphere”, the technologies that were “carbon-neutral and even carbon-negative” had been placed all over the world awaiting to be declared “economical relative to the world-blasting carbon-burning technologies” to be ascertained by the market to be “less expensive” (Robinson, 2017, p. 396). It could be argued that this is similar to the recent Covid-19 outbreak in the world, whereby Linke (2020) asserts that the coronavirus pandemic could be a ‘dress rehearsal’ to address climate change, which, according to Sawin (2020), has seen the world shut down in an attempt to ‘contain’ and ‘slow down’ the spread of this virus and only ‘essential workers were permitted to go about their everyday lives, to a certain extent.

Consequently, “energy, transport, agriculture, construction” each had clean replacements ready for placement that proved to have clean “carbon-positive activities” and were more “developed at a startling speed” (Robinson, 2017, p. 396). The present researcher believes that this further proves that there are human beings in the world who are aware of the causes and implications of climate change, and have, therefore put some measures in place in order to combat global warming as a result of the Anthropocene just as implicated in the novel. Furthermore, The Citizen asserts that the changes made by humans are contrary to the “usual resistance of entrenched power and privilege and the economic system encoding these same,” however “with the food panic reminding everyone that mass death was a distinct possibility”, some progress was likely for a limited number of years “while the memories of hunger were fresh.” (Robinson, 2017, p. 396). Alike, Dave (2020) asserts that the world’s governments made necessary adjustments to attempt tackling the Covid-19 pandemic, and Mother Nature arguably got a

well-deserve break from all sorts of major disturbances, however Figueres (2020) affirms that consequences of climate change are permanent and irreversible, unlike possibly those of the coronavirus.

Moreover, after the global temperatures rose as a subsequent of the release of immense carbon dioxide into the air by “humanity’s industrial civilization”, the weather got hotter (Robinson, 2017, p. 456). This is, however not to withstand that these extreme heat energy made up for the cold days just because it was hotter, but because the upsurge in temperature increment also meant that the ferocity of the “whirlpools of air that form” in an area causes low-pressures, and the “land under that absence of air can become stupendously cold” (Robinson, 2017, 456). Consequently, this created all kinds of wild weather, including “hurricanes, cyclones, tornadoes, lightning storms, blizzards, droughts, heat spells, downpours, cold fronts, high-pressure ridges, and so on” (Robinson, 2017, p. 456). It is, thus that in the twenty-second century, the weather tempered with whatever people were building, including the crops they were growing (Robinson, 2017). During the early spring days, weather in the city of New York climate was “always notorious”, and “miasmatic summers ranged from subtropical to supertropical” with mosquitoes which were “bloodthirsty and disease-laden” (Robinson, 2017, p. 462). People preferred to remain indoors because the temperatures were unbearable, even the “concrete chess tables grew as hot to the touch as ovens” (Robinson, 2017, p. 462). Nevertheless, compared to other seaside cities in the world, New York City was said to be “an infrastructure like a brick shithouse” because while other cities were falling apart amidst the extreme weather conditions, New York City was still firmly standing (Robinson, 2017, p. 459). This goes to prove what Dave (2020) asserted about human beings’ resilient nature and over several times, have proven to be highly flexible and resilient. Additionally, Turner (2001) postulates that with every alteration that nature goes through, it one way or another impacts

human beings, because of the relationship between the two as it is alluded by the ecocriticism theory, that is exactly what is happening in *New York 2140* (2017).

Contrastingly, a heavy storm proving to be worrisome rocked the city for several days, and the water level, which was “mostly stable” for forty years, was rapidly rising and while there were always “neap tides and storm surges”, everyone in the city had gotten accustomed to a “watermark” which was now being surpassed beyond during the storm and consequently, the damage coming with this storm was proving to be enormous, and people in the city knew that it was going to bring a great disaster (Robinson, 2017, p. 481). This worried the people, including Vlade who felt like the “Third Pulse had come at last” (Robinson, 2017, p. 483). It was with this that the people started “settling in” with the awareness that the storm was going to be a test of “endurance between them and the storm”, especially because they had “limited food, power, potable water, and sewage space” (Robinson, 2017, p. 483). The people did, however remain strong and they persevered through the storm, though a lot of damage had been done and reparations could take many years (Robinson, 2017). This is further testament to the ecocriticism theory which confirms the relationship between man and nature and Turner (2001) asserts that a change observed in one could result in a change in the other, and this is what is apparent in the novel. Furthermore, this is in the same line with Mlambo (2013) who posits that resilience is the ability to strategically absorb disturbances and challenges, yet people manage to overcome these complex uncertainties and survive and move beyond survival, which is exactly what the characters in this novel are doing.

Thus, when the storm finally pitched, some “skybridges” attached to the buildings in the city collapsed, leaving those buildings with “open holes in their sides” (Robinson, 2017, p. 484). Also, when the “skybridges” pulled out at one end but not the other, they collapsed into the

building they were still attached to, “breaking windows and so on” (Robinson, 2017, p. 484). Yet, despite all these, the people contained their resilience and were confident that the storm would not last forever, nonetheless the repercussion thereof would be “problematic” and would prove difficult to rectify (Robinson, 2017, p. 483). This, again coincides with Turner (2001) who alleges that, whatever the environment is subjected to, good or bad, it somehow also affects human beings because of their interdependent relationship, which is confirmed by the ecocriticism theory.

Additionally, buildings all over lower Manhattan started to collapse into canals, and all over the radio channels it was being reported that people who were “taking refuge in skybridges, rafts, life jackets – hurdling on exposed wreckage, or nearby rooftops – swimming to refuge” were drowning (Robinson, 2017, p. 486). The storm was “simply devastating the city”, but the skyscrapers were at least in good shape, and they provided some windbreak to the “lower neighbourhoods immediately north of them” (Robinson, 2017, p. 489). On the other hand, the older and smaller buildings on the north and east of downtown were “being overwhelmed” and consequently, destroyed amidst the hurricane (Robinson, 2017, p. 489). This affirms El-Ashry (2009) observation that the poor people are the ones who tend to suffer more when it comes to climate change, as it is portrayed in *New York 2140* (2017), whereby the poor are the ones who are displaced and have to find shelter in Central Park after the heavy storm destroyed their living quarters.

Moreover, most trees in Central Park were uprooted, and some were broken with only their trunks left in the ground (Robinson, 2017). And most of the “downed trees were decades old, some of them hundreds of years old” (Robinson, 2017, p. 519). It would therefore take “many years, or decades” until the park “would look anything like itself again” (Robinson, 2017, p.

519). However, these damages did not put a stop to the lives of the people in the city and they have, consequently found ways to deal with the consequences of the storm, which is further testament to the resilient nature of human beings as Cherry (2019) and Mlambo (2013) asserted.

The present researcher, thus concurs with Dave (2020) that humans have over the years proven their resilience and ability to cope and manage throughout complex uncertainties, as the novel *New York 2140* (2017) has depicted. Additionally, the novel also proves testament to El-Ashry (2009) observation that poor people tend to be the ones more at the receiving end of climate change and its consequences, just as it is portrayed in the novel. It is, thus because of these that the present researcher felt the need to explore how humans in *New York 2140* (2017) confront climatic changes, which is explored in the next segment of the analysis.

#### **4.3.2 How humans confront climatic changes in *New York 2140* (2017)**

It is to be noted that the characters in the novel are well aware of the dangers that come with an altered climate which is why they have made several adjustments in order to survive these changes. There are several measures that the people in the city have put in place in order to deal with the extreme altering weather conditions as a result of climate change. Ahead of the predicted hurricane that hit the city, some people took extra measures to protect themselves as well as the buildings they lived in. For instance, people like Vlade were “stormproofing” the buildings so they do not collapse during the storm (Robinson, 2017, p. 471). Additionally, they made sure that the batteries were charged so that “even at the height of the storm the building itself would provide some power, as would the tide turbines down at the waterline” (Robinson, 2017, p. 474). Also, pantries were stocked with food or at least “not empty”, they had candles and lanterns and they tested the generators, and checked the fuel supplies (Robinson, 2017, p. 476). Furthermore, people got all the boats inside and racked, and emptied the dock, (Robinson,

2017, p. 476). The plants that were on the rooftops were removed therefrom and placed into the elevators and hallways and corridors for protection (Robinson, 2017). People who resided in wrecked buildings were “going to have to be taken care of”, because the people did not want to find their bodies “rotting” in the canals (Robinson, 2017, p. 475). All of the above arguably prove that humans have the ability to pro-act before catastrophes hit.

When the storm finally hit, the power went off, however the generators which were programmed to automatically kick off, came on. And thereafter, Vlade decided to cut power to everything but “essential services, to save fuel”, and with all their usage for power, it would take about only “three days before they would have used up their fuel” (Robinson, 2017, p. 480). Moreover, “a fair number” of residents of the Met building stayed up in their rooms and watched the storms through the windows with lantern or candlelight, whilst the rest congregated in the dining hall and common floor which they all acknowledged that it was a “social thing... a party of sorts, or a taking of refuge”, and they also deemed the storm to be a “danger to be endured together, a marvel to be marveled at” (Robinson, 2017, p. 481). From these passages, it can be deduced that the community in this novel exudes unity and oneness, despite the challenges and circumstances in which they have found themselves to be. Additionally, human ingenuity comes to the fore in here, and just as Mlambo (2013) posits, the characters’ capacity for strategically absorbing disturbances and challenges is what is enabling them with mental strength to deal with the hardships that will come after the storm.

Additionally, on the second day of the storm, it was reported that the buildings in the lower Manhattan were collapsing and people who took refuge there were drowning (Robinson, 2017). Idelba, thus suggested to Vlade, amidst the storm, that they, including her team, go and assist those people with her tug, and take those who are hurt to the hospitals and the others, to the

Met building where it was safer (Robinson, 2017). When they got there, they noticed that people were extremely “desperate” that some were “dropping ten feet” into the tug, which injured most of them (Robinson, 2017, p. 489). And although the first night of the storm was horrible, “tonight was even worse”, and left many people in shock; “All of the refugees from the storm were soaked and chilled, and many bloodied (Robinson, 2017, p. 489). There were obvious broken bones, and many cuts and bruises” (Robinson, 2017). This act by Vlade, Idelba and her team represented “the first chance these people had seen to get shelter” (Robinson, 2017, p. 489), consequently, a chance to get to safety. This act, once again, displays unity and oneness, as well as resilience amongst the characters.

When the storm passed, the people of the city needed to work together to put their wrecked city back together and problems were going to “rapidly mount for at least a week and probably longer”, depending on how the “relief efforts” go (Robinson, 2017, p. 499). Already, the “essential services were overwhelmed”, because there was “nowhere near enough water, toilets, food” (Robinson, 2017, p. 499). The Central Park where many homeless people took refuge, would soon be turned into “toilets”, because “lines for park toilets were long”, and “the sewers were going to be overwhelmed” (Robinson, 2017, p. 499). However, those residing downtown did not have any of these problems and this is a build up to the strike which was organised by Charlotte, Amelia and others. This is also testament to El-Ashry (2009) remarks on the less fortunate being the ones who are the most affected by climatic changes than those who are better off.

Additionally, since the city is inundated, and there is not much variable ground to grow their vegetation, some people grew their vegetation up on the rooftops; they grew their own vegetables and fruits that they can survive on (Robinson, 2017). Also, provision is made for

endangered animals to be migrated to ‘ecozones’ where their survival chances during the climatic changes are better off than where they are (Robinson, 2017). This demonstrates that there are human beings who do care for the environment and its other inhabitants, especially with the assisted migration of the animals, and also, with the vegetation. And this confirms the ecocriticism theory which asserts that man and the environment are inseparable and they need each other to flourish and survive. It is, therefore because of this confirmation that the study sought to take a closer look at the relationship between man and nature as depicted in *New York 2140* (2017).

#### **4.3.3 Relationship between man and nature in *New York 2140* (2017)**

The relationship between man and nature is confirmed through the ecocriticism theory, therefore this segment of the study explores this affiliation as portrayed in *New York 2140* (2017). Turner (2001) posits that humans often pose a great threat to nature by doing unjustly things such as releasing of toxins into the environment, by burning of carbons, amongst others. Of which, in *New York 2140* (2017), there are allusions of human pollution happening in the City as The Citizen character refers to “oily waters sloshing poisonously back and forth on the tides” (Robinson, 2017, p. 43) which means that humans have been emitting oil into the waters, causing water pollution. And, because of the rising water levels and a larger bay, water animals, “the fish, the fowl, the oysters, quite a few of them two headed” have returned [to the bay], however they are “fatal to ingest”, and can, thus not be consumed by the humans as they have been ‘poisoned’ by the polluted water (Robinson, 2017, p. 43). This goes hand in hand with Kaebnick (2013) who cautions that extreme alterations to the environment could also jeopardise the existence of not only man, but of animals and plants too, which could ultimately result in an uninhabitable environment. Similarly, the present research believes that harm to nature by any means could, as experienced in *New York 2140* (2017), results in lack of

sufficient edibles to both man and animals, as some animals and plants are deemed lethal to consume. This further acknowledges that nature and man are interconnected as per the ecocriticism theory, as danger to one, happens to be danger to all just as it is illustrated in the novel.

Moreover, although the people of the City actually never left [when the water levels kept rising] and those who had left, came back, *The Citizen* characters compares them to “cockroaches you can’t get rid of...” (Robinson, 2017, p. 43). *The Citizen* further adds that even though more people have come to the city, “all the other animals don’t care; they swim around living their lives, they scavenge and predate and browse and get by and avoid people, just like any other New Yorker” (Robinson, 2017, p. 43). This further illuminates on the relationship between man and nature as the ecocriticism theory postulates. Thus, even with situations like climatic change and capitalism going on in the City, “it’s still New York” and human beings “persevere unto death, a monomaniacal New Yorker to the end”, and even “under all the human crap, the island too perseveres” (Robinson, 2017, p. 43). This further emphasises that life in the city, though flooded, is still flourishing and going on as normal, which proves what Zautra, Hall and Murray (2010) assert about human beings’ resilience – as an outcome of successful adaptation to adversity. Thus, amidst the climatic changes happening around them and to them, the people remain resilient, just as Dave (2020) posits that humans have over time proven to be flexible and resilient, despite the challenges they may face.

