

A World of Change: A Study of Human and Climate Elements

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Abstract: The present study explores the current state of our planet and society as interdependent systems and their evolution in Anthropocene and Post-Anthropocene. The current essay initiates from the actual situation of Earth and Human society and continues with the interrelated future of ecosphere and non-biotic elements, referring to historical, geographical and biological facts, as well as to climate fiction. The increasing concern of environmentalists regarding the evolution of our planet in relation to human activity represents the starting point of this article. Climate change, human migrations and their representations in world literature are other main topics of the analysis. As we can notice the present changes in the surrounding space due to anthropic activity, climate fiction offers us new perspectives of the future, possible ways in which the Earth can evolve. The analysis will make use of the methods and instruments provided by Humanities and Social Sciences and try to study different factors related to climate and humans.

Keywords: change, climate, environment, fiction, society.

1. Introduction: The current state of our planet and society

The continuous deterioration of Earth's systems is due to human activity, which for millennia has been damaging nature in order to create a more comfortable environment for humans. Although the term *Anthropocene* was previously used with different meanings, the Dutch meteorologist and atmospheric Paul J. Crutzen popularized it in 2000. We are currently living in the Anthropocene and its starting point is considered the eighteenth century "when analyses of air trapped in polar ice showed the beginning of growing of global concentrations of carbon dioxide and methane" (Crutzen 2002: 23). The concept was conceived specifically to designate the repercussions of human activity on all Earth's systems. The geological epoch of the Anthropocene is still generating debates among scholars and Jeremy Davies emphasized the subtle difficulty regarding the demarcation between the Holocene and the Anthropocene:

"With contemporary politics in mind, the most immediate and most telling point of comparison for the Anthropocene is the Holocene epoch, the 11,700-year span of time that in the established version of the geological timescale still continues to the present day. I believe that in order to make sense of this comparison between the Holocene and the Anthropocene we will also need to look much further back into the geological past, where monsters abound. But the first crucial point is that introducing an Anthropocene epoch in the geological timescale (and placing its starting point somewhere in the last few centuries) would mean declaring that the Holocene is now arriving at its end" (Davies 2016: 5).

The idea of the Anthropocene is based on the intersection "of geological Earth time and human history" (Parikka 2018: 51). Despite all the great achievements of humankind in history, humans generated a

plethora of problems for the environment through their activities, especially after the Industrial Revolution. Some of the main issues that our planet is facing because of people include global warming, severe droughts, floods, the rise of the sea level, the melting of the ice caps etc. For instance, Siberia is going through drastic times due to a heatwave that caused a high rise in temperature: “In the first six months of 2020, Siberia experienced a period of unusually high temperatures, including a record-breaking 38 degrees C in the town of Verkhoyansk on 20 June, causing wide-scale impacts including wildfires loss of permafrost, and an invasion of pests” (Ciavarella et al. 2020). These problems have negative consequences on human society giving rise to a serious shortage of food and potable water that cause migrations, economic and political issues. All the above-mentioned facts can contribute to the worsening of inter-ethnic and intercultural relations and this could be a cause of violence. Thus, one can trace a direct causal relation between human activity, environmental degradation and contemporary violence among humans.

Glenn Albrecht suggested that the new epoch in human and Earth’s evolution would be *The Symbiocene*, an era of living together harmoniously when life is nurtured rather than destroyed: “I argue that the next era in human history should be named the Symbiocene (from the Greek *symbiosis* or companionship). The scientific meaning of the word ‘symbiosis’ implies living together for mutual benefit call, and I wish to use this profoundly important concept as the basis for what I hope will be the next period of earth history. As a core aspect of ecological thinking, symbiosis affirms that interconnectedness of life and all living things. As many thinkers have pointed out, such interconnection and interaction puts a human worldview back into the community of life and resists the Hobbesian and Spencerian views of nature as essentially hostile and a competitive war of all against all. No doubt, conflict between organisms exist, but an overall balance of interests (eco-homeostasis) is in the total interest of all life” (Albrecht 2016: 13-14).

This scenario is the best possible, but the reality is different. Glenn Albrecht also stated that a new generation—Generation Symbiocene— will arise “in order to get out of the Anthropocene” (Albrecht 2019: 158).

In spite of this plethora of terms and concepts defining the critical situation of The Blue Planet, the evolution of Earth is negative. Despite the advanced research and the huge amount of data regarding the deterioration of nature, people continue aggravating the situation and the exacerbated effects are affecting all sentient beings on the planet. Thus, humans prove that they are *Homo non-sapiens*, in Glenn Albrecht’s words.

