

# A Study On Science And Climate Fictions As Foretellers Of Catastrophe

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**Abstract:** *Climate change is a harsh fact that the world is currently facing. Climate change has been a gradual phenomenon that could have been averted if appropriate steps had been taken to slow it down. These climate threats have often been dismissed as unreal and far-fetched regardless of the alert. Several campaigns and climate enthusiasts have attempted to drive home the message of impending climatic catastrophe. Science fictions are part of the climate literature genre, in which readers are warned about the harmful activities that will make the planet uninhabitable. This paper examines some of the most important works of climate fiction. The major environmental factors mentioned in the fiction are explained. The social and political shifts that these fictions have inspired are considered. The paper also examines why many works of fiction have been dismissed by society as mere fantasy and analyses some of the opportunities to promote social participation. Therefore, this paper aims to sensitize the human race to the dangers of climate change.*

**Keywords:** *Climate crisis, global warming, pesticide, science fiction, fantasy, misinterpreted reality. Bioweapon.*

## 1. INTRODUCTION

Because of its entertaining nature, art can convey a message more quickly than science. Literature has played an important role in inciting social revolutions. Similarly, the arts can influence societal attitudes and behaviors. The concerns over impending climatic doom cascade each day as natural disasters resound from various parts of the globe. Believers in 'Karma' would even construe it as a retributive attack of nature against humanity that ravished it. From entertainment to infotainment, Arts and Literature function as messengers of change in society. They have unleashed significant revolutionary societal changes through sensible engagements with issues like capitalism, racism, gender inequality, subalternity, and so on. Climate change, for some reason, has not elicited the desired response from society. "The impact of literature in modern society is undeniable. Literature acts as a form of expression for each author. Some books mirror society and allow us to understand better the world we live in" (Austin).

## 1.2. Popular Science and Climate Fiction

Carl Freedman described “science fiction as the most legitimate genre for academic study, placing it above all other forms of literature for its analytical potential” (Freedman, 2000). Climate fiction is a form of fiction that deals with environmental issues like global warming and climate change. Science fiction also features futuristic imagery and imagines alternative futures based on society's response to technological challenges. Climate literature began in the nineteenth century with famed proponents like Jules Verne and J.G. Ballard. Cli-fi is the abbreviation that came into use in 2003, and the 21<sup>st</sup> century has garnered several champions for climate and environment. Natural disasters have existed since times immemorial and have resulted in caustic and also constructive aftermath. Jules Verne's *The Purchase of the North Pole*, J. G. Ballard's *The Drowned World* and *The Burning World*, Susan M. Gaines' *Carbon Dreams*, Margaret Atwood's *Oryx and Crake*, *The Year of the Flood*, and *MaddAddam* are just a few of the famous works in climate fiction. The planet has recently become alarmed by the realities of climatic change, despite many novelists predicting the latest climatic changes many years ago.

Climate change adaptation is implicit in the biblical verse about Noah's flood. According to the findings of SaswatiRoy and Prof. Malay Mukhopadhyay in their book titled “*Geography Behind Myth – The Tale of Noah's Deluge*.” The writers extensively examined the ecological and geographical changes that occurred over the century as described in the period. Based on their findings, the following conclusion is drawn.

It has been speculated that a water channel in the shape of a river existed between the Black Sea and the Mediterranean but was repressed due to global climate changes. After an extended stay in such a manner, the fossil river cropped out as a pseudo river but, in this case carrying water from a reverse direction, i.e., from the Mediterranean Sea to the Black Sea. After analyzing the hypothesis with the detailed site visit, the authors developed a geographical term- Reversal of river flow” (11).

