

Cli-Fi Movies and Climate Education: Enhancing or Complicating Climate Communication?

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Science fiction as a literary genre came into being in the mid-to-late nineteenth century as a result of technological and generational advances. After the 1950s Cli-Fi started establishing itself as a full-fledged genre. The developments in the filming techniques aided this further. Thus, helping achieve the impossible.

Cli-Fi has also diversified beyond the "clichéd, post-apocalyptic, and hero-orientated disaster narratives" that David Wallace-Wells found, into realist and literary fiction. It has spawned other fields, such as solarpunk, slipstream, and weird fiction. Cli-fi is shifting, in the space of a few years, from being a minor sub-genre of science fiction to being touted to become "one of the dominant forms of twenty-first century literature." (qtd. in Woodrow 123).

Generally, disaster movies present threats such as tornadoes, torrential rains, or tech failures. Apocalypse movies present a flooded, frozen, melting tundra, or desiccated world. Dystopian plots include flooded, frozen, or desert worlds. In Alien & Superhero movies, the plot usually incorporates themes such as aliens discovering the warming planet, aliens and/or supervillains attacking humans to prevent further warming of the planet, and aliens promoting warming to create a hospitable planet for themselves. Under comedies, we can include sitcoms, rom-coms, and satires.

Statement of the Problem

Climate Fiction movies are an emerging genre which we can call a need of the moment because of its applicability to the present scenarios we're witnessing every now and then. So, the argument here is to find out whether we can reach a wider group of people with the help of movies.

Objective

To find out whether we can use Cli-Fi movies as a tool to educate people about the deteriorating stability of the climate.

Research question

To what extent do science fiction films contribute to raising public awareness and understanding of climate change?

Theoretical Framework and Methodology

This research paper is framed through a combination of film studies approach, and ecocriticism. Ecocriticism is often used as a catchall term for any aspect of the humanities (e.g., media, film, philosophy, and history) addressing ecological issues, but it primarily functions as a literary and cultural theory. As Glotfelty and Fromm famously state,

"Ecocriticism takes an earth-centered approach to literary studies," rather than an anthropomorphic or human-centered approach.

This topic can be approached from many different perspectives, for example, studying what themes and issues animals and nature represent in stories. Another possible approach is to study the relationship between humanity and nature as well as the ways in which nature affects humanity and, in turn, how the actions of humanity affect nature.

Methodology

For the methodology, the current study is a movie analysis where two movies are selected by the researcher from the Climate Fiction genre of the Hollywood film industry. First, I will perform a close reading of the selected movies to look for any details that are important from the point of view of this study.

What is the climate? What makes it unique from the weather?

"Climate" is the usual weather of a place. The climate can be different for different seasons. A place might be mostly warm and dry in the summer. The same place may be cool and wet in the winter. Different places can have different climates. Earth's climate is what you get when you combine all the climates around the world together. And it is a projection

of the long term patterns of changes in the weather of a particular region. But the weather is short-term.

Review of Literature

Tomas Axelsson, in his *Movies and Meaning. Studying Audience, Fiction Film and Existential Matters* conducts a survey and interview to study under what circumstances a movie can be of use to an individual. An individual is portrayed in the films as a cultural product in different contexts, such as socio-historical processes, socio-cultural interaction with the world, and inner psychological processes.

D'Avanzo Charlene, in *Climate Fiction as Environmental Education* talks about how fiction will contribute to social change. He takes many examples from other writers who were famous for their fiction that impacted society. He believes fiction is a potent agent of social change. Ecological fiction will play a role in affecting the public's concerns about the environment.

In his book *Cli-Fi Education and Speculative Futures*, Casper Bruun Jensen argues that Cli-Fi works are not always dystopic. He concludes that Cli-Fi may not be able to rescue us from a disaster due to climate change, but it will help to speculatively sharpen curricular transformations at all levels.

Susan Hayward, in the book *Cinema Studies: The Key Concepts*, talks about one of the concepts, "Science Fiction Films." She talks about how Sci-Fi developed in the film industry, which came about in the mid-to late nineteenth century in response to advancements in science and technology. She talks about the trends throughout the decades and the changing attitudes in Cli-Fi filmmaking.

In her *Cli-Fi: cinematic visions of climate change*, Joanna M. Zajackowaka talks about how the term came to be popular on the internet after it was used by the famed writer Margaret Atwood. She also discusses the film *The Day After Tomorrow*. She discusses the impact on viewers' emotions of these movies. Some climate activists argue that the exaggerated depiction of climate change will distance the audience from the actual crisis, but there is also a benefit that binds those who are more concerned about the climate.