2. Some causes of the anthropic transformation of nature

The root cause of all environmental problems is pollution, a consequence of human activity in various sectors. Pollution has rapidly increased from the Industrial Revolution onwards. There are different types of pollution but the most obvious and the most linked to climate change is air pollution. Although water and soil pollution are extremely dangerous, they seem to be indirectly linked to global warming. Air pollution is the usual designation of atmospheric aerosol loading and “consists of microscopic particles and droplets called aerosols. Inhaling them causes about 7.2 million deaths per year” (Angus 2016: 74). Furthermore, the atmospheric aerosol loading directly affects the climate causing a depletion of the stratospheric ozone, which gives rise to severe droughts in some parts of the world or floods in others and unbalances the monsoon activity. Another important consequence of the depletion of the stratospheric ozone is the melting of glaciers worldwide and the reduction and even the disappearance of polar ice caps.

But how do the aerosols get into the atmosphere? The chemical particles that pollute the atmosphere are mainly due to human activity and they are produced by industry, transportation means, agriculture etc. Even nowadays, not all factories use filters for aerosols, a lot of cars release high amounts of carbon dioxide into the air, and cattle produce a significant volume of methane. Christian Schwägerl analysed the FAO forecast regarding the increasing number of cattle and emphasized the repercussions on the environment:

“The FAO forecasts that by 2030, one billion additional farm animals will be necessary to meet foreseeable demand. If this additional food is produced by current methods, additional greenhouse gases, slurry, erosion and dead zones will follow. Currently, every kilogram of dairy products produced causes an average of 2.4 kilograms of carbon dioxide in emissions, and every liter of milk is equivalent to burning 0.33 liters of oil” (Schwägerl 2014: 97).

Thus, a reduction in the consumption of meat and dairy products, the depletion of fossil fuels usage and the limitation of polluting means of transport would have a great impact on the emission of greenhouse gases, taking into account the interrelatedness of all Earth's systems.

3. Material vs Spiritual

The consumerist contemporary society cultivates the purchase of much more products than needed. Greed and the lack of mindfulness can lead to unnecessary acquisitions. This situation is due to an emotional imbalance, characterised by a strong propensity for material goods. All major spiritual traditions promoted a balance of emotions that could be achieved through different practices. Either theistic religions or non-theistic encourage the cultivation of constructive or good emotions to the detriment of destructive emotions in order to achieve a happy and peaceful life. Contentment, mindfulness and non-attachment are crucial in this process, indirectly contributing to environmental awareness and, ultimately, to the preservation of nature. Earth and its unique environment represent the only home for humankind until now and each one of us must do his/her duty to protect it. In a recent book, *Our Only Home*, His Holiness the Dalai Lama emphasized the relationship between Buddhism and environmentalism starting from Buddha's legend itself making an appeal for the protection of our planet:

“Buddha was born as his mother leaned against a tree for support. He attained enlightenment seated beneath a tree, and passed away as trees stood witness overhead. Were Buddha to return to our world, therefore, he would certainly be connected to the campaign to protect the environment. Speaking for myself, I have no hesitation in supporting initiatives related to environmental protection, because threats to our environment imperil our very survival. This beautiful blue planet is our only home. It provides a habitat for unique and diverse communities. Taking care of our planet is to look after our own home” (Dalai Lama & Alt 2020: 14).

We can try to care more for our “home” by reducing the material needs. This can be done by analysing every situation in our lives using mindfulness. People may notice an improvement in their lives following the path of moderation through awareness (mindfulness is directly responsible for generating awareness). The Buddhist concept or law of interdependence (*pratītyasamutpāda*) describes in almost scientific terms laws of Physics, Chemistry and Biology which governates the entire universe, not only our directly perceivable world. According to *pratītyasamutpāda* and *karma* (action, in Sanskrit), every phenomenon in the universe is mere action and reaction, a view agreed by scientists as well. *In nuce*, if analysed from this perspective, the current state of our planet is the reaction to humankind's actions throughout history and only our actions can make a difference in the future evolution of the systems of the world.

Some ancient spiritual and religious traditions, especially animism, pay great attention to the elements of nature, designating the planet as *The Great Mother* or *Mother Earth*. *Homo religiosus*, in Mircea Eliade's terms, living in a sacralised world full of symbols, was in a much closer connection to the environment than the contemporary people, dwelling in a desacralized world with a significant and obvious scission between the material and the spiritual dimensions of life:

“Hence there are differences in religious experience explained by differences in economy, culture, and social organisation – in short, by history. Nevertheless, between the nomadic hunters and the sedentary cultivators there is a similarity in behaviour that seems to us infinitely more important than their differences: *both live in a sacralised cosmos*, both share in a cosmic sacrality manifested equally in the animal world and in the vegetable world. We need only compare their existential situations with that of a man of the modern societies, *living in a desacralized cosmos*, and we shall immediately be aware of all that separates him from them” (Eliade 1959: 17).