Reser (2007) observes that the abasement of the environment is mostly as a consequence of human behaviours towards the environment. This is attested to in *New York 2140* (2017) whereby *The Citizen* seemingly annoyed, asserts that the city was initially known for “its hills and ponds, but the people chopped down the hills and filled the ponds with the dirt from the

chopped hills to make the flattest real estate they could,” and in hopes that it would improve traffic, however it did not “do any good, but whatever, all gone now, pretty much flat” (Robinson, 2017, p. 44). Additionally, regularly after a dive in the water, everyone “felt queasy” as it is said to be because of the “nitrogen build up, or anoxia, or the toxic water with all its organics and effluents and microflora and fauna and outright poisons” (Robinson, 2017, p. 109). These are arguably all as a result of human activities to the environment and these also confirms the ecocriticism theory which maintains that man and nature are interrelated, as danger to one, is danger to the other as it can be deduced from the extracts just outlined.

Furthermore, human beings regulate the number of animal species, especially the endangered ones and even have a “polar bear jail” that, with the “animal control officers”, save thousands of polar bears from “untimely death” (Robinson, 2017, p. 113). This “polar bear jail” program was started when “an average of twenty bears a year” were killed in order to stop them from “mauling people” (Robinson, 2017, p. 113). However, it has now become a rare thing and people actually celebrate when they get “through a season with no bear deaths”, and because of these reasons and as an attempt to save these species, Amelia agreed to assist in migrating them to a more suitable environment where their survival likelihood is higher than where they were (Robinson, 2017, p. 113). This is testament to The Royal Bank of Canada (1960) who posits that in nature there are laws which are designed to regulate and preserve balance in nature, just in case the number of a certain living species increases excessively. It is noteworthy that the citation of this statement is ancient, yet vital, because the present researcher ascertains that the issue of living organism regulation has been a point of concern since long before, and it is still now. And this is not only for the imprudent number of certain species, but also that of the declining number of certain species, which may face the possibility of extinction. Pizzi, et al. (2013) echoes this by affirming that there has been a massive upsurge in the number of

endangered species over the years, and the conservation of these species is vital to preserve these declining species.

Despite humans polluting the environment, the governments of the world did a lot of changes to improve and attempt to cut back on the effects that were leading to climate change in the novel. This they did by, for example installing solar energy systems which are the “ultimate source of earthly power, the efficiencies of translation of sunlight into electricity gaining every year” as well as some wind power (Robinson, 2017, p. 397). Additionally, transport measures were also improved in such a way that they used earthly power, such as freight airships which had solar panels on their upper surfaces and cars that ran on “carbon-burning” were fast replaced by little electric cars (Robinson, 2017, p. 398). And together with the enhancements in materials, they were giving humankind “machines that could withstand the perpetual bashing and corrosion of the salty sea, electricity generating turbines and tide floats” which could be converted into electricity (Robinson, 2017, p. 397). And all of these did not need “burning fossil carbon” (Robinson, 2017, p. 397) which is great for the environment, and this further evidences the interrelatedness and interconnectedness between nature and man as the ecocriticism theory sustains.

In addition, many roads were completely taken out in order to create the “habitat corridors” which were deemed “necessary for the survival of the many, many endangered species” which are simultaneously on the planet with human beings, because other species were “now recognized as important to humanity’s own survival” (Robinson, 2017, p. 398). Also, since construction of buildings released “a lot of carbon”, both in the creation of cement and in the operation of building machinery, and a lot of “explosive power” was needed for these jobs, biofuels were introduced: “biofuel carbon was dragged out of the air, collected, burned back

into the air, then dragged down again”, and cement itself was commonly substituted with “various graphenated composites” (Robinson, 2017, p. 399). This was done by sucking carbon out of the air and was turned into graphene, “which was fixed into composites by 3-D printing and used in building materials, thus sequestering it and keeping it from returning to the atmosphere. So now even building infrastructure could be carbon negative”, which meant that more carbon was taken out of the atmosphere than it was added to the atmosphere, however the process was very expensive (Robinson, 2017, p. 399). This is further testament that man can be innovative and are able to make necessary changes to combat climate change.

This segment established and affirmed the relationship between man and nature as per the ecocriticism theory that several scholars (Barry, 2009; Dave, 2020; Kandemiri, 2018; Turner, 2001) amongst others, have alluded to. The next segment of this study explores how New York City is portrayed in *New York 2140* (2017).

#### **4.3.4 New York City as depicted in *New York 2140* (2017)**

*New York 2140* (2017) is a cli-fi novel, and as such, Bracke (2015) asserts that these type of novels are relatable. Similarly, the present researcher asserts that the verisimilitude aspects of such a novel is what makes it relatable to humans and it is, therefore that the present researcher believes that it is of significance that one looks at how New York City is portrayed in the novel. The Citizen character describes New York City as a place with a “bunch of arrogant fuckheads”, made up of “people from everywhere else, the city of immigrants” (Robinson, 2017, p. 46). He further asserts that the people in the city are “made of other people” and they are “very rude..., loudmouthed obnoxious assholes,” and most often, they are “oblivious and doing their own thing with no regard for you or yours”, and many people who do not know each other just “bang..., dodge... and yell...at each other”, however most times they are really

“just ignoring each other, almost polite...using the city-sharpened skill of looking past or through people, of not seeing the other” (Robinson, 2017, p. 45). The present researcher believes that the depiction of the city and its people thus far is typical of cli-fi works which makes the narrative relatable to the present.

Furthermore, *The Citizen* asserts that it is as if the crowds in the city are just background “tapestries for you to play your life against, lurid backdrops providing a fake sense of drama” which will “help you imagine you’re doing more than you would be if you were in some sleepy village or Denver or really anywhere else” (Robinson, 2017, p. 45). And even though the city of New York is swamped, “people keep living here...and more than that, people keep coming here, despite the suicidal stupidity of that, the way it is in effect volunteering for hell.” (Robinson, 2017, p. 45). *The Citizen* alludes that the city is “made up of people from elsewhere” asserting that it is a “city of immigrants”, and calling it “the magnet for desperate dreamers” (Robinson, 2017, p. 45). This affirms what Podesta (2019) contends in that migration is not only due to climate change, though it is one of the dominant factors, it could also be as a result of people wanting a better life. As *The Citizen* alludes, some people have come to the City to make their ‘dreams’ come true, despite the climatic concerns, which, also speaks to their resilience as the present researcher believes that though they face the uncertainties of life, they are moving beyond just ‘surviving’, and they actually get to ‘live’ their lives.

Furthermore, *The Citizen* character describes the City as a “great stage set” and posits that;

it lies filling the great bay, no matter what you think or believe about it, spiking out of the water like a long bed of poisonous sea urchins onto which dreamers cling, as to an

inconveniently prickly life raft, their only refuge on the vast and windy deep, gasping like Aquaman in a seemingly-impossible-to-survive superhero's fake low point, still dreaming their fever dreams of glorious success. If you can make it here, you'll make it anywhere. (Robinson, 2017, p. 45)

From the extract above one can proffer that the city is numerously personified and unified with nature so as to bring it to life, and make the reader believe that anything is achievable in this City. Additionally, this also speaks to the sentiments of Barry (2009) who asserts that the ecocriticism theory also deals with humans' experiences of many emotions such as joy, sorrow, ambitions, amongst others, as reflected in the light of environmental issues. Furthermore, it also aligns with the econarratology theory as Bracke (2015) posits that this theory uses the world as it is currently as a starting point to comprehend the world of the narrative, and this is observable in the novel.

Moreover, most people in the city "go anthropomorphic" because one has to "work" for any meat you ate; plenty of people could not "stomach" nurturing "a piglet to food age" and then slaughter it for meat (Robinson, 2017, p. 146). Thus, some people opted to eat "fake meat", others became vegetarians, and some ate out of the dining hall if they wanted meat (Robinson, 2017, p. 146). However, Franklin explains that he had found, by "direct experimentation", that the inevitable "anthropomorphizing of the farm's pigs" had no restraining consequence on "my fatal hand" arguing that if one thinks of a pig as a human, then it is a really an "ugly human" and would most probably be grateful to you for "putting it out of its misery" if you killed it (Robinson, 2017, pp. 146-147). That he stated in defence of his liking to meat. However, from this, one could argue that this is a consequence of climate change and also reflects on food shortage which is being experienced as a result of an altered climate.

On another note, capitalism in the novel is highly highlighted and the huge gap between the rich and poor is well accentuated. The poor people are squatting in the half-submerged downtown New York City's abandoned melting buildings, with moulding walls and broken windows, whilst the super-rich reside in luxury skyscrapers uptown of the city (Robinson, 2017). In winter, the canals freeze to "a solid of dirty white", thus the city starts to use "some real buses" in place of boats, which in turn "made the views up and down the steep canyons look like old photos, but with ice skaters replacing taxis" creating a winter wonder place (Robinson, 2019, p. 370). In the summer, people in the city can either walk through the city's 'skybridges', which are basically plastic tubes reinforced with graphene, or commute by boat to get to where they want to go (Robinson, 2017). This is echoed by Gardiner (2020) who asserts that climatic changes can cause unfamiliar routines and disrupt world economies, which could eventually culminate to endangering the lives of the inhabitants of the environment, just as it is being observed in the novel.

Moreover, New York City, though still vibrant and lively, goes through disasters which turn the city upside down. Amidst the heavy storm that caused buildings in the lower Manhattan to collapse, many people who lived in those buildings had to find shelter elsewhere, and the Central Park served as a "refugee camp" for the homeless (Robinson, 2017, p. 493). All the trees in the park were gone with the storm, "not gone, exactly, but down" as *The Citizen* emphasises (Robinson, 2017, p. 498). They were "either broken off at the trunk or tipped out of the ground, with their roots torn up and the muddy root balls facing south like splayed hands" (Robinson, 2017, p. 492). And even though some trunks were "still standing", they were "broken at their tops, snapped or splintered off at some height or other" (Robinson, 2017, p. 498). The city was in total "devastation", and "people were lost, lost other people, and were in

shock” (Robinson, 2017, p. 501). Nonetheless, despite all that, “New York was still New York” and the people came together to assist each other in whichever way they could (Robinson, 2017, p. 501). This further substantiates Kaebnick (2013) and Seymour (2016) observations that environmental degradation could culminate to destruction of livelihoods as well as displacement of nature’s inhabitants, just as it is happening in the novel.

With that said, the next segment explores how climate change is ‘humanised’ in *New York 2140* (2017).

#### **4.3.5 Humanised climate change in *New York 2140* (2017)**

According to Norminton (as cited in Glass, 2013), there is a need for the alchemy of the narrative to turn scientific data into emotional data in order for humans to comprehend the ruthlessness of climate change, which is where the econarratology theory comes into play in the study. Humanised climate change in *New York 2140* (2017) is depicted through several themes such as (anti)capitalism, inadequate food supply, migration, resilience and adaptation, amongst others. There seems to be a shortage of food in the city as people queue up in long lines to be served food and according to the Glen character, “first come, only serve” as there were “too many mouths to feed” (Robinson, 2017, p. 23).

Additionally, the shortage of food can be observed when Amelia went to get food, but she only found scraps left (Robinson, 2017, p. 60). Similarly, when Charlotte went to get dinner, she “had to scrounge scraps from the corners of trays and the bottoms of bowls” and there were also boys who were “slurping food from a bowl like dogs as they licked the bowls clean” (Robinson, 2017, p. 60). All of these serve as an indication of the lack of sufficient food. Consequently, people have started to grow their food on rooftops and on ‘skyvillages’

(Robinson, 2017). However, these rooftops and ‘skyvillages’, though can accommodate farming, they do not have sufficient ground to grow sufficient food for the many people in the city, and because the city was drowned, there was no ground to grow any vegetation, thus the shortage of food (Robinson, 2017).

Furthermore, *The Citizen* recalls the “food panic” which transpired in the year 2074 which resulted in “price jumps, hoarding, hunger, famine, and death” (Robinson, 2017, p. 396). This brought a sudden realisation to everyone that, even food, the necessity that many are expected to have, has been “a problem solved or even whipped by the wonders of modern agriculture,” and could be made “uncertain by the circumstances thrust on them by climate change among other anthropogenic hammerings on the planet” (Robinson, 2017, p. 396). This scarcity of food led to adults in prosperous countries to loose so much weight and was often “welcomed as a diet that worked (at last)”, however in developing countries, there were no ‘kilos’ to be lost, “except to death” (Robinson, 2017, p. 396). This further elucidates El-Ashry (2009) remark which asserts that it is the less fortunate who tend to carry the most burden of climate change.

Moreover, Amelia Bank’s show serves as a fun climate change teaching tool as she uses this platform to humanise climate change by streaming the direct impacts of the extreme weathers on people and on wildlife. She also uses her show to educate and enlighten her viewers on wildlife by broadcasting how the wildlife is enduring in the changing environment, as well as how she assists the endangered species to migrate to ‘ecozones’ where they were more likely to survive the changed climate. This is in accordance with Richard (2018) who postulates that, as part of the econarratology theory, the direct effects of extreme climate on people and wildlife should be broadcasted in the media as this could potentially resonate in human’s mind about how serious the issue of climate change is.

And though some of her viewers are there just because she sometimes poses ‘topless’, the message about climate change and how it is affecting the fauna and flora and people, still gets through to them (Robinson, 2017). Amelia explains that there are some people who “seem to not understand what a problem extinction is!” probably because it is “hard to imagine” (Robinson, 2017, p. 114). Thus, she took it upon herself to elaborate why she was participating in the assisted migration mission on her show so that her viewers could further comprehend the consequences of endangered species’ extinction due to extreme weathers. This further echoes what Andersen (2014), Bracke (2015) and Irr (2017) acclaim that cli-fi works are important as they help people, to a certain extent, feel and comprehend the consequences of climate change, and just as the econarratology theory asserts. And through her cloud show, Amelia was doing just that.

Moreover, in an attempt to fight capitalism, Jeff triggered “a covert channel he had inserted into one of the high-frequency trading cables of a company” they worked for a couple of times so that the online trading market could ‘collapse’ and eventually bring some stability to the economy (Robinson, 2017, p. 343). However, the plan did not work and they ended up being kidnapped and placed in a container under the Bronx water for three months and were fed only twice a day “through a Judas slot in their door” (Robinson, 2017, p. 340). Their disappearance raised a lot of questions and brought great concern for their safety amongst the other characters, and the NYPD started investigating it with not much luck in finding them.