Whatever exaggeration there is, that which is more important is, as stated by a NASA spokesperson,

"Whether its premise is valid or not, or possible or not, the very fact that it's about climate change could help to spur debate and dialogue."

It is particularly important for the public to have an adequate understanding of climate change science to ensure that subsequent deliberations properly balance the risks of global warming with the social, political, and economic implications of anti-global warming measures.

In Dr. Suess' *The Lorax*, there's this depiction of an industrialist as a cruel person. But we must also pay attention to the Lorax, who claims himself as the speaker for the trees, failing to make the industrialist realize his mistakes and stop hacking the truffula trees. This particular movie is made for children and is based on the novel by the same name. It is good to see that if we bring more movies or any piece of literature for kids, it will have a positive impact on the minds of the children.

The 1987 Brundtland report states,

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Dystopia in Cli-Fi Movies

The Cli-Fi films allow us to reflect on the harsh realities of our present moment, on conditions that are difficult to confront head-on. Though ostensibly set in the future, the post-apocalyptic mode can function as a window on, and critique of, the present. These movies show the post-apocalyptic world where we have exhausted our resources and people are struggling to live. The remaining humankind will be scavenging whatever is left.

Interstellar

It is the human factor that is central to the narrative of *Interstellar*. In the movie, climate change has already happened to a civilization that was ill-prepared to have its role in the cosmos erased by its own actions. We in the present still have time and can still steer our course in a better direction. It is why we study the climate and its impacts, and why governments are acting as we speak. *Interstellar* is a story of man versus himself, masquerading as man versus nature. It is a voyage to the stars to escape the desolation of a climate changed by humanity. But we still have time and we don't need to leave Earth yet. We can still save it.

What is the message of this film?

There are some lessons to be learned in *Interstellar*. How does humanity react to a global scale shortage of food? What will happen to our governments? Our daily lives? In the first few minutes of the film, the changes to Earth's inhabitability are explained, and the viewer gets a sense of the kind of dangers that the population of Earth has to face. Blight has come and is annihilating one plant species at a time, leaving the current population with corn as their sole sustenance (00:28:40).

Humanity is "driven by the unshakeable faith that the Earth is ours" (00:29:08), but it is not long before the reality sets in that humanity will not be able to survive on the planet. It can no longer be saved. Professor Brand explains to Cooper that

"We're not meant to save the world; we're meant to leave it" (00:29:54).

This sets up the mission of the film, which sees Cooper and a team of three others set off in a spacecraft, called the "Endurance", to explore a different galaxy, accessible through a wormhole near Saturn.

Most scenes of nature and humanity, especially the ones in space, resonate deeply with the grim mood throughout most of the film, which is reflected by their music or lack thereof. There is an underlying sense of the realization, coming too late, of the luck that humanity has had with their home planet. In this sense, the ecocritical message of the film could be an increasing appreciation for planet Earth and the resources it provides humanity with. This message is strengthened by showing two other planets that could possibly have sustained life as long as something cataclysmic would have happened on them, Miller's and Mann's planets. Compared to Earth, Miller's planet has too much water, and it is too volatile. Mann's planet, on the other hand, is too cold, and the air, much like the air back on *Interstellar's* Earth, is poisonous. The events of the film, and dialogue between characters, make it very clear that there is no other planet just like Earth out there for humanity, and even Earth is losing its habitability due to the blights wrecking the food supply, thriving on the nitrogen in the air and reducing the oxygen content of the air.

With a vision set for the future, the film makes its final ecocritical point as a suggestion that we should live while looking to the future and not by looking back into the past and comparing ourselves with it. In contrast to Earth's ecological blight depicted in the

opening frame through the bleak imagery, the emergent utopian space portrayed in the film's closure resonates with the vivacious green colours of ripening fields, implying restored ecological balance and harmony.

Apocalypse in Cli-Fi Movies

Explicit references to climate change in movies really began in 2004 with *The Day After Tomorrow*. The film revealed that a global climate disaster movie could rake in almost \$550 million from the worldwide box office. Given its popularity, *The Day After Tomorrow* is a perfect case study to understand how climate change-related movies affect viewers and why they play an important role in spurring climate action. So, I put this movie in the Apocalypse Cli-Fi category.