Soil erosion caused the Amazon River to reverse flow. As per findings, “these lakes put much pressure on the Earth's crust, but tectonic movement eventually evened out the lakes and created a large wetland area that also eventually disappeared because the Andes continued to grow upwards and outwards” (Borneman). After Hurricane in 2012, The Mississippi River flew backward, geological occurrences such as earthquakes and tornados resulted in rivers' reverse flow. However, this Noah's deluge has been treated as a myth and has never been considered a warning signal. The above-mentioned natural phenomenon ascertains the fact that literature foresees the repercussions of human errors. The evolution of the world's geology has been described in books; for example, in *The Lord of the Rings*, the author describes geographical changes as follows: "Those days, the Third Age of Middle-earth, are now long gone, and the form of all lands has altered" (Tolkien, 3). Internationally acclaimed writer Amitav Ghosh has always been a champion of climate change. All his fictions and nonfictions carry invaluable messages about nature and its importance. During the launch of his recent book *The Great Derangement: Climate Change and the Unthinkable*, he advocated the importance of taking climate fiction seriously. Ensuring necessary measures are taken to address it at a war-footing, “we need only glance through the pages of book reviews and literary journals. When the subject of climate change occurs, it almost always concerns nonfiction; short stories and novels are very rarely to be glimpsed within this horizon. Indeed,

it could even be said that fiction that deals with sensitive matters like climate change are almost by definition not of the kind taken seriously: the mere mention of the subject is often enough to relegate a novel or a short story to the genre of science fiction. It is as though climate change were somehow akin to extraterrestrials or interplanetary travel” (Reporter).

### 1.3. Climate disasters in Science Fiction

*Silent Spring* is an environmental science book that can be treated as a seminal text in environmental studies. Rachel Carson expressed concern in the book about the use of synthetic pesticides; she was inspired by the United States Department of Agriculture's 1957 fire ant "eradication program, which included aerial spraying of DDT and other pesticides combined with fuel oil, as well as spraying private property" ("Silent Spring," 2021). This book succeeded in creating a furor in the social and political sphere by resulting in the ban on using DDT and other hazardous pesticides in cultivation plants. Chemical fertilizers are wreaking havoc on the health of humans and also animals and birds that consume them.

Carson concluded in her book by calling for new forms of pest control, including what would now be called genetic management: altering a pest's ability to feed or mate. Carson firmly believed that technological approaches to the management of nature should be targeted and cautious. She hoped for a new world in which humans managed the life around us with reverence, using carrots and well-aimed sticks(Dunn).

While Carson's book created ripples in society, some of the science fiction failed to do so. Science fiction has extensively dealt with natural disasters and environmental degradation themes. However, the setting and plot of the novel are removed from reality that making these themes sound fancy. A detailed analysis of these novels would prove to be prophetic. Society has to realize that the threats and concerns posed by these novels are a part of reality and not otherwise. While Aldous Huxley fictionalized genetic breeding, classical conditioning, and physiological manipulation in 1932, it was taken less seriously; the next century marked the exact beginning. The Drowned World by J G Ballard, the pioneer of science fiction, was a wake-up call on the dangers of global warming. Ballard describes sunrise in the following lines.

The solar disc was no longer a well-defined sphere but a wide expanding ellipse that fanned out across the eastern horizon like a fireball, 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 (7).

Global warming precipitated significant changes in climatic conditions, and some people firmly believe that the end is near. Melting of ice and increase in sea level are the primary reasons for the havoc caused by floods. Flooding has turned out to be a repeated natural calamity every year. In the last two years, floods and cyclones have wreaked havoc on Indian states like Kerala and Karnataka. There has been regular warning on the use of plastics and other environmentally hazardous materials that are to be avoided, the aftereffect presented in science fiction. It must have been the awareness of all these factors that influenced the writers to develop science fiction plots. *Carbon Dairies* by SaciLloyd is a speculative fiction that speaks about the rationing of carbon in London in the future due to environmental changes. "Dad sat us all ..... what our family CO allowance is. It is heavy. We have got a carbon allowance of 200 carbon points a month to spend on travel, heat and food” (50).

*The Machine Stops* is a collection of short stories by E.M Forster which take place in a future where a majority of humanity has lost the ability to survive on Earth's surface. Each individual lives alone below ground in congested spaces, with a machine providing for all bodily and spiritual needs. These words of Forster do ring a bell as society is leading the very life mentioned by him. Margaret Atwood's novel titled *Oryx and Crake* revolves around Snowman, who finds himself in a grim situation with only Crakers to hold him company. The reader learns about Jimmy's experience as a young child, as well as genetic experiments and pharmaceutical engineering that took place under Jimmy's peer, Glenn "Crake." The happenings in the novel sound unrealistic and whimsical. However, concerning the views of Atwood's predecessors, her novel should be taken seriously, and strict measures should be taken against artificial means of scientific experiments such as genetic and pharmaceutical engineering. Mary Shelley's *Frankenstein* visualized the future, which is very regular research today. However, these studies violate natural principles, which are likely to annihilate the human species.