While the two were in an underwater tank, Jeff blames himself for putting them in the situation they have found themselves in and falls sick. Mutt, in an attempt to cheer up his sick friend, tells him a utopian story of a “good place” where everyone was equal - “men, women, children,

and people you couldn't say what they were"-, a place that everyone liked and treated each other with respect (Robinson, 2017, p. 313). He further describes the place as;

A beautiful place to begin with, incredible really, the harbor, and from east to west it was just one beautiful place after another, with animals and fish and birds in such profusion that sometimes when flocks of birds flew overhead they darkened the day. You couldn't see the sun or the sky, it was so full of birds. When the fish came back up the rivers to spawn, you could walk across the streams on their backs. That kind of thing. The animals ran in the millions. There was a forest that covered everything. Lakes and rivers to die for. Mountains you couldn't believe. It was a gift to have such a land given to you. (Robinson, 2017, p. 313)

This story is in contrast with what was happening on the ground in New York City: the city is drowned, most aqua food is inconsumable, and people were not equally treated, amongst others. The beautiful utopian tale allowed Jeff, who had been struggling with sleep, to finally sleep "peacefully" (Robinson, 2017, p.314). And after noticing that his friend was finally asleep, Mutt "puts his face in his hands and cries" (Robinson, 2017, p. 314), arguably making the reader to sympathise with him and actually feel sorry for them, as he imagines the beautiful world that is a complete opposite of theirs. The present researcher argues that the utopian story which Mutt tells his friend beseech him to use his human ingenuity in order to adapt to troubled times they have found themselves in as well as using it as a 'coping' or a 'survival' mechanism. This also conforms to the econarratology theory and it is testament to the human resilient as asserted by Mlambo (2013) who claims that resilience has to do with the capacity for strategically gripping distress and trials, and for coping with the unknowns of life, so as to survive and move beyond survival, which is exactly what Jeff is practising by telling this story.

Moreover, the raging storm in the novel arguably also presents the element of humanised climate change. The livelihood and the sense of resilience and adaptation of man is challenged by the ruthless storm. The storm wrecked the lively lower Manhattan, which had been home to diverse habitats and caused many buildings to collapse, canals were floating with “dead bodies”, some of which are of “people, but mostly animals: raccoons, coyotes, deer, porcupines, possums” (Robinson, 2017, p. 489). And more saddening, as Vlade was helping two men get on the tug amid the raging storm, two of the men he was aiding to get onto the tug got caught in a big wave and it crushed them “between tug wall with a palpable thump” (Robinson, 2017, p. 492). Subsequently, the tug held against the wall, luckily Vlade “jerked up” in a nick of time to get “clear of the collision” (Robinson, 2017, p. 492).

When the tug finally heaved away from the wall, the two men were nowhere to be seen. All Vlade could see were “two streaks of blood on the wall of the building”, and this made him “sick”, and he could not spot “their crushed bodies floating on the water” (Robinson, 2017, p. 492). One cannot help, but sympathise with him as it is a gruesome scene that he just witnessed. And though Vlade and Idelba have managed to save thousands and thousands of people, “never did the number of people needing rescue lessen” (Robinson, 2017, p. 493) and once the storm had chilled, Vlade acknowledged that the “health challenges were going to be severe” and since it was already getting warm, he asserts that “cholera was all too likely” (Robinson, 2017, p. 494). It is, thus proving that the rising temperatures and rising water levels were going to add more troubles to what was already on the ground. And just as Kaebnick (2013) asserted, an altered environment could culminate to destruction of livelihoods as well as loss of lives, just as is depicted in the novel.

With that said, the next segment explores migration as a result of climate change in this novel.

#### **4.3.5.1 Migration as a *volens volens* of climate change**

According to Klepp (2017) and Podesta (2019), millions of people are forcibly displaced due to climate change conditions such as flooding, sea-level rises, amongst others, and this is one of the things that are observed and experienced in this novel. Migration is a major theme in this novel and Charlotte plays a big role in the migration of people. As a part of her job at the “Householders’ Union”, she represents and aids “the renters, the paperless, the homeless, the water rats, the dispossessed” (Robinson, 2017, pp. 57-58). Therefore, when the mayor, Galina, and her assistants asked her to help “write up a press release” explaining why they “had to impose immigration quotas”, Charlotte strongly declined, asserting that it would “be breaking federal law” and that her “job is to represent the very people” that the mayor is trying to keep out of the city (Robinson, 2017, p. 58). Galina then argued that if way too many people are packed in New York, the city will be “too tight and there could be an explosion” to which Charlotte responded that New York is a “city of immigrants” and she [Galina] will not “get to pick how many” immigrants there will be in the city (Robinson, 2017, p. 59). However, Galina insisted that they “can influence the number”, still Charlotte refused to do so and proclaimed that that will be “only by being a thug and breaking the law” (Robinson, 2017, p. 59). Though the city is flooded, many people still flock thereto. This further enforces the observation made by Podesta (2009) that certain challenges such as flooding, food shortages, and so forth, caused by climate change can lead to migration.

Furthermore, many of the characters in the novel, major and minor, are immigrants. The likes of Vlade, Idelba and her team, and Stefano and Roberto are all ‘immigrants’. Stefan and Roberto are undocumented, like the many people in the city whom Charlotte represents. Stefan

acclaims that they are “free citizens of the intertidal” as he explains to Charlotte and Franklin that him and Roberto are orphans, with no guardians nor foster parents (Robinson, 2017, p. 442). Stefan claims that he grew up with his parents in Russia, however they died from cholera shortly after moving to the city. Roberto on the other hand says that he never had parents and remembers when he was about nine months old when he lived “under the aquaculture dock..., and ate what fell through the dock to the underdock, where the clammers keep their stuff”; he has taken care of himself all his lifelong (Robinson, 2017, p. 443).

Moreover, endangered species in the novel are assisted with migration to prevent them from extinction by moving them to more suitable environments where they can thrive. This is brought about by the character of Amelia and her ‘cloud show’ which is all about helping the “endangered species” to migrate “to ecozones where they were more likely to survive the changed climate” (Robinson, 2017, p. 48). However, when her producer, Nicole, proposed to her to assist with the migration of some polar bears to Antarctica, she incipiently became a bit hesitant. Firstly, because she was concerned about what these animals will be feeding on up there, and secondly, because of the “Defenders of the Earth” who disliked “assisted migration”, and “want native species in native habitats” only (Robinson, 2017, p. 55). Amelia admits it to be “a good idea”, however the polar bears will face extinction if they remained where they were, and notes that “everything’s in trouble” (Robinson, 2017, p. 55). This is in line with Kaebnick (2013) warning that extreme alterations to the environment menace the existence of not only man, but that of animals and plants too.

However, she agreed to assist. Amelia proclaims that because of some people who do not believe in extinction, they have been having some trouble with getting everyone to approve and agree that “moving some polar bears back into a truly polar environment is their last chance

for survival in the wild” (Robinson, 2017, p. 114). She expounds that;

Twenty bears are going to be transported eventually, that’s about ten percent of all the polar bears left in the wild. I’ll be taking six of them. So, if by doing that we help get them past this moment into a viable future, their genetic bottleneck from this century is going to be as skinny as a lifestraw, but it’s better than extinction, right? It’s either this or the end, so I say, load ’em up and ship ’em out! (Robinson, 2017, p. 114)

From this extract, it is evident that Amelia is trying to prevent bear extinction before it is too late, just as Pizzi, et al. (2013) stated that there has been an influx of animal species’ extinction, thus it is vital that these endangered species are conserved.

And though Amelia faced some challenges during the trip to Antarctica, she successfully managed to migrate the polar bears to Antarctica. She was exultant and rejoiced for getting the bears safely to where there was ice and prey to feed on such as the seals and fish which have been long undisturbed in the Antarctic (Robinson, 2017). The celebrations were unfortunately short-lived, because the “Antarctic Defense League” killed the bears upon their safe landing on the Antarctic (Robinson, 2017, p. 352). Charlotte elucidates that they killed the bears because they believed that Antarctica is “pure”, and they exclusively want native species to strictly live in their native habitats (Robinson, 2017, p. 352). It is, therefore that Pizzi, et al. (2013) emphasise on the importance of conserving endangered species in order to preserve them, and prevent extinction.

Also, the ‘Antarctic Defense League’ believed that they too were “pure”, thus do not want anything that is not like them on their land; “Purifying the world is their idea of what they’re

doing” (Robinson, 2017, p. 352). That did not comfort Amelia though, as she strongly asserts that she hates them and would want to “kill them” too for killing her “friends” (Robinson, 2017, p. 352). She does not believe in purity, claiming that “there’s no such thing as purity” and the only imperative thing is “avoiding extinctions” (Robinson, 2017, p. 374). This further enforces the ecocriticism theory as stated by Fenn (2015) that this theory also welcomes the annihilation caused to nature, in this case, the polar bears, by the ‘Antarctic Defense League’.

Amidst all these challenges, the novel also highlights on the world economy issues faced by the characters which is explored in the next segment of the study.

#### **4.3.5.2 Capitalism amidst climate change in *New York 2140* (2017)**

Gardiner (2020) posits that threats to human beings, such as extreme weather changes can culminate in unfamiliar territories which could disrupt the world economies and endanger lives, which is why this segment explores capitalism as depicted in *New York 2140* (2017). The duality of capitalism and anti-capitalism is highly present in this novel. The world’s riches are owned by only the one percent of the population, and the margin between the rich and the poor keeps widening as time goes by (Robinson, 2017). Right from the outset of the novel, two anti-capitalists, Mutt and Jeff discuss capitalism as “the problem” which has been going on in the world for quite some time now and posit that they have “been paying a fraction of what things really cost to make, meanwhile the planet, and the workers who made the stuff, take the unpaid costs right in the teeth” (Robinson, 2017, pp. 12-13). This discussion between the two provides the reader with a glimpse of the financial situation that the world is faced with.

Furthermore, Jeff informs Mutt that “the market is a failure” and “things are sold for less than it costs to make them” which to Mutt, “sounds like the road to bankruptcy” (Robinson, 2017,

p. 12). Jeff acknowledges that a lot businesses have gone bankrupt, and others are under huge pressure to sell as low as they can, because every buyer buys the cheapest version of whatever it is and though the businesses tried to pay less for labour, it did not halt bankruptcy (Robinson, 2017). Jeff claims that “that’s why we’re all broke except the plutocrats” (Robinson, 2017, p. 12), which is the one percent that owns the world’s riches. Jeff expresses his frustration by stating that he “can’t stand it anymore... we’re chewed up. We’re squeeze dry...They’ve squeezed us till we’re bleeding from the eyes” (Robinson, 2017, p. 12). This further enlightens the reader about how the financial situation in the world came about and how worse it has gotten.

Capitalism in this novel is global, and Jeff stresses that capitalism “extends all over the Earth, there’s no escaping it, we’re all in it, and no matter what you do, the system rules!” (Robinson, 2017, p. 13). He further asserts that “the world is a mess because of assholes who think they can steal everything and get away with it”, thus they have to “overwhelm them” in order to get back “justice” (Robinson, 2017, p. 418). Likewise, Franklin postulates that the floods have been a case of “creative destruction” which he states is “capitalism’s middle name” (Robinson, 2017, p. 132). He then compares the floods, referring to them as the “worst catastrophe in human history”, to the “twentieth century’s wars in their devastation”, and contends that the former counterparts or is greater than the latter, and that they were “actually good for capitalism” (Robinson, 2017, p. 132). This could arguably be interpreted that the characters are aware of just how bad the effects of climate change can be as the phenomenon also affects the world economy. Therefore, the present researcher profess that it is of great importance that humans take good care of the environment to possibly avoid extreme consequences by doing the opposite.

Moreover, *The Citizen* asserts that “humans are so tough!”, because those of the 2060s “staggered on through the great depression” which was followed by the First Pulse (Robinson, 2017, p. 155). And there was “an act of creative destruction”, because a “certain particular one percent of the population” were not touched by anything bad, and “by chance rode things out rather well”, which resulted in “more poverty for the poor”, and all what the poor could do was to “buckle down in their traces and accept the idea of austerity”, and “on we go with the show!” as if all is well (Robinson, 2017, p. 155). This concurs with Dave (2020) who asserts that humans have, over several times, proven to be highly flexible and resilient. Additionally, *The Citizen* elucidates that after the Second Pulse, half of the planet’s wealth was owned by the four hundred richest people on the planet, and eighty percent of the world’s wealth was fully owned by the top one percent (Robinson, 2017). He claims that that “remarkable wealth distribution was just a result of the logical progression of the ordinary workings of capitalism, following its overarching operating principle of capital accumulation at the highest rate of return” (Robinson, 2017, p. 220). This is in line with Gardiner (2020) who asserts that issues such as climate change could cause disruptions to world economies, which is exactly what can be observed and is experienced by the characters in *New York 2140* (2017).

