1 Introduction

A simple google search already demonstrates that climate change and the apocalypse are frequently connected in the popular imagination of the twenty-first century (see also Gardner 2015, Haker et al. 2014, and Horn 2014). There is even a Wikipedia entry on the ‘climate apocalypse,’ where the phenomenon is described as follows:

[. . .] a hypothetical scenario involving the global collapse of human civilization and potential human extinction as either a direct or indirect result of anthropogenic climate change and ecological breakdown. Under a global catastrophe of this scale, some or all of the Earth may be rendered uninhabitable as a result of extreme temperatures, severe weather events, an inability to grow crops, and an altered composition of the Earth’s atmosphere. (https://en.wikipedia.org/wiki/Climate_apocalypse, accessed 15 April 2021)

This collection brings together climatologists, theologians, literary scholars, and philosophers to address and critically assess this connection, i.e., the apocalyptic dimensions of climate change in scientific models and cultural discourses. The chapters all deal with the following questions:

- How and why do fictional, philosophical, and religious narratives negotiate climate change in relation to the apocalypse?
- How are (or can) these narrative representations (be) related to the scientific models developed by climatologists?
- To what degree are the depicted scenarios or events realistic and to what degree do they involve instances of fictionalization? And why is this so?
- Can one observe any kind of influence of scientific knowledge on cultural productions?
- How do cultural narratives and scientific models influence attitudes regarding climate change?1

1 The papers collected here were presented at a conference on the apocalyptic dimensions of climate change at RWTH Aachen University between November 15 and 16, 2018. We would like to thank the Exploratory Research Space (ERS) at RWTH Aachen University for funding our conference in the context of the ERS Seed Fund OPSF405.

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Among other things, we are interested in the narrative strategies that the mentioned text types or genres use in order to depict climate change as one example of a fluctuating environment. In particular, we zoom in on the interaction between the setting and the characters to illustrate how the represented figures deal with climate change. Some analyses of this kind already exist in the discipline of literary studies (see, e.g., Chakrabarty 2012, Kluwick 2014, Trexler 2015, and Mehnert 2016), and we want to build on them.

Furthermore, our main focus will be on the ideological underpinnings of these textual representations (see also Alber 2019). More specifically, we wish to determine what the narratives in question want their recipients to get or do. In this connection, Louis Althusser writes that for him, the term “ideology” denotes “imaginary [. . .] world outlooks,” that is, worldviews that do not “correspond to reality” (2001: 1498). From this perspective, ideologies are distorting worldviews. As examples of such imaginary distortions, Althusser mentions the belief in God (or gods), duty, justice, the family, the trade union, and the party. These beliefs are all ideological because they involve a certain degree of subjectivism: there can be no absolute reason why one should take a specific belief system for granted. Along similar lines, Stuart Hall explains that

[. . .] we experience ideology as if it emanates freely and spontaneously from within us, as if we were its free subjects, ‘working by ourselves.’ Actually, we are spoken by and spoken for, in the ideological discourses which await us even at our birth, into which we are born and find our place. (1985: 109)

As Matthew B. Arbuckle has shown (2017: 177–194), discussions of climate change are obviously also influenced by underlying ideologies or worldviews (see also Faust 2011). In this collection, we are particularly interested in the role of apocalyptic images in relation to representations of climate change.

The climate is one of the fundamental control mechanisms in the environmental system of the Earth. It enables a habitable globe for different species – including humans. In the context of the joint initiative of the World Meteorological Organization (WMO) and the United Nations Environmental Programme (UNEP) in 1988, the Intergovernmental Panel on Climate Change (IPCC) was set up. The IPCC has already published several reports on climate change (see, e.g., IPCC 2013a) that also provide guidelines for policymakers (IPCC 2013b). In the
last three decades, various studies provided further evidence of global warming and climate change. The rate and direction of climate change is controlled by a number of feedbacks of the Earth's environmental system. Most of the changes (in the climate and the environment) result from the increasing human interference in terrestrial and marine ecosystems which are influencing the fluxes of sensible and latent heat, material turnovers, and directly and indirectly the release of greenhouse gases and the carbon storage capacity.