#### **1.4. Film Adaptations**

Science fiction has also been adapted into films.; *Around the world in ninety days* by HG Wells has a popular film adaptation. While HG Wells, in his work, predicted advancement in technology positively, some of the other fictions that portrayed the negative aftermath of unchecked advancement in science are also adapted into movies. *The Handmaid's Tale* by Margaret Atwood is adapted into a movie; the plotline is very much relevant to the emerging medical condition of infertility. A Second American Civil War has erupted due to environmental disasters and decreasing birth rates. The Republic of Gilead represents a dystopian dictatorship imposing rigid social norms and enslaving the few remaining fertile women. "Having high blood pressure changes the shape of sperm, thereby reducing fertility" (NICHD). *The Children of Men* by P D James echoes the similar theme on infertility the humanity has become infertile, and the most recent generation has reached adulthood. Suicide and depression are becoming more prevalent, and civilization is collapsing. An Oxford historian apathetic about a world without a future, Theodore Faron spends most of his time reminiscing. Then Julian, a bright, pretty woman, approaches him and asks him to help her get an audience with his cousin, the presiding judge. "Several lifestyle factors affect fertility in women, in men, or both. These include but are not limited to nutrition, weight, and exercise; physical and psychological stress; environmental and occupational exposures; substance and drug use and abuse; and medications" (Sharma).

*The Road* by Cormac Mccarthy reflects the case of the Amazon fire that destroyed invaluable natural resources such as trees, animals, and birds. The Amazon forests have been called the lungs of the Earth, and the fire that broke out continued for days. *The Road* reflects on a situation where a father and his son walk across America ruined by fire. Just the ash on the wind passes in the devastated landscape. It is cold enough to break stones, and the snow is grey as it falls. The sky is overcast. "Everything paling away into the murk. The soft ash is blowing in loose swirls over the blacktop" (Mccarthy, 7). Their destination is the coast, but they have no idea what, if anything, they will find there. They have nothing but a gun to protect themselves against the lawless gangs that prowl the neighborhood. The 1982 movie *Blade Runner* is an adaptation of the novel *Do Androids Dream of Electric Sheep?*. Robotics has gotten the world's attention, and replacing human labor with robots is imminent; robots have already usurped front office jobs. It would not be far before androids and robots rule the world. In the words of a worker in The Amazon logistics, "You are just a number; they can

replace you with anybody off the street in two seconds,” he said. “They do not need any skills. They do not need anything. All they have to do is work real fast” (Dzieza). *The Brief History of the Dead* is a novel by Kevin Brockmeier which echoes the pandemic Covid-19 that the world is encountering today. As the novel progresses, a growing number of city inhabitants seem to disappear, leaving their kith and kin in the dark. The deadly virus gradually destroys everyone in the living realm, resulting in the extinction of the human race. Though the origin of covid is debatable, the scenario resembles the current one.

### 1.5. Science Fiction vs. Regular Fiction

The word fiction is synonymous with unreal, but the writers always draw their plot and character from real life and replicate the people they meet in flesh and blood. Thereby, these fictions invoke an immediate response, such as sympathizing with the character, loathing some unacceptable activities, and the list shall go on. From the examples mentioned above, it is pretty explicit that science fiction has functioned as warning signals to society. Despite these graphic warnings, readers take science fiction lightheartedly because of the novel's genre. The following table illustrates the unique characteristics of the novel, which remove them from the real world. Because of these factors, readers could not relate to the novel. Generally, science fiction novels choose extraterrestrial settings and superhumans as their characters. The following table illustrates the specific characteristics of science fiction.