Many characters in this novel are anti-capitalism to a point that they sought to “bring down financial civilization” by going on strike (Robinson, 2017, p. 365). It is herewith that Franklin advises Charlotte to look at “ordinary people” who “need stability”, and who want what is called “illiquid assets” to get more people who would strike against capitalism with them (Robinson, 2017, p. 365). Franklin clarifies that ‘illiquid assets’;

Aren’t liquid, and you don’t want them liquid. So you pay a steady stream of payments for those things to stay illiquid, meaning mortgage payments, health insurance, pension

fund inputs, utility bills, all that sort of thing. Everyone pays every month, and finance counts on having those steady inputs of money. They borrow based on that certainty, they use that certainty as collateral, and then they use that borrowed money to bet on markets. They leverage out a hundred times their assets in hand, which mostly consist of the payment streams that people make to them. Those people's debts are their assets, pure and simple. People have illiquidity, and finance has liquidity, and finance profits from the spread between those two states. And every spread is a chance to make more. (Robinson, 2017, p. 365)

This extract is in line with Goering (2015) who posits that by including women, minorities and others whose voices may have been passed over or suppressed into vital decision and policy making, could lead to lobbying governments for change, and that is what is being done in the novel - women and those whose voices have been ignored were included in the fight against capitalism in the novel. Furthermore, Franklin elucidates that if they wanted to 'civilise' finance, they could "pop the [financial] bubble on purpose" (Robinson, 2017, p. 366), asserting that;

If liquidity relies on a steady payment stream from ordinary people, which it does, then you could crash the system any time you wanted, by people stopping their payments. Mortgages, rents, utilities, student debt, health insurance. Stop paying, everyone at once. Call it Odious Debt Default Day, or a financial general strike, or get the pope to declare it the Jubilee, he can do that anytime he wants. (Robinson, 2017, pp. 366-367)

Just as the previous extract, this extract too, echoes the sentiments of Goering (2015) about involving minorities, women, amongst others into important decision making. Moreover, as

Mutt and Jeff sit and converse with Charlotte, Jeff proclaims that he wants justice and revenge to what has happened to them and on the capitalists (Robinson, 2017). He asserts that the world is a mess “because of assholes who think they can steal everything and get away with it”, thus they need to “overwhelm them” in order to get back to justice (Robinson, 2017, p. 418). Jeff further adds that the conditions are “very ripe” and they should “stand up now and fight for what is right” (Robinson, 2017, p. 418). He elucidates that “people are pissed off. They’re scared for their kids” and that he is “fucking furious”, thus they plan to strike some sort of “disaster” in order for their plan to work (Robinson, 2017, p. 419) because “the prices going up while the buildings are falling apart” (Robinson, 2017, p. 451). It is herewith that the initial plot against capitalism has been put into motion.

Moreover, after the storm that wreaked havoc in New York City, Charlotte, upon seeing many people taking refuge in Central Park, requested the mayor to allow these people to take temporary refuge in the ‘superscrapers’ which are owned by the world’s richest people, yet they do not live there (Robinson, 2017). However, the mayor refused. And when Amelia came back to the city in her *Assisted Migration*, and saw that the “superscrapers came through the storm just fine” and “they’re mostly empty”, whilst Central Park looked like a refugee camp, and people “will be sleeping in the park”, she protested live on her cloud show that she was “sick of the rich,” and “sick of them running this whole planet for themselves... They’re wrecking it!” (Robinson, 2017, p. 545). This also resonances Goering (2015) statement about including the previously disadvantaged people into important decision making to lobby governments into making great amendments. Additionally, Amelia’s action to broadcast the devastation caused by the storm on her show coincides with Richard (2018) who postulates that, as part of the econarratology theory, the direct effects of extreme climate on people and wildlife should be broadcasted in the media as this could potentially resonate in human’s mind

about how serious the issue of climate change is.

Consequently, she asks her viewers to join the Householders' Union and together with the union, they should go on strike, "an everybody strike. I think there should be an everybody strike. Now. Today." so that they [the people] do not take any "more table scraps" (Robinson, 2017, p. 545). She explicates that by taking a householders' strike meant that, everyone should "just stop paying your rents and mortgages", their "student loans and insurance payments" as well as "any private debt you've taken on just to make you and your family safe", (Robinson, 2017, p. 546). She further informs her viewers that "the union is declaring all those to be odious debts, like some kind of blackmail on us, and we're demanding they be renegotiated" (Robinson, 2017, p. 546).

Additionally, she elucidates that those who think that they will get into trouble by "not paying your mortgage", that would only happen if "it was just you", however "when everyone does it, that makes it a strike. Civil disobedience. A revolution" (Robinson, 2017, p. 546). Therefore, she requests that everyone take part in the strike and exclaims that everyone who would like to join the strike should simply stop paying "your bills!" (Robinson, 2017, p. 546). Furthermore, she explains that the "absence of those payments of ours will cause the banks to crash fast" because "they take our payments and use them as collateral to borrow tons more, to fund their own gambling way overextended. Overleveraged." (Robinson, 2017, p. 546). The government will therefore be forced to "borrow" money from the people, and they will have to tell the government what to do, however if the government decides to borrow money from the banks, they will then "elect a new government of the people, by the people, and for the people" (Robinson, 2017, p. 547), thereby popping the capitalists' financial bubble.

Additionally, she adds that “at this point it’s democracy versus capitalism”, and the people have to be united and take over, as this can only be done “by mass action ... It’s a case of all for one and one for all” and if a sufficient number of them do it, “they can’t put us in jail, because there will be too many of us. We’ll have taken over. They’ve got the guns but we’ve got the numbers” (Robinson, 2017, p. 557). She further urges her viewers to share her “show and its message” because this is “definitely a case of the more the merrier” (Robinson, 2017, pp. 557-558), and she encourages the people to join the union so they get “people in office who will actually work for the people rather than the banks” (Robinson, 2017, p. 548).

It was, therefore after Amelia’s ‘join the union’ show that the strikes started, shortly after the fact that the “emergency response” to the hurricane did not encompass the “requisitioning of the empty residential towers of the city” (Robinson, 2017, p. 551). The people demonstrated by;

“Strategic defaulting. Class-action suits. Mass rallies. Staying home from work. Staying out of private transport systems. Refusing consumer consumption beyond the necessities. Withdrawing deposits. Denouncing all forms of rent-seeking. Ignoring mass media. Withholding scheduled payments. Fiscal noncompliance. Loud public complaining.” (Robinson, 2017, p. 551)

This extract elucidates further about how the strike was carried out to ‘force’ the government to make the necessary changes in regards to the financial situation being experienced. The strike in New York subsequently expanded “around the world at varying levels of intensity, depending on local circumstances” (Robinson, 2017, pp. 551-552). It is through rioting that the people made a point “into capital’s thick skull” that change “must occur” and it was “on its way”, and it was “indeed is occurring”, because huge number of people all over the world

joined numerous “householders’ unions” and they spurned to “pay rents of all kinds, mortgages and student loans”, and the purchasing of “nonessential consumer goods” drastically “dropped” all over the world (Robinson, 2017, p. 552).

Consequently, this crippled the “business growth by way of a perfectly legal fuck-you”, because people merely stopped spending money “they didn’t have for things they didn’t need.” (Robinson, 2017, p. 552). These in return have caused all the banks and investment firms to “call in all their liquid assets and to stop loaning anything at all, even the standard interbank loans that kept the real economy going.”, and the world’s finance “had once again frozen” (Robinson, 2017, p. 553).

Subsequently, Larry and the secretary of the treasury met with the big banks and investment firms, which were all “massively overleveraged, all crashing,” (Robinson, 2017, p. 622) to find a way forward. And in order for the banks to be bailed out, there was a condition attached thereto: “the recipients issue shares to the Treasury equivalent in value to whatever aid they accepted. The rescues being necessarily so large, Treasury would then become their majority shareholder and take over accordingly” (Robinson, 2017, p. 622). It is, thus that Goering (2015) insist that inclusion of women, minorities and others whose voices may have been disregarded, into making important decisions and policy making as well as lobbying the government for change is important. And this is exactly what the Household Union did to get the change they demanded and needed from the government.

Accordingly, worldwide, countries were dishing out the same deals to their banks and companies. Some major banks and companies initially refused the deal, and were wished “good luck in their bankruptcy proceedings” (Robinson, 2017, p. 623). However, after Citibank

welcomed the deal which Treasury and Fed offered, “all the other banks and investment firms” hastily started to accept the deal too (Robinson, 2017, p. 623). And as a result “finance was now for the most part a privately operated public utility” (Robinson, 2017, p. 623). According to *The Citizen*, these results were, however not praised upon Larry the Fed Ex, nor the president, not even on Charlotte, but the “people” (Robinson, 2017, p. 624). He asserts that it is “the people in this era” that did it (Robinson, 2017, p. 624). This goes to show that once human beings are united and with the will to not give up, can achieve just about anything they set their minds to. Additionally, it was majorly through Amelia’s enlightening to her viewers on her cloud show that people became more aware and encouraged to bring a stop to capitalism. This is in cohesion with Richard (2018) who posits that these issues should be ‘humanised’ by, for example broadcasting the direct feeds of these effects on people and wildlife in the media, which is exactly what Amelia does with her show. With that said, the next segment of the study explores how the inclusion of education could add to the climate change debate as explicated in the novel.

#### **4.3.6 Climate change and pedagogy in *New York 2140* (2017)**

Siperstein (2016) affirms that the narrative scholarship opens up spaces for imagining potential new modes of teaching and learning, especially in the climate change discourse. Therefore, this segment sets out to explore how this is done in the novel. There is not much about education depicted in the novel, however it is alluded that people did get some educational training as references were made on a few characters who went to universities and have obtained some qualifications. And there are also those, like the likes of Stefano and Roberto, who never went to school and are, occasionally, when the opportunity arises, being ‘educated’ by an old man whom they have befriended. With that being said, the present researcher therefore believes that learning about climate change does not necessarily have to be done in a formal learning

environment, but can be done informally as well just as the two boys have been doing.

There is, however a one Lucky Jeff, an evolution and ecology theorist, who was also Amelia's undergraduate advisor who lectured on "good land practices" in order to "pass along a good place to the generations after us" (Robinson, 2017, p. 379) thereby educating his students on agriculture and its importance. He explains that the economic theory which is "supposed to allow everyone to maximize their own value", has put them into a "mass extinction event", though in practice it means "profit" and if people continue at it, it could "wreck everything" (Robinson, 2017, p. 379). He further elucidates that taking good care of the land includes "agriculture, and animal husbandry, and urban design", and rather than working to make a profit, "we do whatever is good for the land" (Robinson, 2017, p. 379). This, though not directly connected to what she does, has helped shape Amelia with the will to want to make a difference by working with the Migration Assistance to help prevent the extinction of endangered species. Also, through her cloud show, she educates her viewers on several issues, with major emphasis on the effects of climate change on wildlife and civilisation. In this regard, Schneider-Mayerson (2018) asserts that these stories of climate change could lead to deeper comprehension of climate consciousness in man, thereby also highlighting the econarratology theory.

#### **4.3.7 Science fiction elements in *New York 2140* (2017)**

Though there are arguably science fiction aspects in this novel, *New York 2140* (2017) remains a cli-fi novel because of its features that are aligned with cli-fi novels. As earlier established by Merriam-Webster (2020), cli-fi is a sister genre to sci-fi, and the two genres are quite similar to each other, though they are two distinct genres. It is, therefore crucial that the present researcher establishes these similarities found in the novel, and contends that this novel remains a cli-fi narrative, than it is a sci-fi novel despite certain resemblances with sci-fi works. Though

there are some science fiction elements in the novel, only a few technological advancements can be observed in the novel. Nonetheless, old words have been regenerated and there are inventions of new ones for things which are currently in existence which, according to Evans (2017) is a classic science fiction practice. These are such as “blocknecklaces” (Robinson, 2017) which is a great pun most probably referring to a block chain and a city block. There are also “rooms that could be packed into a suitcase” called “hotellos”, and were often set up “inside other buildings”, because they are not “very sturdy”, and they typically just provided “private space inside crowded larger spaces” (Robinson, 2017, p. 22). It could be argued that this is because of lack of sufficient space in the environment to cater to all beings who have been displaced, especially because of climate change, and just as Bloom (2013) posits, the two genres complement each other, which is exactly what the sci-fi elements are doing in this novel.

Additionally, there are “superscrappers; wetbits”, which are some sort of digital currency that is backed up by weather features; “interdidal aeration” which refers to the rising of real estate prices, and a “waterbarn” which is used to store boats (Robinson, 2017). Moreover, remotely operated submarines, underwater sleds riding subway tunnels, “containerclippers”, “giant robot freighter airships”, as well as “mayflies” which could be inferred to as little recording devices (Robinson, 2017, p. 192), can be observed in the novel. Furthermore, some new constructing materials called “graphenated composites” is what they use to construct new buildings as well as to connect walkways (Robinson, 2017). They also have what they call a “wristpad” which is some ubiquitous mobile device that all characters use to communicate with each other (Robinson, 2017), which in the modern world could be more or less equivalent to cell phones.

However, during the storm when they had lost their “cloud connection”, communication amongst the locals was done via “radio or wire connections” (Robinson, 2017, p. 484) which

is also used by humans in this current era, which further shows how less technology has advanced in this dystopian cli-fi novel. However, the present researcher posits that the lack of major technological advances in this novel could arguably be for it to remain relatable to the present human reading it and to not create a too 'unimaginable' world that might otherwise create scepticism. Also, because this is a cli-fi novel and not a sci-fi novel, Glass (2013) argues that these type of novels come from a place of cautionary rather than discovery, which is what differentiates it from a sci-fi novel.

Furthermore, there are specious airships (upgrades of airplanes) like Amelia's, which on the underside looked like a "fat keel" and were forty meters long (Robinson, 2017, p.111). Though these type of airships fly "many miles", they were very "durable", and the fundamental to its sturdiness were their "flexibility and lightness, and also the photovoltaic outer skin of the bag", which made the crafts "effectively autonomous in energy terms" (Robinson, 2017, p. 111). These crafts did not "really ever have to come down" to the ground, and when they eventually experienced some sun damage, and in need of regular supplies; restocks were done "without landing" (Robinson, 2017, p. 111-112) and they "can fly in hurricanes without danger" (Robinson, 2017, p. 115). Moreover, these aircrafts like Amelia's airship have artificial intelligent pilots (Robinson, 2017).

Despite all the sci-fi elements found in *New York 2140* (2017) and the undeniable similarities between the cli-fi and sci-fi genre, it could be argued that this novel remains a cli-fi novel because of the reasons mentioned earlier. Also, it is because of such that Bloom (2013) emphasises that the two genres are not competing against each other, but they complement each other. Thus, these sci-fi elements complement the novel so well that the present researcher believes that some of these sci-fi elements such as the 'skyvillages' could possibly be realised

in years to come shall the earth struggle to accommodate all living things due to climate change. Furthermore, this is supported by Evans (2017) and Merriam-Webster (2020) who assert that cli-fi narratives enlighten man on how to remain alive, cope and face the reality posed by an ever changing environment as a result of climate change, and this is what can be observed in *New York 2140* (2017). With that said, it is also vital that the study looks at how this cli-fi novel with sci-fi elements imagines the future, which is what the next segment is about.