Although the physical aspects of climate and environmental change form the basis for the detection of the effects of human interference and constitute the basis for scenarios, projections, and predictions of future climatic conditions, there is an imbalance in the debates on the effects of climate change, as this issue concerns various aspects of human coexistence, civilization, culture and views on nature. These issues are closely associated with the behavior of societies, economies, cultural developments and spiritual imaginations. The humanities and the social sciences provide new perspectives on these issues and new visions regarding the role of humankind in nature. These points of view are often neglected by both natural scientists and engineers. In addition, they may contribute to new ideas, visions, and solutions to the issues associated with climate and environmental change by means of a perspective shift.

For example, the hazardous effects of land degradation (due to natural or human-induced climate and environmental change) have also been realized in past cultures and civilizations, though the interpretation of the causal and functional relationships often differ from contemporary ones. This collection contains several examples of the apocalyptic dimensions of changes in the Earth's climate and environment viewed from different perspectives of the humanities and the social sciences on catastrophic and apocalyptic events as well as on questions related to the vulnerability of the planet. The ideas, visions, and perspectives are an important part in the discussion and search for solutions of issues related to climate change, and demonstrate the central role of a creative transdisciplinary debate in the search for new ideas and visions. This collection attempts to provide a more comprehensive view on climate and environmental change and to stimulate further debates.
2 Definitions of Terms

2.1 Climate, Climate Change, and Environmental Conditions

According to the WMO, the term ‘climate’ describes the average weather conditions for a particular location and over longer stretches of time (Weischet and Endlicher 2012). Thus, climatologists study the atmospheric conditions over a period of time (usually 30 years, e.g., from the years 1901 to 1930; 1930 to 1960; 1961 to 1990; and 1991 to 2020) in order to calculate average atmospheric conditions or an ‘average weather.’ Since the weather varies strongly in a year, between different years and decades, and since there are also seasonal influences, the period of 30 years is usually long enough to balance out the influence of short-term fluctuations (e.g., of temperature or precipitation) and to calculate averages and variabilities of relevant quantities. By means of the comparison of different 30-year periods, small fluctuations of climatic elements (temperature, precipitation, wind, pressure, and solar radiation) or tendencies and trends can be detected.

On a longer temporal scale, studies on climate change also encompass analyses of historical archives and geological records to reconstruct past climatic conditions. Systematic changes, the persistence of anomalous conditions, and statistically significant trends on a global or regional scale such as an increase in temperature, a change in mean precipitation, or a change in the frequency of extreme events or of the seasonality of rainfall indicate changes in climate. With respect to climate change, certain parameters have to be compared over periods of time, ranging from months, years, decades, centuries to thousands or millions of years. The term ‘global warming’ is often used as a synonym for climate change. It may in fact induce climate change as global warming affects other factors such as the moisture content in the atmosphere, rainfall, and the development of air pressure systems and is associated with complex feedbacks in the atmospheric circulation system and at the surface of our planet. In other words, global warming, i.e., the rise of the average temperature of the Earth’s climate system, is one dimension of climate change, which, apart from rising global surface temperatures, also includes its effects, such as changes in precipitation.

Generally speaking, environmental conditions result from the interplay of physical factors such as climate, soil, relief, rock, hydrology, biological processes, and anthropogenic factors such as land use. Environmental conditions in ecozones and ecological systems tend to vary during different seasons and fluctuate between the years and decades. The variability of the relevant quantities may swing about a large range within or between the years and decades. However, depending on the temporal and spatial scale, the relevant quantities
may vary about an average condition, a state which characterizes a dynamic equilibrium. A change is indicated in the persistence of anomalous conditions such as continuous decrease in biodiversity, or an increasing rate of soil loss by soil erosion.

2.2 The Apocalypse

The religious connotations of the ancient Greek term ‘apocalypse’ become apparent through its etymological meaning; the term translates as ‘revelation’ and it is used as a title for the last book of the New Testament. It is thus not surprising that the term is highly debated within theological studies. Scholars usually use the term ‘apocalypse’ as a designation for a specific genre that encompasses certain ancient biblical and non-biblical texts, although the characteristics of this genre as well as its attributed texts or even the question of whether such a fixed genre existed in the ancient world are both still a matter of debate. Nonetheless, the designation of ‘apocalyptic’ in conjunction with certain ancient texts has become a *terminus technicus* among theological scholars.