Therefore, the cultivation of awareness, either self-awareness or environmental awareness, must bring about visible results in humans' lives and in the evolution of the environment as well, irrespective of whether one follows a spiritual path or not.

4. Cli-fi and the environmental awareness

Climate fiction, as part of *speculative fiction*, is a relatively new genre generated by the urge of writers to make a contribution to the fight against climate change. The term *cli-fi* was coined and

popularized by Dan Bloom in 2007. Bloom followed the pattern of *sci-fi* in the coinage of the new term. It could be considered an exploration of posthumanism from humanist and transhumanist premises. If humanism puts the human being in the centre of the world, posthumanism recognises the limitations of humankind and the fact that it is at the mercy of nature. Cary Wolfe, following Jean-François Lyotard's approach to posthumanism, considers that:

“it comes both before and after humanism: before in the sense that it names the embodiment and embeddedness of the human being in not just its biological but also its technological world, the prosthetic coevolution of the human animal with the technicity of tools and external archival mechanisms (such as language and culture) of which Bernard Stiegler probably remains our most compelling and ambitious theorist—and all of which comes before that historically specific thing called “the human” that Foucault's archaeology excavates. But it comes after in the sense that posthumanism names a historical moment in which the decentering of the human by its imbrication in technical, medical, informatic, and economic networks is increasingly impossible to ignore, a historical development that points toward the necessity of new theoretical paradigms (but also thrusts them on us), a new mode of thought that comes after the cultural repressions and fantasies, the philosophical protocols and evasions, of humanism as a historically specific phenomenon” (Wolfe 2010: xvi).

Climate fiction can be considered a type of *ustopic fiction*, as Margaret Atwood coined the new concept and explained it as it follows: “ustopia is a word I made up by combining utopia and dystopia—the imagined perfect society and its opposite—because, in my view, each contains a latent version of the other” (Atwood 2011: 1). The main purpose of cli-fi is the rise of environmental awareness; writers such as Margaret Atwood, J. G. Ballard, Ian McEwan, Maja Lunde, and many others try to draw international attention to the urgent problems that our planet is currently facing. Another important aspect of this literary genre is its interdisciplinary character, the authors recycle a huge amount of scientific data pertaining to different fields (AI, environmental studies, spatial studies, technology etc.). The paramount importance of cli-fi for contemporary society consists of a variety of possible scenarios for world evolution that the writers conceive. For instance, Margaret Atwood's *MaddAddam* trilogy presents an almost post-human world that survived a catastrophe caused by humans through the use of technology and lab-produced diseases. The survivors, a group of people pertaining to a religious and environmentalist sect (*The God's Gardeners*), has to live in the ruins of the pre-pandemic world, facing difficulties in finding food, being attacked by hybrid lab-designed animals such as *pigoons* (pigs with human brain cells created for brain transplants to humans), *rakunks* (interbreeding between racoons and skunks), *liobams* (interbreeding between lions and lambs), mutant dogs, luminous green rabbits etc. This apocalyptic scenario could be a subject of meditation for readers, they could appreciate the pros and cons of humanity's current behaviour and actions and the consequences. Climate fiction should be widely read and studied in schools worldwide as part of environmental education. This type of education should be one of the most important parts of the curriculum all over the world. Fiction can make humans more empathetic, thus it can play an important role in the fight against climate change. Charlene D'Avanzo concluded in a study on climate fiction and environmental education that “readers may be particularly sympathetic to fictional characters whose lives are impacted by climate change” (D'Avanzo 2018: 2). Unfortunately, this literary genre is not properly known, explored and utilised by teachers in their classes in Romania, for instance. Cli-fi would be extremely effective in primary and middle school when children become aware of processes that Earth is going through and it could boost their environmental awareness making them mindfully green. Sonja M. Geiger *et al.* emphasized the positive effect of the combination of mindfulness and nature for the wellbeing of individuals as well as for ecological purposes: “A combination of mindfulness and nature experiences might be an effective way to enhance the positive health effects while at the same time promoting ecological behaviour” (Geiger *et al.* 2018: 9).

Thus, climate fiction represents a highly valuable instrument that people can use in their action against climate change and nature degradation as an environmental awareness booster.

Conclusion

The main cause of the climate change that Earth is facing is man-generated and the current efforts of humankind to reestablish an ecological balance seem to be inefficient. Scientists and researchers have produced high amounts of data but people worldwide neglect the reality of ecological problems and continue polluting. Although scholars and the majority of religious traditions support environmental preservation, the global situation is worsening both environmentally and socially. As part of their contribution to the fight against climate change, writers have created a new literary genre, cli-fi, trying to raise environmental awareness.

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