#### **4.3.8 How the novel imagines climate change and responds to the present and to the future**

The novel is compressed with anthropocentric nature of temporal hybridity of both the present and the future, however it depicts self-consciousness of convergence on the present. Once the coastlines in the world had drowned, “people had taken to the skies like dandelion seeds and recongregated in the clouds”, implying that human beings could live and survive in aircrafts up in the air, and never have to land for anything, because they can get anything they needed at what they call the “skyvillages” without ever landing, just as Amalia and others have been doing for years (Robinson, 2017, p. 112). The present researcher asserts that this could arguably be one of the alternatives that the novel presents to man as a way to live shall the climate change phenomenon not be seriously attended to or if it subdues, and things take a turn for the worse.

Moreover, because of a flooded environment, cars, as man currently knows them, might not be in existence as is depicted in the novel. And if they will be, they will be utilised in a different manner than that is of current - “motorboats of every kind” will be the everyday means of transport around the cities as streets will have turned into canals, and gardening on rooftops, and not down on the ground, might be the norm in the future (Robinson, 2017, p. 138).

The novel also offers glimpses of how education might be like in the future with most learning

happening ‘socially’, such as through Amelia’s cloud show which enlightens people on climate change and the biosphere. Additionally, Stefan and Roberto also learn a lot through their adventures and exploration around the city. Learning could also be through ferocious ‘home-schooling’ which is practised by Stefan and Roberto, who are ‘mentored’ by Mr Hexter. Moreover, characters in the novel also, one way or another learn from each other. For example, in the absence of her whiteboard, Gen ricochets her ideas on one of her subordinates; Jeff and Mutt comically interact with each other whilst sharing information and ideas, and they, as well as Franklin, enlighten Charlotte on finances and how their trading works. On the other hand, the novel also illuminates on tertiary education with the some of the characters, like Charlotte and Larry having attended varsity, and actually got some sort of accreditation therefrom, as Charlotte is portrayed as a qualified lawyer. Consequently, student loans remains a persistent issue, and the characters went striking to get those evoked, and they advocated for free tuition as well.

To conclude the analysis of *New York 2140* (2017), the affiliation of man and nature in this novel is in full swing as Turner (2001) asserts that the two are connected and interrelated as per the ecocriticism theory, and every change that the environment goes through, it will one way or another affect human beings as it is depicted in the novel. Similarly, Reser (2007) observes that environmental degradation is mostly as a result of human beings’ actions, and this has several consequences such as displacement, migration, food shortages, amongst others, as asserted by several scholars, just as it is portrayed in the novel. Moreover, as per the econarratology theory, Norminton (as cited in Glass, 2012) emphasises on the importance for the alchemy of the narrative to convert data obtained through science to be transformed and depicted into emotions for man to better comprehend the seriousness of the climate change phenomenon. Additionally, Wagner and Weitzmann (2017) insist that the longer man takes to

deal with climatic issues and make necessary amendments in that regard, the more extreme climatic issues might keep happening, as it is observed and experienced in *New York 2140* (2017). With that said, this therefore concludes the analysis of *New York 2140* (2017). The next segment presents the analyses of the second novel selected for this study, *The Drowned World* (1962), however it starts with providing a background of the author of the novel.

#### **4.4 About the author - J.G Ballard of *The Drowned World* (1962)**

To get a better understanding of *The Drowned World* (1962), the present researcher deemed it important to look into his biography before provided the analyses of the novel. J.G Ballard whose full name is James Graham Ballard was born 15 November 1930 and died on the 19<sup>th</sup> of April 2009 (Temple, 2018). Ballard was a British sci-fi novelist, essayist and short-story writer who is recognised as one of Britain's greatest writers (Halford, 2009). Ballard spent his childhood going through war, and it is believed that the early exposure to the mayhem of war is what has influenced the apocalyptic and intense nature of his works (Britannica, 2020). After publishing *The Drowned World* (1962), he became a prominent member of the 'New Wave' movement (Temple, 2018), which according to Clarke (2018), is a movement which emerged in response to the countercultural politics and postmodernist literary stylistics of the 1960s. In addition, for his many works and contribution to sci-fi, Ballard has won several awards for his brilliant work, including the *Guardian Fiction Price* and *Commonwealth Writers' Price*, amongst others (Temple, 2018). Ballard is described as an outstanding, visual dexterity writer whose work overflows with imagery abundance and encompasses surrealism post-apocalyptic dystopian themes, consequently earning himself an own adjective called 'Ballardian', which is acknowledged in some dictionaries such as the Collins English Dictionary (Clement, 2019; Halford, 2009; Pringle, 2009). According to Clement (2019) the adjective means;

1. Of James Graham Ballard (1930–2009), the British novelist, or his works
2. resembling or suggestive of the conditions described in Ballard's novels and stories, esp. dystopian modernity, bleak man-made landscapes, and the psychological effects of technological, social or environmental developments. (p. 564)

It is, therefore with this background that the study opted to analyse and examine *The Drowned World* (1962) by Ballard.

#### **4.5 *The Drowned World* (1962) – Summary**

*The Drowned World* (1962) is a post-apocalyptic cli-fi novel which imagines a world where major cities have been transformed into tropical lagoons by rising temperatures and rising water levels. The novel is set in the year 2145 in a submerged London city, which has been transformed into several tropical lagoons after some fluctuations in the solar disc melted the ice caps causing climatic changes, which in turn, ensued scorching temperatures causing skin cancers to rapidly develop, blindness, infertility, creation of mutated mosquitos, large hammer-nosed bat, gigantic reptiles, amongst others.

The novel centres around a group of scientists led by the protagonist of the novel, Dr Robert Kerans, who are on a mission to investigate the unique and rapidly evolving animals and plants in the new climate altered environment. Due to rising temperatures, mutating mosquitos and mutating malarias, thermal storms, skin cancers, strange dreams and the increasing encroachments of reptiles, the characters are forced to abandon the drowned city and migrate elsewhere. Also, the characters in the novel start experiencing similar strange dreams of an apocalyptic landscape, wherein a primeval swamp is subjugated by large blazing flames from the sun, which are on the same beating pace with their heartbeat pulses. It, however turns out

that these weird dreams are the first cautionary of a greater, intense process, and not just an accidental incidence or sign of anxiety or burnouts.

Moreover, due to extreme weather conditions in the city, the characters are forced to migrate to Camp Byrd, which is one of the last places on earth that can still accommodate human beings. Lieutenant Hardman, who was not aware of their imminent departure to Camp Byrd, was caught off-guard when Kerans [un]intentionally made him aware of their departure plans, consequently, he disappeared the following day. And upon discovering that Hardman was nowhere to be found, colonel Riggs, the commander of a small army troop, gathered his people, including Kerans to go search and bring him back, however they failed to return with him. There are fertility issues caused by the extreme weathers which the novel seemingly highlights by having only one female character, Beatrice Dahl, who seems to be Kerans' love interest. On departure day to Camp Byrd, Dr Bodkin, the only character in the novel old enough to remember the city before it was majorly submerged by the floods, Kerans and Beatrice opted to stay put due to individual reasons.

The trio was later joined by Strangman, an albino treasure hunter and his crew that consists of only black men. Strangman's ship has storerooms full of art and statuary, and he often hosts lively parties on his ship and invites the trio. Upon arriving in the drowned city, Strangman and his men found it challenging to get any treasures in the drowned city, thus he decided to drain the lagoon during one of his parties and presented it to the trio as a surprise for them, which he believes could bring an end to the weird dreams they have been enduring. Kerans and Beatrice shockingly noticed that the water level was declining and they were disgruntled by it, however Bodkin was left mesmerised. And though Bodkin's reception to the draining of the lagoon seemed fairly okay compared to Beatrice's and Kerans', he attempted to re-flood the lagoon

after a couple of days, and was consequently murdered by Strangman during this endeavour. After killing Bodkin, Strangman and his crew captured and tortured Kerans, because he assumed that he was working with Bodkin to drown the lagoon again.

Kerans eventually managed to escape, but it was short-lived as Strangman and his crew managed to corner him as he was fleeing. However, just as they were about to re-capture him, colonel Riggs and some of his men came to his rescue. Thereafter, Kerans asked Riggs why he did not arrest Strangman, to which he responded that technically Strangman has done nothing wrong, and would be awarded and praised by the UN for draining the lagoon. Additionally, Kerans asks Riggs to re-flood the lagoon, however Riggs reveals that he has no plan on doing so, and if anything, he would kill whomever that will try to reflood the lagoon. This response leaves Kerans feeling uneasy and angry, so he decides to take the matter into his own hands. He decided to plant bombs at one of the dams, and whilst he was doing so, a one sergeant Macready spots him and shoots him in the leg.

Kerans then attempts to warn Macready to move away from the dam because it was soon going to explode, however Macready does not listen to him and he gets blown up with the dam. After the explosion, the water immediately commenced to flow into the lagoon, filling it up again. Consequently, Riggs and Strangman teamed up to hunt Kerans who, nonetheless manages to escape and flee from the drowned city to the south where he later discovers Hardman in an abandoned apartment building. He soon realises that Hardman was blind and could not recognise him, thus Kerans took care of him. However, after three days, Kerans woke up to find Hardman gone, once again. He then waits for him for several days and upon Hardman's failure to return, Kerans decided to leave the apartment building and headed further south in search for an inhabitable environment as the weather conditions there were becoming too

extreme and uninhabitable. All in all, the novel deals with characters in a climate altered environment and some seem to accept it as is, however, there are those trying to fight against the changes.

#### **4.5.1 Climatic concerns in *The Drowned World* (1962)**

Unlike *New York 2140* (2017), the climatic changes in this novel are not as a result of human-induced activities on the environment, but as a result of sequences of aggressive solar storms which happened a couple of decades before the beginning of the story. This is in line with Adedeji, et al., (2014) who affirms that climate change can occur naturally, and not necessary just as a result of anthropogenic changes. And as such, the novel portrays nature as the antagonist in the novel, and human beings as victims of the changing environment as they attempt to adopt and survive in their new ecosphere. Right off the bat, the novel informs the reader about the scorching temperatures that are soon going to rise though it is shortly just after 8 o'clock in the morning. The rising temperatures were too aggressive that;

Even through the massive olive-green fronds the relentless power of the sun was plainly tangible. The blunt refracted rays drummed against his bare chest and shoulders, drawing out the first sweat, and he put on a pair of heavy sunglasses to protect his eyes. The solar disc was no longer a well-defined sphere, but a wide expanding ellipse that fanned out across the eastern horizon like a colossal fire-ball, its reflection turning the dead leaden surface of the lagoon into a brilliant copper shield. By noon, less than four hours away, the water would seem to burn. (Ballard, 1962, p. 5)

This extract depicts one of the main themes portrayed throughout the novel, which portrays human beings being at the mercy of nature, and nature triumphing over them. Additionally,

according to Kandemiri (2018), sometimes nature offers a smooth or a rough terrain in its depiction in literary texts, and in the case of *The Drowned World* (1962), nature in this extract is offering a rough terrain to its inhabitants.

It is for this reason that Kerans found himself reluctant to leave his “cool, air-curtained haven of the hotel suite” though he is usually up by five to go to work before the heat becomes “intolerable” (Ballard, 1962, p.5). The heat is so extreme that it “shrivelled and burnt some dried air-weed and red kelp which were encrusted across the bitumen plates of the pontoon before they could even reach the railing around the laboratory” (Ballard, 1962, p. 24). Even well after four o’clock, “the sun filled the sky, turning it into an enormous blow-torch” which forces the people to lower their eyes to the water-line (Ballard, 1962, p.24). And every now and then, people would see “countless reflections of the sun move across the surface in enormous sheets of fire” in the glass curtain walling of the surrounding buildings, like the “blazing faceted eyes of gigantic insects” (Ballard, 1962, p. 24). This is in par with Lane and Dieterlen (2017) who assert that climate change can lead to an increase in temperatures which can possibly result in heat waves, just as is being experienced by the characters in this novel. It also further reinstates Kandemiri (2018) statement that nature sometimes offers a bumpy terrain to its inhabitants. Furthermore, this is in line with Turner (2001) who asserts that with every change nature goes through, it also affects man as there is a connectedness between the two, and this also relates to the ecocriticism theory.

The climatic changes in the novel are brought about by;

The succession of gigantic geophysical upheavals which had transformed the Earth’s climate had made their first impact some sixty or seventy years earlier. A series of

violent and prolonged solar storms lasting several years caused by a sudden instability in the Sun had enlarged the Van Allen belts and diminished the Earth's gravitational hold upon the outer layers of the ionosphere. As these vanished into space, depleting the Earth's barrier against the full impact of solar radiation, temperatures began to climb steadily, the heated atmosphere expanding outwards into the ionosphere where the cycle was completed. (Ballard, 1962, pp. 11-12)

This extract depicts how climatic concerns are expressed in this novel, and just like the ecocriticism theory as elucidated by DeMott (2018), these changes did not come arrive arbitrarily nor through invisible causes, but over a number of events.

Moreover, the sun in the novel is compared to a volcano, "its flares volcanic pounding" (Ballard, 1962, p. 43) to emphasise its sturdiness. And after an episodic night of the weird dream, the sun is personified as Kerans could "hear the sun drumming over the sunken water" (Ballard, 1962, p. 44) and he could "still see the vast inflamed disc of the spectral sun..." beating to "the frequency was that of his own heartbeats" (Ballard, 1962, p. 43). However, Bodkin reveals that the dreams are not what they seem to be, "but an ancient organic memory millions of years old" (Ballard, 1962, p. 45), thus the sun is being referred to a "Triassic sun" which pertains to a period of the Mesozoic era which occurred from 230 to 190 million ago (Ballard, 1962, p. 43). And as Strangman affirms, "the entire planet is rapidly returning to the Mesozoic Period" (Ballard, 1962, p. 56). It is from these that the present researcher argues that Ballard (1962) has presented nature to be the antagonist in the novel, as the characters keep referring back to the Triassic period which saw nature and reptiles triumphing over humans, and relationship between man and nature and the resilient nature of man, are being tested in that, that which nature is going through, is being experienced by humans as well.