Table 1- Characteristics of Science fiction

Aspect	Characteristics
<b>Setting</b>	Out-of-the world, removed from reality Space
<b>Protagonist</b>	Superhuman Scientist
<b>Plot</b>	Protagonist’s efforts to save humanity from disaster Bureaucratic control. Climate Degradation. The upper hand of technology Survival.
<b>Motif</b>	Loss of individualism. Destruction Blood Death
<b>Conflict</b>	Darkness Good vs. Bad
<b>Language</b>	Darkness vs. light
<b>Denouement</b>	Not common person’s language Triumph of the protagonist/ Catastrophe

Space fiction is a genre of fiction in which the plots often revolve around future science and technology. Science fiction stories are often set in the future, in space, on another planet, or in another universe or dimension. Science fiction has a link to scientific ideas. These stories feature science laws or hypotheses that are partially real and fictitious. In addition, science

fiction texts have a human aspect that explains how discoveries, events, and technological advances will affect society in the future. A specific setting, character creation, the plot (central conflict, complexities, climactic events, resolution), themes, and structure are all present in science fiction. Some of the standard plots in science fiction include the creation of an extraordinary human being using science experiments, mass destruction caused by floods and tornados, alien invasion, and so on. Telepathy, frightening winds, invisibility, an explosive collar, darkness, and bloodshed are all common motifs of science fiction. The Time Machine:

The darkness grew apace; a cold wind began to blow in freshening gusts from the east, and the showering white flakes in the air increased in number. From the edge of the sea came a ripple and a whisper. Beyond these lifeless sounds, the world was silent. Silent? It would be hard to convey the stillness of it. All the noises of man, the bleating of sheep, the screams of birds, the buzz of insects, the hum of insects that forms the backdrop of life - it was all over. As the darkness thickened, the eddying flakes grew more abundant, dancing before my eyes; and the cold air was intense.

At last, one by one, swiftly, one after the other, the white peaks of distant hills vanished into blackness. The breeze rose to a moaning wind. I saw the black central shadow of the eclipse sweeping towards me. In another moment, the pale stars alone were visible. All else was rayless obscurity. The sky was black. A horror of the great darkness came on me. The cold that smote to my marrow and the pain I felt in breathing overcame me. I shivered, and deadly nausea seized me (54).

As far as language and linguistics are concerned, science fiction writers either use dead language or evolved future language. Only the hobbits speak English in *The Lord of the Rings*, whereas other creatures speak different languages and dialects. The protagonists are usually superheroes who fight the threat from the aliens and salvage the Earth and its occupants. Another protagonist is scientists who research against nature and become doomed due to their invention, like in *Frankenstein*.

## 2. FINDINGS

Science fictions are allegorical. Bina referred to science fiction as a "forward-looking technique" that could significantly impact real-world policy. Van Dijck made the most explicit declaration of this position:

Science Fiction, throughout the centuries, has been an important cultural tool for comprehending and evaluating the scientific, moral, and social consequences of new technologies. Besides projecting a possible future, science fiction often criticizes present technological or social arrangements. (p. 9)

While science fiction is not particularly useful for predicting the future, it is underappreciated as a means of staying human in the face of constant change. The modern world of mass surveillance and corporate propaganda may be much more dangerous and complex than George Orwell's 1984 and Aldous Huxley's *Brave New World* imagined. In the novel *The Stand*, Stephen King speaks of a biological weapon, a lethal virus developed in the lab, which results in a global pandemic. "It has been revealed.....that the flu epidemic.....deadly

mutation of flu virus created by the government for war” (King, 53). Biological war, mobile addiction, climate catastrophe have become the order of the world. Make-believe games like blue whale have claimed the lives of many addicted youngsters. These games take their stakeholders to a magical world and make them oblivious of the real world.

### 3. CONCLUSION

It is impossible to dispense with advancements in science and technology, and the world is currently immersed in a science-fiction novel that we are all co-writing. The present seems perilous and precarious, and the future's outcome is utterly unpredictable. In a shared and interdependent biosphere, future humans will have a good existence. Extreme climate change, mass extinction, agricultural destruction, and intense, deadly conflicts among desperate humans may be factors. Furthermore, science fiction will take place at any point in time, from now to billions of years in the future. That is a wide range, and it gives rise to a variety of subgenres, each with its own set of characteristics. The rate of innovation appears to increase, and advances in technology increase each person's power in our complex world, both for good and ill. Scientific inventions must not mess with the laws of nature. Of late, the world is turning highly sensitive about climate degradation. Therefore this is the most appropriate time to create awareness on the necessary measures to check hazardous activities like deforestation, plastic pollution, and promotion of unnatural research. Science fiction novelists can now confidently address climate concerns and technological advancement. Hence, this is a wake-up call to the imminent dangers.

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