In order to appreciate the designation ‘apocalyptic,’ it is noteworthy to reflect upon the belief system (or worldview) that is usually conveyed by these texts. Generally speaking, apocalyptic literature encompasses “a narrative framework, in which a revelation is mediated by an otherworldly being to a human recipient, disclosing a transcendent reality which is both temporal, insofar as it envisages eschatological salvation, and spatial, as it involves another, supernatural world” (Collins 1979: 9). More importantly, this narrative framework within apocalyptic literature provides meaning for the addressed reader in that it situates certain events within a larger divine plan of salvation. In this way, “an apocalypse is an imaginative response to a specific historical and social situation” (Collins 2011: 457).

Simultaneously, apocalyptic texts create a sense of collective identity that usually attempts to raise awareness for a specific crisis situation. This can be an actual historical crisis, such as a greater war and its accompanying destructions, or simply a perceived crisis situation that the author wants to call attention to. In other words, apocalyptic texts often insinuate that a certain group, which the author associates himself with, experiences a crisis that is part of salvation history with a teleological outlook. It is this teleological outlook, mostly expressed in eschatological images which concern humanity’s ultimate destiny and provide assurance for the group that the current crisis situation can be overcome and a bettering in line with a final salvation is at hand, provided the group remains steadfast in their beliefs (and associated behavior). Therefore,
the individual apocalyptic text can also function as consolation or exhortation for proper behavior.

Lastly, it should be noted that these general observations on the definition of apocalypse stem from the analysis of what modern scholarship attributes to this genre (see, e.g., Wolter 2005: 171–178). The label ‘apocalyptic’ is no longer attributed to ancient texts only (see Fried 2001); rather, it has become a general concept that is used in several scholarly disciplines and popular culture. Nevertheless, most of the characteristics mentioned above do still apply in one way or the other (Becker and Jöris 2016). It is important to see that many of the narratives analyzed in this collection represent climate change as involving some kind of cleansing that will ultimately lead to salvation.

3 The Contents of this Collection

What about the specific foci of the individual chapters? Wolfgang Römer begins this collection by providing a climatological basis for the discussions that follow, namely an overview of different reaction paths of environmental systems on human-induced climate change in different climatic zones. He shows that these issues closely correlate with the future behavior of societies in terms of changes in lifestyle, consumption patterns, and economic decisions. The intricate pattern of the interaction of societies, economics, and global environmental changes shows that the search for a solution to these problems is an interdisciplinary issue that can only be resolved through the collaboration of various disciplines. Some geo-engineering options and technological advances may support a striving of a more sustainable development. However, besides the problem that technological solutions suffer too often from the risk of unknown side-effects, future challenges appear to be closely related to developments in societies and economics.

In his chapter, Gerbern Oegema shows that the recent revival of apocalypticism in cultural discourses has been spurred by the growing discontent with climate change. The prevalence of apocalyptic discourse, which can be observed in different forms of texts and media, underscores changes in people’s outlook. Even though the value of apocalyptic discourse has typically been dismissed by the more established Christian and Jewish theologies, this chapter contends that apocalyptic language carries in it existential and theological messages that are highly relevant for our fight against climate change. Such language, Oegema argues in this chapter, can positively direct people to acknowledge their
own responsibility to address climate issues and thereby take on an active role to locate solutions and improve climate conditions.

Marco Caracciolo deals with the question of how fictional narratives may render the lived experience of catastrophe in ways that reduce the physical distance associated with mediatric representation and visual experience more generally. In a second step, he zooms in on Jeff VanderMeer’s 2014 Southern Reach trilogy, which comprises the novels *Annihilation*, *Authority*, and *Acceptance* and has been hailed as a prime example of contemporary fiction that deals with climate change in the ‘weird’ mode. Caracciolo demonstrates that by adopting haptic ways of imagining catastrophe through narrative representation, stories can offer a highly embodied route into human-nonhuman enmeshments (such as the climate crisis).