Furthermore, whilst pointing at the arising rim of the sun “through the groves of gymnosperms” (Ballard, 1962, p. 45), Bodkin further elucidates that the dreams are;

“The innate releasing mechanisms laid down in your cytoplasm millions of years ago have been awakened, the expanding sun and the rising temperature are driving you back down the spinal levels into the drowned seas submerged beneath the lowest layers of your unconscious, into the entirely new zone of the neuronics psyche. This is the lumbar transfer, total biopsychic recall. We really remember these swamps and lagoons. After a few nights you won’t be frightened of the dreams, despite their superficial horror.” (Ballard, 1962, p. 45)

The above extract echoes Barry (2009) sentiments by stating that ecocriticism also deals with human beings’ emotional experiences in the light of environmental issues. This is observed through the emotional reparations caused by the weird dreams that the characters are experiencing. Similarly, Reser (2007) posits that a degraded environment directly affects the health of humans as well as their well-being.

Not only did the characters deal with the rapidly rising temperatures and their effects, they also dealt with countless thermal storms which would “rip through a dump of huge horse-tails lining the creek which led out of the lagoon” (Ballard, 1962, p.5). These thermal storms were;

“Trapped by the surrounding buildings and the inversion layers a hundred feet above the water, pockets of air would heat rapidly, then explode upwards like escaping balloons, leaving behind them a sudden detonating vacuum. For a few seconds the

steam clouds hanging over the creek dispersed, and a vicious miniature tornado lashed across the 60-foot-high plants, toppling them like matchsticks. Then, as abruptly, the storm vanished and the great columnar trunks subsided among one another in the water like sluggish alligators.” (Ballard, 1962, p.5)

This extract heightens the extreme weather conditions being experienced by the characters in the novel due to climate change. Also, it briefly touches on the interrelation between nature and its cohabitants as per the ecocriticism theory. All in all, when Kerans was asked to sum up the last two years of them living in the drowned city, he posits that “one could simply say that in response to the rises in temperature, humidity and radiation levels the flora and fauna of this planet are beginning to assume once again the forms they displayed the last time such conditions were present-roughly speaking, the Triassic.” (Ballard, 1962, p. 25).

These climatic changes and their consequences brought with them various health issues which arguably humanises climate change in this novel, and which proves the sentiments of Reser (2007) about altered environments directly affecting the health of humans as well as their welfare. It is with this that the next segment explores the relationship between man and nature as presented in the novel.

#### **4.5.2 Man versus nature in *The Drowned World* (1962)**

Irr (2017) posits that the relationship between man and nature is interdependent and interrelated, because both man and the non-living found in nature rely on the environment as a place of sanctuary. In *The Drowned World* (1962) nature is depicted to be a dominant force, winning against mankind and responds to actual anxieties about the undisputable signs of the existence of climate change. It is therefore that humans in this novel are battling to survive in

an environment that is hostile, constantly changing and becoming more dangerous for them to survive. The alteration of the environment in the novel is depicted to soon be inhabitable for humans, with threats emitting from the increasing world temperatures as well as the rapid mutations of gigantic iguanas preying on them at any given chance. And even though much of the novel's conflict derives from the characters as they battle each other, the present researcher argues that the predominant conflict in the novel involves the numerous manners in which the characters are forced to fight against an increasingly hostile environment. With the world being drowned, human beings attempt to confront "the rising water levels and the encroaching jungles" by "building elaborate sea-walls around their perimeters", however these walls were, one by one breached by the enemy (Ballard, 1962, p. 13), which arguably reinstates the notion that nature is conquering over man, and also reaffirms the relationship as per the ecocriticism theory, between man and nature.

Moreover, the present researcher observes that novel portrays a world, after human beings and in which humanity has embraced the likelihood of extinction with dignity and grace, permitting other forms of life on earth to flourish, instead of clinging on to the notion that it is in control as it moves towards a man-made apocalypse. This is well enforced by the characters of Bodkin and Kerans, who, instead of trying to fight against nature, have accepted and are dancing to the tunes of nature. Kerans resides in the Ritz hotel of which the moulds and fungi have become "living parts" of the elaborate and rich furnishings, while the ever-present iguanas watch the platoon from the windows of abandoned buildings (Ballard, 1962, p. 6). This further proves that the novel is constructed in such a way that nature seems to plot against and defeat humans and the man-made world, even though the climatic changes experienced in this novel happened naturally and not as a subsequent to humans' activities on the environment.

The present researcher further professes that the depiction of nature winning against man is further reinstated in the manner in which Kerans and Bodkin converse about the research they have been conducting. Kerans and Bodkin are simply there to make observation of the altering environment as a result of climate change, instead of trying to either change or attempt to reverse these happenings (Ballard, 2017). The portrayal of nature triumphing over man is further reinforced when the officials at Camp Byrd sent a message for everyone to abandon the inundated city and permanently migrate to Camp Byrd. This, the present researcher believes to epitomise a concession on the part of man to the natural world, as it could mean that humans have effectively been forced to surrender to nature. Subsequently, bringing forth more reasons as to how civilisation has little to no power over nature in the novel.

However, the character of Strangman does not capitulate to nature and has challenged it in several ways. Firstly, upon his arrival to the drowned city, he is one of the two characters who are not plagued by the strange dreams that are insinuating that humans are no longer the dominant species on earth that everyone else seems to be experiencing. Secondly, he tries to defy nature by draining a part of the drowned city. According to Ballard (1962), the draining of the lagoon provided an opportunity for the man-made structures and buildings to dominate nature, and presented a rare opportunity for the characters to experience an undrowned world, like it was many decades ago when man dominated over nature.

However, the draining of the lagoon was met with disapproval from most characters and the experience of an undrowned world was, thus well short-lived. For one, Beatrice thought that the new revelation was horrible and begged Kerans to “stop it” (Ballard, 1962, p, 74). On the other hand, Bodkin seemed to be mesmerised by the unveiling as more of his childhood memories and places have been revealed with the disappearance of the water. However,

because he has already accepted and believed that nature reign supreme over man, he challenges this. Kerans, on the other hand, struggled to free his mind for a moment to come to terms with this total transposition of the world he has known all his life long, and quite frankly, impotent to “accept the logic of the rebirth before him” (Ballard, 1962, p. 74). He firstly wondered if there had been a complete climatic *volte-face* that was reducing the formerly expanding seas draining the submerged cities, and if so, “he would have to make his way back to this new present, or be marooned millions of years away on the beach of some lost Triassic lagoon. But deep within his mind the great sun pounded dimly with a strength still undiminished” (Ballard, 1962, pp. 74-75). This further affirms that nature has one over man, and just as Turner (2001) posits that whatever changes the environment goes through, it affects man and this is quite observable in the novel.

Consequent to the draining of the lagoon, Bodkin decided to take it upon himself to re-flood the lagoon, however his attempt fell short as he was killed amidst doing so. Kerans, who claims that the drained area looks “obscene and hideous...a nightmare world that’s dead and finished”, then went on to complete what Bodkin attempted (Ballard, 1962, p. 97). He posits that Strangman is “resurrecting a corpse!” by draining the lagoon (Ballard, 1962, p. 97). Kerans “watched it with a quiet contained pleasure, savouring the fresh tang that the water had brought again to the lagoon” (Ballard, 1962, p. 101). Kerans action to re-flood the lagoon is further testament that he has accepted nature as the conqueror of the world and humans should accept their subordinate position in nature.

Moreover, when a school of iguanas were circling around the men during the search for Hardman, “their harsh shrieking voices” did not evoke any fear in Kerans (Ballard, 1962, p. 42) and when he told Dr Bodkins about his experience thereof, with specific reference to the

passing voices of the iguanas, Dr Bodkins simply nodded enigmatically to what Kerans was saying and then warned him that “you may hear them again” (Ballard, 1962, p.42). It can be argued that these responses from Kerans and Bodkins are further testaments that they have given in to nature as it is constantly proving to be winning against man.

This segment of this study expounded on the relationship that exists between man and nature and how the two are inseparable, as per the ecocriticism theory and because as Turner (2001) alludes, when nature goes through any alterations, bad or good, it directly affects human beings and this is dominantly displayed in the novel. The next segment of the study explores how climate change is humanised in *The Drowned World* (1962).

#### **4.5.2 Humanised climate change in *The Drowned World* (1962)**

Climate change in *The Drowned World* (1962) is humanised through health and fertility. According to Sallis, Floyd, Rodríguez and Saelens, (2012), unhealthy diets and indoor lifestyles [as a result of anthropogenic pollution, change in climate etc.] can cause health-related issues, such as chronic diseases, social isolation, disruption in emotional well-being as well as other psychiatric disorders, for example attention deficit disorders and anxiety, amongst others. Some of these health issues can be observed in *The Drowned World* (1962). Though not much about where and how the characters in the novel get their food from, it is briefly mentioned that they ate canned food, alligators, wild berries, amongst others. Deteriorating health and abnormality in growth, not only in human beings, but in the animals and plants too, is well depicted in the novel. Most people living in drowned cities have become “psychopaths or suffering from malnutrition, radiation sickness due to climatic changes” (Ballard, 1962, p. 7), “heat ulcers” (Ballard, 1962, p.21) and “cancers” (Ballard, 1962, p. 106). This is testament to Reser (2007) sentiments on the degradation of the environment in that it could directly have

impacts on the health of human beings as well as their welfare just as it is described in the novel.

Moreover, as the characters got more exposed to aggravating temperatures, they isolated themselves more and from each other, and socialising and communication between them was also kept to a minimal. Soon, several human relationships deteriorated beyond repair, and the characters withdrew further to themselves, and “their only true meeting place [is] in their dreams” (Ballard, 1962, p. 52). This is observed, for example between Kerans and Bodkin whose relationship has slowly changed from that of “colleagues confiding completely in each other” to that of “an observer and his subject” (Ballard, 1962, p. 25). Additionally, the burgeoning isolation and self-containment is exhibited by many other characters, except for Riggs who seems to be buoyant and immune to what everyone else is experiencing, which reminds Kerans of the “slackening metabolism and biological withdrawal of all animal forms about to undergo a major metamorphosis” (Ballard, 1962, p. 9).

Furthermore, there were times Kerans wondered “what zone of transit he himself was entering” as he was certain that his “own withdrawal was symptomatic not of a dormant schizophrenia, but of a careful preparation for a radically new environment, with its own internal landscape and logic, where old categories of thought would merely be an encumbrance” (Ballard, 1962, p. 9). Moreover, after Kerans, Beatrice and Bodkin decided to remain behind when the others migrated to Camp Byrd, their intimate relationship with each other became strained as they all lived separate from each other and hardly interacted with one another. And over time, whenever Kerans called on both of them, they “were increasingly preoccupied with their own descents through total time” (Ballard, 1962, p. 52). This is in line with Barry (2009) who asserts that ecocriticism also deals with the experiences of the many emotions that man might experience

such as fear, sorrow, hopes, amongst others, as is reflected in cli-fi works in the light of environmental issues.

The loose fragmentary relationships between the characters is further reinstated with the character of Hardman. During the first years after moving to the inundated city, Hardman had been a cheerful, happy guy who used to organise basketball games and had little care as to whether anyone actually took part in the games or not (Ballard, 1962). However, as of recent, Kerans has observed “sombre elements” in his personality which have begun to predominate, and he would confine himself to his cabin for up to a week on end (Ballard, 1962, p. 21). This, Kerans believes has to do with the ‘intermittent’ lack of sleep Hardman has complained about over the last two months (Ballard, 1962, p. 21). Additionally, Kerans has watched him as he would retreat “into his private world, going through his old note-books and running his fingers, like a blind man reading Braille, across the glass display cases with their few mounted butterflies and giant moths” (Ballard, 1962, p. 21). This could be seen as a premonition of Hardman as he later goes blind, and it further adds to the effects that a changing climate has on human beings’ health and well-being as affirmed by Turner (2001).

The strange dreams and lack of sleep have led Hardman to seek help from Bodkin in hope that he will get answers through some experiments that they have been conducting. These strange dreams and lack of sleep have caused Hardman to be fatigued and this weariness “drained the skin around his eyes and mouth, making his long Jaw seem even more lantern-like” (Ballard, 1962, p. 23). Consequently, Bodkin came up with a plan which would allow Hardman to get some “sufficient rest”, and be woken up once every ten minutes, just before he “slides off the pre-conscious shelf into deep sleep”, and with this, Bodkin anticipates that there will be no more dreams (Ballard, 1962, p. 23). Hardman is, however not convinced stating that the doctor

was “being over-optimistic”, and what the plan really meant is that he would not be aware of the dreams, though he believes that he has these dreams “every minute of the day” even when he is conscious (Ballard, 1962, p. 23). It is, thus for that reason that Kerans suggests that a “change of climate will probably help” ease the strange dreams (Ballard, 1962, p. 23). This is in line with Podesta (2019) who asserts that humans can be displaced and forced to migrate because of extreme climatic changes, which is exactly what Kerans has suggested to Hardman.

It is, therefore therewith that one could argue that climatic changes are exposed as the cause of these strange dreams and sleepless nights. Kerans further explains that the “atmosphere in these lagoons is pretty enervating” and affirms that they will all “show a marked improvement” once they migrate to Camp Byrd (Ballard, 1962, p. 23). Ironic for him to state so, yet he opted to remain behind in spite of knowing the dangers thereof. Moreover, Bodkin informs Kerans that he has more or less forgotten about his childhood, and all he has are memories of memories of him and his family before moving to America and then back to London, adding that, “after we left here our existence became completely nomadic, and in a sense this city is the only home I’ve ever known” (Ballard, 1962, p. 46). This could be the main reason he chose to remain behind instead of migrating to Camp Byrd, despite being well aware of the health implications that could result in staying put.

Towards the end of the novel, Kerans found Hardman in the south with blind, “hollowed eyes” looking like a “resurrected corpse, without food or equipment” (Ballard, 1962, p. 106). This was caused by the exposure to extreme temperatures and they have also altered Hardman’s physique and left him with “a skeletal green claw”, hallowed cheeks “that encroached so deeply over the broad jaw that they seemed to leave no space for the buccal cavity within”, and “the dirt and raw sun-blistered skin around the deep eye sockets turned them into blackened funnels”

(Ballard, 1962, pp. 104-105). As Kerans made himself known to the blind Hardman by telling him his name, “Hardman showed no response to the name, his brows creasing slightly in puzzlement” (Ballard, 1962, p. 106), which could imply that he does not remember him and he has, perhaps apart from just losing his sight, lost his memory as he refers to Kerans as a “soldier” instead of calling him by his name (Ballard, 1962, p. 107). Kerans was convinced that Hardman’s real personality was “now submerged deep within his mind”, and that his superficial responses and behaviours were “merely pallid reflections of this, overlaid by his delirium and exposure symptoms” (Ballard, 1962, p. 107).