The Day after Tomorrow

The Day After Tomorrow finds its drama in an extreme weather event caused by a rapidly changing climate. In short, climate change is the protagonist's primary motivator. The film uses its fictional universe to envision the effects of our fossil fuel-reliant culture. It will be in an extreme way in order to show that immediate climate action is necessary in our real world. One of the main ways it achieves this is through dialogue.

JACK HALL: "Our climate is fragile. At the rate we're burning fossil fuels and polluting the environment, the ice caps will soon disappear. "

RAYMOND BECKER: "Professor Hall, our economy is every bit as fragile as the environment. Perhaps you should keep that in mind before making sensationalist claims."
(*The Day after Tomorrow*, 2004)

This simple yet effective scene is eerily similar to general arguments surrounding climate policy today. Dennis Quaid's character, "Jack," lays out clear evidence of a potential climate disaster that the Vice President is hesitant to act on insisting that climate change will cause economic instability as a result of the ensuing onslaught of superstorms and tornadoes. However, the movie quickly reveals the error of the vice president's reasoning. Ultimately, this shows that refusing to act on climate change will have worse consequences than economic instability.

Clearly, the menace of unrelenting super storms caused by a fossil fuel dependent world affected many of the viewers of *The Day After Tomorrow*. While a study in the 2004

issue of Environment that surveyed audience members a week before and one month after they saw *The Day After Tomorrow* reveals that-

"The film led moviegoers to have higher levels of concern and worry about global warming."

Considering the global reach of the film, these results speak promisingly towards Cli-Fi's positive impact on climate change awareness. The movie's narrative is simplistic and its weather events are over-the-top. Studies show that some of the audiences have even argued that this extreme depiction of rapid climate change can lead to a misinterpretation of what a future with a changed climate would look like. In essence, the exaggerated steps the movie takes to appeal to the moviegoer leave the viewer struggling to understand exactly what risks they face in a changing climate. But, their fictional exaggeration of climate disaster can be tolerated if the movies achieve their main task of raising public awareness about global warming. Movies like *Waterworld* and *The Day After Tomorrow* work at the front line of a growing desire to grapple with climate change. They introduce people to the issue through enjoyable and easily consumable narratives, which can then lead to more information heavy pieces like documentaries or scientific research. Major climate action will require a lot of effort in many different arenas. In this new genre of Cli-Fi, plays a key role in helping people understand that climate change is an imminent threat.

The Issue of Trust

The Issue of Trust is an important factor in climate change communication. Some surveys found that audiences of *The Day After Tomorrow* appeared to believe that the kinds of extreme impacts portrayed in the film were science fiction and thus deemed more unlikely, as expectations in terms of the type and delivery of information of a fiction film are different to those of a documentary. The disaster framing of the film would be interpreted differently if we compared fiction to a documentary on climate change. However, the film has been perceived as realistic. Despite the perceived legitimacy of documentaries in climate change communication, the impact of their persuasive attempts is not always the expected one, as messages trigger resistance to persuasion when fear is used as a communicator in movies.

Fearful Framing

Science experts who work on calamity movies are persuaded by a conviction that the scientific issues on which they are working are so critical to the long-term survival of

humankind that it legitimizes calling attention to these issues as vital, such as prophetically catastrophic accounts or overstating the impacts of cinematic calamities. But fearful framing does not work always. When researchers did a survey sometimes after spectators watched the movie *The Day After Tomorrow*, the effect of the movie which they had immediately after watching it withered. The effect now is less. There is also one more issue that has to be dealt with here. Both sides of the fearful frame are present. It could either catch and hold the audience or create distance between the movie and the audience. The audiences are not uniform; there is a wide variety of them. If the movie highly pushes the fearful element, the audience will feel disconnected from the movie, thus reducing its chance of impact. We can see this element in the movie *Mad Max: Fury Road* (2015), where there is a scarcity of resources. Whoever controls the availability of these resources, such as the lord who controls the water in the movie, is shown as more powerful. This film struggles a little to connect with the audience because of its futuristic dystopian vision.

However, it is also beneficial when balanced. For example, in the movie *Interstellar*, the filmmaker subtly shows us the deteriorating climate through the failures to grow crops, falling oxygen in the environment, severe sand storms, and people wearing masks while going out. These elements will come closer to an audience through their simplicity and also because they have a plausible explanation. This happens also in *The Day After Tomorrow*, where the climatologist repeatedly warns about the rapidly changing weather patterns and ocean currents of the planet. The result of this negligence to his warning results in a global ice age. Even though it may be shown on a global scale, the theory is widely accepted among the audience. Because we see this in our everyday life.