In her chapter, Diana Dimitrova discusses questions of climate change, power, and the Anthropocene in relation to Hindu traditions and indigenous ecological consciousnesses. In doing so, she explores the complex links between Hindu eco-religious and eco-cultural traditions, the connections between myth and nature, and the mythologizing of contemporary cultural and religious discourses on climate change. Dimitrova considers Hindu apocalyptic notions in the Vedas, the Upaniṣads, in the epics, and in the Vaishāṇa and Śaiva Śāktā Paurāṇa traditions. Furthermore, Dimitrova reflects on modern environmental discourses and activist movements to shed light on the fact that modern scholars have turned anew to Hindu texts in order to alert people to the pressing issues of climate change.

Judith Eckenhoff examines the postapocalyptic storyworld of *Mad Max: Fury Road* (2015) against the background of climate change and land degradation. As a product of mainstream popular culture and speculative engagement with ecological devastation, this action movie makes use of the ‘wasteland’ trope to represent a possible future in which civilized societies and ecosystems have collapsed. Eckenhoff analyses the film’s ideological implications in the context of climate change, particularly regarding its ecofeminist politics and its ambivalent negotiation of car culture. It also addresses the functions of *Fury Road’s* spectacular action and the highly aestheticized desert environment from the perspective of ecocriticism and cognitive narratology. Eckenhoff argues that the film’s depiction of the wasteland and its environmental themes confront the audience with anthropogenic environmental destruction and the exploitative and unsustainable systems at its root, while also expressing a sense of solastalgia and grief for a world inalterably changed.

John Hegglund addresses one mode through which narratives – such as Richard McGuire’s graphic novel *Here* (2014) and Don Hertzfeldt’s animated film *World of Tomorrow* (2015) – can express the limits and transformations of a human future on the planet. This sense of futurity is based in a view not of the
anthropocentric, non-human, or post-human, but of what he calls ‘the partially human.’ The partially human differs from the post-human because it acknowledges that, while we are newly aware of an interconnected enmeshment between humans and world, we are stuck with certain human traits, most notably at the level of a consciousness and cognition that is singularly capable of producing narrative. Where the post-human (in its more optimistic visions, at least) wishes to push through the clouds of anthropocentrism to the shining light a brave new world, the partially human admits that such wishes amount to a futile attempt to outrun our own shadows.

Axel Siegemund deals with questions that have to be placed on the overlap between theology, natural science, and technology. More specifically, he brings a theological perspective to the topic of climate change in his chapter about the notion of apocalyptic thought. At the center of Siegemund’s reflections is the consideration that ecology and apocalypticism are reflected in the fact that a collective fundamental awareness of their existence is bestowed upon them. Here, he takes a position that confronts climate change and the biblical apocalypse in a perspective that in both cases expects something that seems inevitable. Starting from this, Siegemund focuses on the transformative power of today’s apocalyptic thinking and the concept of feasibility, taking into account the modern expectations towards religion and technology in equal measure.

In his chapter, Carlos A. Segovia delves into the idea of our world being subjected to a social and ecological collapse that gradually leads to the ultimate extinction of life as we know it. Subsuming this under the term “unworlding,” he elaborates on three different examples, illustrating how to approach this apocalyptic scenario from an ontological perspective. In connection to this, the role of technological advances concerning this process receives special attention, for example, when addressing the question of how artificial intelligence affects our life on earth. Finally, Segovia sheds some light on the ontological fluctuance of our natural and social environments as well as the importance of cosmopolitical relations for escaping this apocalyptic future.

Last but not least, Jan Alber and Zoë Takvorian analyze the interwoven ideologies in Roland Emmerich’s well-known film The Day after Tomorrow (2004). This movie is about the dawn of a new ice age, and it is apocalyptic because it does not end in total disaster (or with the complete disintegration of the planet) but with the hope for a renewal. They demonstrate that the film clearly argues in favor of science and rationality as well as the idea of learning from our mistakes. At the same time, however, it proposes a reactionary rather than a radical new start, while clearly zooming in on the white, male, and heterosexual middle class, i.e., a privileged societal group whose supremacy it reproduces and stabilizes. Ultimately, the nostalgic renewal of the old western order could (or
perhaps rather should?) be seen as being the main problem behind climate change – rather than a possible solution.

Taken together, the chapters of this collection seek to shed light on the question of how and why narratives of various historical and cultural backgrounds (as well as in different media) associate climate change with the apocalypse. In addition, our contributors try to demonstrate how these representations relate to the actual problem of climate change as it is discussed in the models developed by climatologists.

**Bibliography**


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