Kerans stayed, fed and nursed Hardman and his “strength seemed to return suddenly to his great ragged frame” on the third day (Ballard, 1962, p. 107). The narrator asserts that “whether he now recognised Kerans the latter was unsure”, however Hardman left Kerans a little perplexed when he woke up to find Harman gone (Ballard, 1962, p. 107). These health issues being experienced by the characters are arguably in line with Turner (2001) who asserts man and nature are interrelated and interconnected, and a change in one could have implications to the other, just as the ecocriticism theory alludes. Furthermore, the issue of health in this novel could debatably be said to be in line with Watts (2018) who alludes that health might be the key to humanising climate change and perhaps offer more effective changes in human behaviour, and econarratology theory could play a role here too.

The lack of sleep and strange dreams are, nevertheless not exclusive to Hardman. Early on in the novel, we learn that there is something that is troubling the sleep of the characters at night as Riggs asks Kerans; “how do you sleep these days?” (Ballard, 1962, p. 10), however he [Kerans] had not yet started experiencing these strange dreams. Nonetheless, it is only later on in the novel that we learn the full details of these weird dreams that they experience at night

after Bodkin asks Kerans, “You spotted the sun-pulse equation?” and subsequently, Kerans affirms that “it’s basically the same recurrent dream in all cases” (Ballard, 1962, p. 44). It is also here that Dr Bodkin reveals that half of Riggs’ men have been experiencing these dreams too, however Riggs has not experienced them yet. As for Dr Bodkin, he admits to “seeing them for a full three months” (Ballard, p. 44). Also, Beatrice admitted to having “one or two peculiar nightmares” (Ballard, 1962, p. 17) after Riggs obviously mentions to Kerans that she was not sleeping well of late (Ballard, 1962, p. 15). She later explains that these dreams have been taking her into the “jungles” and warns Kerans of them (Ballard, 1962, p.31). It could be argued that these dreams parallel the Triassic period whereby the reptiles reigned supreme in nature and they are perhaps giving the characters a glimpse of what is yet to come, as the gigantic lizards seem to already be triumphing over humans (Ballard, 1962).

Furthermore, Bodkin seems to question and suggest, that the causes of the strange dreams and sleepless nights being experienced by most characters could be explained by the fact that it is not only the external landscape that is changing, respectively;

How often recently most of us have had the feeling of *déjà vu*, of having seen all this before, in fact of remembering these swamps and lagoons all too well. However selective the conscious mind may be, most biological memories are unpleasant ones, echoes of danger and terror. Nothing endures for so long as fear. Everywhere in nature one sees evidence of innate releasing mechanisms literally millions of years old which have lain dormant through thousands of generations but retained their power undiminished. The field-rat’s inherited image of the hawk’s silhouette is the classic example-even a paper silhouette drawn across a cage sends it rushing frantically for cover. And how else can you explain the universal but completely groundless loathing

of the spider, only one species of which has ever been known to sting? Or the equally surprising-in view of their comparative rarity-hatred of snakes and reptiles? Simply because we all carry within us a submerged memory of the time when the giant spiders were lethal, and when the reptiles were the planet's dominant life form. (Ballard, 1962, p. 26)

It could be argued that this extract serves as a warning which is somehow related to the weird dreams which have been going around. As Kerans went to sleep that night, he had a strange dream where he saw thick water filled with “thousands of entwined snakes and eels, writhing together in frantic tangles that tore the surface of the lagoon” (Ballard, 1962, p.43), and hearing the noise from the sun that is “gradually mounting until it became indistinguishable from the volcanic pounding of the solar flares” (Ballard, 1962, p. 43). This further supports the claims of foreshadowing in the novel as these enormous lizards might soon be taking over the earth, and man will again be insignificant to nature. This could arguably be said to also highlight the relationship that exists between man and nature as the many scholars have elucidated in the fore segments.

Moreover, water no longer ran from taps, and the water that is available has radio-fluorine which has also impacted on the health and physique of, not only the animals and plants, but also of the human beings, including that of the main character, Kerans (Ballard, 1962). The radio-fluorine in the water has turned Kerans' beard white though he was only forty years old, his hair got “deep tan from the sun which has made him appear at least ten years younger” (Ballard, 1962, p.7). Also, the “chronic lack of appetite, and the new malaras had shrunk the dry leathery skin under his cheekbones, emphasising the ascetic cast of his face” (Ballard, 1962, p. 7). Additionally, people who are still living in the drowned cities worldwide were either

suffering from malnutrition, radiation sicknesses or have become psychopaths (Ballard, 1962). This is in line with Sawin (2020) who asserts that the emergence and re-emergence of illness, is just one of the many health issues that come with climate change.

Furthermore, whilst assisting Strangman search for lost treasure in the lagoons, Kerans (who had been 'pressured' to take a dive into the water by Strangman) had an incident whereby the intake valve of the helmet supply stopped working, resulting in him almost drowning. And though he accused Strangman of trying to sabotage (and kill) him, Strangman emphatically asserts that Kerans deliberately anchored the cable himself "because he wanted to become part of the drowned world" (Ballard, 1962, p. 68). Strangman further asserts that the irony of it all is that Kerans genuinely does not even know if he [Strangman] is telling the truth or not because, according to him [Strangman], "it makes it more interesting- particularly for Kerans" because he will be questioning himself "“Did I or did I not try to kill myself?” One of the few existential absolutes, far more significant than 'To be or not to be?'” which just highlights the uncertainty of the suicide, "rather than the eternal ambivalence of his victim" (Ballard, 1962, p. 69). To intensify this, on his way back to the Ritz, Kerans started questioning himself: "Had he unconsciously locked the air-pipe, knowing that the tension in the cable would suffocate him, or had it been a complete accident, even, possibly, an attempt by Strangman to injure him?" (Ballard, 1962, p. 69). Further questioning himself, he states that his reasons for diving are vague, thus "there was no doubt that he had been impelled by a curious urge to place himself at Strangman's mercy, almost as if he were staging his own murder" (Ballard, 1962, p. 69). One could argue that, if it were indeed he himself who sabotaged himself under water, he wanted to make himself 'one' with nature, as the relationship between man and nature has already been established as per the ecocriticism theory.

Fertility in this new world has extremely declined and conceiving has become so rare that only one in ten marriages have managed to conceive any children (Ballard, 1962). It could be argued that this is emphasised by having only one female character amongst many men in the novel. Moreover, Kerans occasionally found himself thinking and referring back to the beginning of mankind which was now systematically trimming itself, thereby acknowledging that there will be a point where “a second Adam and Eve found themselves alone in a new Eden” (Ballard, 1962, p. 14). This reference is most probably made to emphasise on the lack of human births, and the effects of high temperatures that could perhaps be a fatality catalyst towards civilisation. With that being said, the next segment explores the resilience as exuded by the characters in *The Drowned World* (1962) amidst the extreme climatic changes.

#### **4.5.3 Resilience in *The Drowned World* (1962)**

This segment explores the resilient nature in the characters as portrayed by the novel. Mlambo (2013) asserts that resilience enables man with the capacity of intentionally absorbing disturbances and challenges, and for managing with the complex of qualms in life, so as to endure and move beyond endurance. Resilience in *The Drowned World* (1962) is well depicted through the characters’ ability to remain alive despite the extreme weather conditions brought upon them. This theme is most prominent in the characters of Kerans and Hardman. In the beginning when many of the other characters were undergoing the startling, periodic, and exhausting dreams, Kerans was not yet experiencing these strange dreams. However, when they finally got him, he embraced them and has “accepted them as an inevitable element of his life” (Ballard, 1962, p. 44), whilst others were terrified and feared them.

And although Kerans seems to be embracing these weird dreams, one cannot help, but wonder if the looming of these dreams over Kerans could be a reason as to why there were occasions

where he behaved ‘uncharacteristically’. He firstly unintentionally stole a worthless compass and secondly, he [un]intentionally revealed the plans to migrate to Camp Byrd to an unaware Hardman and “this act of gratuitous sabotage” left him irritated with himself (Ballard, 1962, p. 23). He refers to himself as having an “outstanding virtue usually with “complete and objective awareness of the motives behind his actions” (Ballard, 1962, p.24), but he “deliberately”, yet “unconsciously” told Hardman about the imminent plans of departing to Camp Byrd (though he was well aware of why this news was purposively withheld to Hardman) in hopes to precisely elicit the reaction he received from Hardman (Ballard, 1962, p.23).

Additionally, Bodkin acknowledges Kerans’ strength “of [his] preconscious filters” claiming that Kerans “has held out for a long time” when he revealed that he too, has finally gotten the nightmares that most of the characters have been experiencing (Ballard, 1962, p. 44). Furthermore, Strangman also acknowledged Kerans’ strength and resilience when he survived the torture that he and his men were inflicting upon him when they held him hostage. Also, whilst bombing the dam Strangman built to drain the lagoon, Kerans was shot in the leg, and with his wound, he still managed to flee from the drowned city to the south miles away whilst in discomfort, not just from the wound, but from dangerous weather conditions and man-hunting enormous lizards. Kerans endurance is further testament to Goering (2015) who asserts that there are several manners in which one could build resilience, which is what Kerans can be seen practising in this novel.

Moreover, Hardman’s health became questionable after being subjected to the frightening dreams which made him loose sleep and get consciously lost in these dreams. And though he had been going through some difficulties, Kerans acknowledges that those “had barely touched the central core of the man’s ego. The element of tough self-sufficiency in Hardman was as

strong as ever, if anything stronger, like a steel blade springing against a fencing post and revealing its sinews” (Ballard, 1962, p. 22). Also, after fleeing from the drowned city, he was later discovered by Kerans with his unstable health at its peak – suffering from blindness, amnesia and malaria, yet after being well-taken care off by Kerans for three days, his condition bettered, and even managed to flee again to be by himself. This is in line with what Cherry (2019) postulates that resilience enables man with mental strength in order to deal with hardships, and the characters in this novel are faced with the changing climate hardships which is testing their resilience. With that said, the next segment explores the place of human beings in the expanded ecosphere as portrayed in the novel.

#### **4.5.4 Human place in an expanded ecosphere in *The Drowned World* (1962)**

Human beings’ place in the ecosphere is rapidly being replaced by the flora and fauna, not to mention the water which has turned major coastal cities into lagoons. Humans in the novel discern that their time on earth could be limited and they realize that they might no longer be able to survive the extreme temperatures and mutating reptiles that are preying on them. Bodkin notes that over the years he and Kerans have “examined tens of thousands of new plant varieties countless mutations completely transforming the organisms to adapt them for survival in the new environment” (Ballard, 1962, p. 25), which proves Turner (2001) assessment that man and nature are one and a change in one can affect the other and this is what is happening in the novel. Bodkin further remarks that;

Everywhere there’s been the same avalanche backwards into the past-so much so that the few complex organisms which have managed to retain a foothold unchanged on the slope look distinctly anomalous-a handful of amphibians, the birds, and Man. It’s a curious thing that although we’ve carefully catalogued the backward journeys of so

many plants and animals, we've ignored the most important creature on this planet.

(Ballard, 1962, p. 25)

The above extract further emphasises that nature is triumphing against mankind in this novel as Bodkin further adds that “obviously after two or three hundred million years Homo sapiens might well die out and our little cousin here become the highest form of life on the planet.” (Ballard, 1962, pp. 25-26). Moreover, many of the buildings around the lagoon have been hidden by the flourishing vegetation; “huge club mosses and calamites blotted out the white rectangular faces, shading the lizards in their window lairs” (Ballard, 1962, p. 52). As already established and explained in the fore segments, man and nature are co-dependent and interrelated, as Turner (2001) posits that whatever nature goes through, it has direct impacts on humans as well and this is what can be observed in the novel. The extreme climatic conditions that nature is going through, is replicated in the human beings' experience in the environment.

Nevertheless, it is not only the growth of plants which has accelerated, but the higher levels of radioactivity also increased the rate at which mutations occurred. “The first freak botanical forms appeared, recalling the giant tree-ferns of the Carboniferous period, and there was a drastic upsurge of all lower plant and animal forms” (Ballard, 1962, p.13). Riggs asserts that some of the canopies-of non-lignified plants have marked over “two hundred feet high which makes them taller than a human being” and therefore, the entire city has become nothing, but a confounded zoo (Ballard, 1962, p. 12). Kerans also remembers when he and Riggs travelled through Europe, there were “miasmatic vegetation which swamped the narrow canals and crowding them from rooftop to rooftop” (Ballard, 1962, p. 12). Also, the rising water has “completely altered” the contours of the vegetation crowding out into the water (Ballard, 1962, p. 102). This further depicts just how man is made to appear insignificant in comparison to

nature.

Additionally, the fauna under the altered climatic changes seem to be a threat to the existence of human beings too. There are vicious insects, like the giant anopheles mosquitos which are the size of dragon-flies, brought out of their lairs due to the mounting heat in the drowned city, twenty-five feet long alligators preying on humans. Furthermore, the place of human beings in the city has become inferior because the reptiles, which are now the dominant form of life in the city, have taken over the city, and even replaced the humans' seats in the "boardrooms" (Ballard, 1962). As the men in the novel were searching for Hardman, a school of iguanas were "sidling around" around them and "braying at the men" (Ballard, 1962, p. 42), clearly eager to make a meal out of the them, confirming once more how insignificant human beings are portrayed juxtaposed to nature.

Though the gigantic iguanas are a threat to human beings and some characters (like Beatrice) are frightened by them, there are some characters (like Strangman) who embrace and sympathise with them. This is well painted when one of the giant iguanas almost toppled one of Strangman's "negro lieutenants" into the water during one of their treasure hunting dives, and he simply looked on and his "sympathies were all too obviously with the crocodile, but not for any reasons of sportsmanship or from a sadistic desire to see one of his principal lieutenants gored and killed" (Ballard, 1962, p. 62). It was only after some shouts and curses from his followers that he finally passed on a shotgun to one of his other men to "take care" of the iguana (Ballard, 1962, p. 62). As Beatrice and Kerans waited in revulsion for the *coup de grace* to be administered, Strangman yelled at them and asked them to "show more sympathy for the beast" reasoning that they are one of the oldest creatures on the planet as they existed for a hundred million years (Ballard, 1962, p. 62). Moreover, once the iguana had been executed, Strangman

still stood “elatedly by the rail, bouncing on the balls of his feet, as if hoping that it would resuscitate itself and make a come-back. Only when the decapitated head was hoisted away on the end of a boathook did he turn with a spasm of irritation to the business of the dive” (Ballard, 1962, p. 62). This further proves that both non-humans and humans do depend on nature as alluded by Irr (2017) who posits that they both depend on the environment as a place of sanctuary.