The Problem of Scale

Widening the story from a single disaster in a single geographic location to a world with a planet-wide treacherous climate created a different set of problems. Whereas the story of a singular disaster can be told from one point of view within an individual human time span, the story of climate change spans continents and millennia. This makes point-of-view an issue and presents challenges in maintaining engagement and intimacy with characters. This form captures a sense of the enormity of climate change, but even so, it remains a keyhole view. Realist fiction is written from a limited, interior perspective and is necessarily socially partial; it describes the world as seen through the eyes of a limited set of characters who are socially and geographically located in particular and specific places, times, and

worldviews. Even a bricolage of stories is not representative of the spectrum of human experiences and perspectives and, at the same time, risks sacrificing intimacy and empathetic engagement with characters.

The Wicked Problem of Climate Science Communication

A wicked problem is entanglement with values and perceptions. It has multiple competing formulations of both the problem and the desired solution, and feedback loops that cause the problem definition to be constantly in a state of flux. Wicked problems suffer from the availability heuristic, in that it is difficult to imagine their outcome, and this difficulty in imagining reduces the estimation of their frequency, likelihood, and risk. If the singular nature of climate change is one problem, the difficulty in communicating science is another that compounds it. Science communication can itself be seen as a wicked problem.

Limitations of the study

The study is qualitative, where only two Cli-Fi movies are taken for study.

Conclusion

Recently, there has been a broadening of the range of climate impacts considered. At the same time, however, there is growing evidence of fatigue or scepticism regarding climate change. At this time, this project tries to find out the ground reality of the impacts of the emerging subgenre of Sci-Fi, i.e., Cli-Fi.

Climate change films provide genuinely new information and plausible cinematic events, which influence climate change perceptions but do not result in long-term changes in behaviour and attitudes. It is the failure to resolve the issue of trust, along with a fearful framing of climate change that seems to have prevented viewers from altering their behaviour. Audiences are not homogenous. Evidence suggests that responses to climate change communication efforts differ from country to country and from less engaged to more engaged members of the public.

Not only are movies enough to raise awareness among people, but the governing bodies should also actively participate and take a pledge to save resources. Just celebrating special days like World Water Day, World Forest Day, World Environment Day, World Ozone Day and all the other days won't do much for sustainable developmental programs.

It must be kept in mind that everything has its merits and demerits so do these movies. Sometimes their exaggerated narratives make people not believe that all of it could happen in real life. And sometimes, they are only a part of the movie. It is almost like a subplot which makes the audience fail to notice this theme. Whatever the scale is, these movies are influencing more and more people to join the climate fight against greedy corporates and power-hungry politicians. Unless they comply with the demands of the people, they will find it difficult to continue in their trade.

It is clear to claim that cli-fi dystopian movies and documentaries related to climate change and global warming have a great influence on awareness to some extent. However, more holistic and integrated models and actions are needed to change the behaviour of the community. But these movies or books also have to face off against the establishments that do not believe in climate change. This becomes a challenge sometimes because they might mitigate the voices in order to benefit their own interests.

Sometimes, it might be hard, for instance, to imagine the implications of a world where the temperature has risen by more than 2 degrees Celsius, an increase scientists conclude would disrupt much of life on Earth. It is also hard to make sense of the fact that our current lifestyle, without changes, can lead to such a situation. With Cli-Fi, we can take current conditions forward by several decades and imagine what commuting or buying bread in near future looks like. But the current movement also deals differently with possible futures. Whenever climate change filters into mainstream culture, particularly in Hollywood movies like *The Day After Tomorrow*, it often does so as a catastrophe. Most of the fictional literature about climate change looks beyond that and asks: "How is the world after the crisis?" But watching a world on fire—a world that looks very much like our own—on-screen may work to influence specific individual behaviors.

The reason that these movies work over books is that they reach a wide range of people, from academicians to factory workers. This is not the case with scientific publications on climate change. Communication is important. If it is through films that are much better because of its wide reach.

Through the awareness programs of many non-profit organizations, MNCs are trying to reduce their carbon footprint by adapting innovative technologies in their production and distribution chains. Instead of leaving the planet one day, as shown in the movie *Interstellar*,

we could try to save future generations by capping our greed, which movies are a way of communicating this message.

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