The arrival of Strangman, who is “devoid...of any pigmentation” and his “negro” crew brought a different sort of threat to the trio who remained in the drowned city (Ballard, 1962, p. 57). They have brought with them more than two thousand “over twenty-five feet long” alligators that Kerans refers to as “devilish things” and assumes that they “must be their watch-guards” (Ballard, 1962, p. 54). Kerans, who was almost eaten by these enormous alligators, compares them to “a tame troupe of tarantulas” (Ballard, 1962, p. 54). Moreover, when Strangman enquired about the trio’s proposed departure plans to Camp Byrd, or lack thereof, Kerans gave him a vague answer he was not satisfied with, therefore Dr Bodkin intruded and asserted that “we are part of the planet, a piece of the main, we too are returning. This is our zone of transit, here we are reassimilating our own biological pasts” (Ballard, 1962, p. 56). This could be interpreted that Bodkin, who already has accepted defeat against nature, is forewarning Kerans about the period which resembles the Triassic period that is to arise.

Moreover, Kerans did not necessarily like Strangman; “for no reason he began to feel an intense distaste for the man, his hostility more generalised than personal” and his display of bad temper and rudeness did not help much either as it disgusted Kerans (Ballard, 1962, p. 58). And since the arrival of Strangman, Kerans has curiously noticed a large number of albino snakes and lizards, and a few albino iguanas “appearing from the jungle as if attracted by his presence”

this might be because he too, is an albino, and they are unique in comparison to other humans and lizards (Ballard, 1962, p. 61). And perhaps, they are not afraid to defy nature and attempt to take control over it (Ballard, 1962).

#### **4.5.5 Migration due to climate change**

Podesta (2019) elucidates that millions of people are forcibly displaced due to climatic changes, such as flooding, sea-level rises, rising in temperatures, amongst others, which is what is happening in *The Drowned World* (1962). The majority of tropical areas and coastal cities have rapidly become uninhabitable, due to flooding, heat waves, encroaching flora and fauna, thus people were inevitably forced to migrate either to the north or south of the world, where their surviving chances were more likely. Increasing temperatures all over the world rose by a few degrees annually and man needed to make some modifications to be in parallel with the altered climate (Ballard, 1962). Larger parts of the tropical areas have been engulfed with flora, turning them into jungles which then swamped all the lower plant and animal forms. And due to scorching heats, humans had little to no energy to cut down the encroaching jungles of the equatorial, thus they had to migrate away from the uninhabitable hot temperatures to the north or south where it was a bit cooler (Ballard, 1962).

Those residing in the drowned city have been notified about the increasing temperatures and thermal storms that were fast approaching and that they will be required to vacate the drowned city soon. However, Beatrice became hesitant to leave the drowned city stating that she has always understood that “our duty was to stay here for as long as possible and make every necessary sacrifice until the end” (Ballard, 1962, p. 16) which insinuates that she too, has long accepted defeat against nature, and will not fight against it. Nevertheless, Kerans warns her of the little hope of surviving the rainstorms and malaria which will elevate after the predicted

rising of temperatures and equatorial rain storms, and these will encourage more skin cancers and huge anopheles mosquitos (Ballard, 1962). This is in line with Kaebnick (2013) who asserts that extreme climatic changes can result and pose threat to animals, plants and man in the environment, and Turner (2001) asserts that when nature goes through changes, these could also have impacts on humans, as the two are interconnected as per the ecocriticism theory. Furthermore, as Figueres (2020) asserts, the consequences of climate change are arguably irreversible, and humans need to take good care of the environment to maintain a healthy relationship between the two, which also further echoes the ecocriticism theory. The next segment explores the technological aspects that are depicted in the *The Drowned World* (1962) as it is a futuristic cli-fi text.

#### **4.5.6 Technology in *The Drowned World* (1962)**

Not much technological advancements can be observed in *The Drowned World* (1962). Though set in year 2145, most of the technology in this novel are arguably of the '80s to the 2000s. This is can be observed when Bodkin uses a "record player" during his experiments with Hardman (Ballard, 1962, p. 23) as well as the use of note books they scribbled on. One would think that, because of the year 2145 setting, they would have advanced to some sort of fancy tab which can transcribe for them as they spoke or something. Moreover, Hardman uses alarm clocks to wake him up which needs to be "re-set after each twelve-hour cycle" (Ballard, 1962, p.23), instead of a technological advanced 'automatic' alarm device. Additionally, the outdated technological advances is apparent in the use of compasses, and not GPS as one would have it now, as well as the use of a typewriter, of which modernisation has progressed to laptops, iPads, amongst others.

Because of the lack of advanced technological advancements, the present researcher argues

that the novel has stuck to its true elements as a climate fiction text to contend to a 'real', yet imaginative world which portrays humans who remain resilient and struggle to survive the harsh environment brought about by climate change.

#### **4.6 Chapter summary**

The analyses of *New York 2140* (2017) and *The Drowned World* (1962) are presented in this chapter to provide an overview of how climate change is humanised in climate fiction, how man responds to a phenomenon as immense as climate change, and the inevitable relationship between man and nature, amongst others. The two novels *New York 2140* (2017) and *The Drowned World* (1962) each provided a perspective on the alterations to the environment by the effects of climate change and how the characters in the each novel responded to those. Also, each novel has uniquely outlined how climate change is humanised in climate fiction and has presented how humans endure these climatic changes. The next chapter centres on the conclusions and recommendations based on this study.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

Chapter 4 provided an analysis and discussion of the two selected novels *New York 2140* (2017) and *The Drowned World* (1962). The analysis and discussions were conceived through the amalgamation usage of ecocriticism and econarratology theories to provide nuanced means of thinking to the chosen texts, *New York 2140* (2017) and *The Drowned World* (1962). Hence, the present chapter, (Chapter 5) presents the conclusion as well as the recommendations of this study, based on the analysis and discussions which were outlined and elucidated in Chapter 4.

The two selected novels *New York 2140* (2017) and *The Drowned World* (1962), were analysed in order to observe how climate change is humanised in the two fictional novels, and sought to explicate how climatic concerns are fictionally expressed in the two novels as well as to examine how humans react to climate change catastrophes and how they manage to sore through it all. The study further explored the complexity of the relationship between mankind and the environment as portrayed through explicit environmentally destructive events as expressed in the selected novels, and to scrutinise how climate fiction narratives amplify unconventional interpretations of the human place in an expanded ecosphere as presented in the selected novels. Chapter 5, thus focuses on providing the conclusion and findings, as well as some recommendations on the basis of this study.

#### 5.2 Findings and conclusion

By examining the two cli-fi novels, *New York 2140* (2017) and *The Drowned World* (1962), the study found that in both novels, climate change is ‘humanised’ by the abnormality in the growth of humans, animals and plants too, as well as their declining health. The objectives of

the study were to:

- examine how climatic concerns are fictionally expressed in the selected novels;
- explore the complexity of the relationship between human systems and natural systems as presented through specific environmentally destructive events in the selected novels; and
- analyse how cli-fi narratives enhance innovative understandings of the human place in an expanded ecosphere as presented in the selected novels.

Therefore, firstly climatic changes in *New York 2140* (2017) are as a result of human-induced activities on the environment. The water levels rose after the Antarctic and Greenland ice sheets melted and consequently inundated the majority of coastal cities worldwide, including New York City. And though man attempted to decarbonise everything in an attempt to curb and slow down the effects of climate change, it was already too late, because these effects were already looming in the atmosphere. On the other hand, the climatic changes in *The Drowned World* (1962) is a nature's doing, and was not caused by humans. It is, thus that the novel portrays nature to be winning against man, and human beings are depicted to be at the mercy of nature and all they can do is to be resilient and endure these changes.

Secondly, the relationship between human systems and natural systems as expressed in both novels depict the interconnectedness and interrelation between the two. As alluded by several scholars such as Kaebnick (2013), McConnell (2001), Turner (2001) amongst others, the relationship between man and nature is to the extent that they depend on each other for 'survival', and with whichever change nature goes through, it one way or another affects man. Alterations to the environment could also lead to disruptions in nature, uninhabitable space, and displacement of nature's inhabitants, amongst others. In *New York 2140* (2017) humans

are embracing the altered environment, and are flourishing despite the troubles they have found themselves. In *The Drowned World* (1962) on the other hand, nature is portrayed as the antagonist of the novel and humans as victims as they attempt to adapt and persevere in the new ecosphere. The temperatures in this novel are too extreme for humans to survive and they are, therefore forced to migrate elsewhere in hopes of better survival probabilities. More so, the characters have been undergoing strange dreams relating to the Triassic period, which one could argue to be a premonition that reptiles will be rulers of the earth, and man will be inferior to nature, which further enforces the allusion that nature has one over man in this novel.

Thirdly, the two narratives enhanced innovative understandings of the human place in an expanded ecosphere by ‘humanising’ the climate change phenomenon through several aspects, and bringing to the fore the emotional aspects that come with an altered climate. The novels also depicted verisimilitude aspects throughout, which one could argue to be as such so that the reader could relate to the characters as per econarratology theory, amongst others. Moreover, the study found that the characters in *New York 2140* (2017) are resilient and adapt easily as asserted by the different scholars in the previous segments of this study. This is depicted, for example, when some people had to find refuge in Central Park after their homes had been destroyed by the hurricane, and they found innovative ways to survive through the chaos whilst living in Central Park, and though the city is altered by climatic changes, and people’s lives have been turned upside down by a raging storm, life in New York is ravishingly enduring.

In *The Drowned World* (1962), the study found that though humans are supposed to embrace nature as Kerans and Bodkin do, there are those who will fight against it, or/and attempt to control the natural environment like Riggs and Strangman do. This, is portrayed when

Strangman drained the lagoon, and Kerans, who deems to the draining of lagoon as ‘unnatural’, decided to blow up the dam and impedes efforts to reclaim the city from the waters. Moreover, *The Drowned World* (1962) enforces that whatever and whomever may be responsible for climatic changes, is not as important as to how man actually react to these changes in order to adopt and survive, and that nature is a dominant force on the planet and should be embraced as such.

Moreover, by analysing *New York 2140* (2017), the study found that man have the ability to pro-act before catastrophes strike, and are able to innovatively handle calamities. This, in *New York 2140* (2017) was depicted, for example, when the fore generations made major adjustments to cut back on carbon dioxide emissions by introducing, amongst others, hydro, solar and wind energy to limit the usage of fossils. Also, the humans did, amongst others, what they call ‘assisted migration’, whereby endangered species where aided with migration to ecozones via the aircrafts to prevent their extinction.

With that said, it can be concluded that the novels successfully attempted to open the reader’s eyes to the importance of respecting the environment as both man and the environment need each other to flourish to their maximum, because whatever alterations the environment endures, bad or good, it will have direct impacts on humans too. Therefore, it is vital that, especially humans, take good care of the environment. With this in mind, the next segment outlines the contribution to knowledge in relation to the topic.

### **5.3 Contribution to knowledge**

This study examined two cli-fi novels *New York 2140* (2017) and *The Drowned World* (1962), and sought to provide nuanced ways that could arguably be deemed important to man when

dealing with catastrophes such as climate change and the unforeseeable calamities such as the recent coronavirus that broke out. By discussing the novels *New York 2140* (2017) and *The Drowned World* (1962) through ecocriticism and econarratology theories, several themes were discovered. In *New York 2140* (2017), some of the themes identified are: man vs nature, humanised climate change, migration, capitalism, pedagogy and climate change, technological advances and so forth. In *The Drowned World* (1962), some of the themes identified are: climatic concerns, relationship between man and nature, humanised climate change, migration, human place in an expanded ecosphere, and others.

Though the identified themes in both novels are similar, it should be noted that each novel expressed each theme uniquely from the other. Under the climatic concern theme in *New York 2140* (2017), it is established that the climate change occurred as a consequence of human activities on the environment over a long period of time, and though man has attempted to curb and stop these activities, it was already too late because the damage has already been ‘cooked up’, and all humans can do is adjust their lives accordingly in order to preserve and endure an altered ecosphere. Contrastingly, in *The Drowned World* (1962) climate change happened naturally, and humans have to adapt and figure out how to survive the calamity. Both these novels serve as cautionary tales of the Anthropocene, and they contribute to the climate change discourse. By combining ecocriticism and econarratology themes to analyse these novels, provides a basis to evoke people’s imaginative repertoires and expose how humans interact with the environment on the affective and mental levels, because the novels introduce verisimilitude, partly built on recognition of degraded environments and how the different characters in both novels endure these changes. Moreover, these novels can be vehicles that could help us imagine a climate changed world; to further aid in comprehending what future climates may be like, and/or what current climate effects are.

With that being said, the next segment offers recommendations for future studies.

#### **5.4 Recommendations for future studies**

The study has explored how climate change can be ‘humanised’ in fiction as well as reiterated the relationship that exists between man and nature as depicted in the two selected novels, through ecocriticism and econarratology theories, amongst others. It is, thus, that the study recommends the following to future researchers:

- It is important to look beyond written cli-fi narratives and look at, for example, orality and visual narratives to examine humanised climate change, especially in African literary works;
- There is a need to use the Rhetorical Narrative Theory (RNT) to explore how climate change is humanised in cli-fi works;
- Future researchers can also do a comparative study of two or more cli-fi works and examine how the phenomenon is expressed in each of those.

#### **5.5 Chapter summary**

This chapter concludes that the study was carried out to analyse how climate change is ‘humanised’ in fiction by literary examining *New York 2140* (2017) by Robinson and *The Drowned World* (1960) by Ballard. Also, this chapter provided the findings, conclusion as well as aspects that the researcher deemed important to add to existing knowledge. And lastly, the study provided some recommendations for future researchers.

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