IASS WORKING PAPER
Institute for Advanced Sustainability Studies (IASS)
Potsdam, November 2016

The Dystopian Impulse of Contemporary Cli-Fi:

Lessons and Questions from a Joint Workshop of the IASS and the JFKI (FU Berlin)

Julia Leyda, Kathleen Loock, Alexander Starre,
Thiago Pinto Barbosa, and Manuel Rivera

IASS POTSDAM
John F. Kennedy-Institut für Nordamerikastudien
Freie Universität Berlin

Contents

Preface, *by Manuel Rivera (IASS)* 3

1. Cli-fi and the Dystopian Tradition, *by Kathleen Loock (JFKI, FU Berlin)* 6

2. Cli-fi and American Ecologies, *by Alexander Starre (JFKI, FU Berlin)* 9

3. The Cultural Affordances of Cli-fi, *by Julia Leyda (IASS)* 11

4. Summary of the Workshop Discussion, *by Thiago Pinto Barbosa (IASS), Julia Leyda, Kathleen Loock, Alexander Starre* 18

5. Bibliography 21

6. Appendices 22

Preface

Manuel Rivera

The philosopher Theodor W. Adorno said once, regarding the analysis of poetry, that a great poem could serve as a "sundial in the philosophy of history," i.e. it could show us what hour the clock of history had struck. This is of course a metaphor. What it tries to depict, namely the elements of a *Zeitgeist*, of intersubjectively shared emotive components that could indicate the impact of certain material developments on collective and individual experience, was later described by cultural studies pioneer Raymond Williams as "structures of feeling." Such structures are of course not infrastructures in the material sense; they are closer to what classic sociology had called "norms," or structural functionalism, on a more general level, "pattern variables" (a kind of meta-norm, like achievement vs. ascription, etc.). But while these concepts aimed (but only partially succeeded) to *explain* behavior, I understand the concept of affective structures more as an attempt to *interpret* it – or even more carefully put: as reconstructing how actors might interpret behavior themselves. Behavior of their own, but mostly of others: role models, heroes, and "losers" come to the mind, i.e. stylized actors themselves, but also quests, chances, and dilemmas, i.e. situations. And while these interpretations always involve *evaluations* as well, it is not the "value" – an abstraction so dear to the social sciences and their popular understanding – which is the most interesting aspect to them, not in the sense at least of generating a label of degrees of expressed affirmation or rejection. What is truly informative is rather the particular constellation of *sensibilities* discovered through the interpretative act.

Not only poetry, but art in general – and, contrary to Adorno's elitist tastes, also and perhaps in particular its popular, mass-oriented manifestations – is a source that can provide us with important clues on contemporary ways of self-interpretation, clues that are very hard to obtain through other channels. There is of course the method of attitudinal research, of asking people what they think and feel – but this research often struggles with response sets, biases, and with finding *words* that would equally apply to all the different social groups in question. The validity question – if the words represent properly the emotional attitudes they pretend to measure – is often tricky to answer. Observing people's actions, on the other hand, provides data that are more "solid," but often equally obscure as to the feelings that might be the basis of said actions. The more the social sciences, anthropology included, try to get to the core of what certain words or actions "mean," the more they will have to rely, themselves, on interpretation, which is never conceivable without an element of speculation. The structure of feeling will be much more polyvalent, contradictory and nuanced than any measurable statement of "values." This fact, abhorrent to fetishists of scientific objectivity but nevertheless irrefragable, explains, again and again, the necessity of research that makes the interpretation of cultural manifestations its center: the humanities, or, as we say in German, *die Geisteswissenschaften*.

When we look at art works, we do not, of course, look at direct intentional manifestations of single actors or social groups. We look at complex products in whose creation multiple and heterogeneous intentions and interests have interacted – from the purely commercial calculation to individual vanity, and from certain requirements of peers and tradition to idiosyncratic impulses that might be hardly known even to the artists themselves. Disentangling these heterogeneous factors is not easy, but not impossible either. There are certain deployments

of analysis and comparison at the disposal of humanities scholars that help identifying patterns and regularities, trends and reactions. The reading of the aforementioned idiosyncratic impulses that transcend traditions or even individual (conscious) intentions is somewhat harder and, again, more speculative. It is endangered by reading 'into' the piece of art something that we had already conceived beforehand, i.e. by the reproduction of prejudices. Through aesthetic judgment, though, as we have known since Kant, comes also the possibility to *free* ourselves from prejudice, to enter a conversation oriented toward the "sensus communis," which is not only common sense, but also the sense of the commons.

For the new genre or tradition that emerges in art and forms the contested field of studies called "climate fiction" or "cli-fi," the relation to a particular commons, namely a global climate in danger of trespassing boundaries of human safety, is constitutive. This is a point of departure for the IASS, the reason why we are hosting Julia Leyda as a Senior Fellow, and the impulse that led us and her to collaborate with the Freie Universität Berlin on the realization of the Cli-Fi Workshop in May 2016. But it is not this thematically driven constitution of the field per se that is of primary interest to us when examining it. The interesting elements are rather those which Julia names in her contribution to this Working Paper, namely: What kind of families and affective relations are imagined when reaction to climate change? Who are the heroes; who are the villains? How is politics envisioned, and what allegories of the economy appear? Which ambiguities come into play (and which don't) when depicting societies in transformation?

When reading and interpreting these texts and images that are already born out of interpretation, there is of course the impulse of asking: And how will this retroactively influence people's attitudes and even behavior? Will these books, will these movies "make a difference?" While this question might be legitimate, and it figures in the discussions with students that found their way into this paper, it is not the most important one. In a way, it runs the risk of missing the point. As it is not the "actual intention" (of the artist) which explains the artwork's content, it isn't the "actual reception" either. Even when the message remains widely unread, it might still be there, as in the famous image of the message in a bottle. Opening the bottle is the challenge, but we need to meet it with hermeneutic sensitivity, patience, and the openness for discussions that will not have an immediate result. Instead, they will slowly help to improve our self-understanding.

For it is not primarily the *manifest* meaning attached to actions, actors, and situations in art, that will teach us something new about imaginations relating to something as crucial as climate change. Rather, it is the *latent* significance, the room for *potential* interpretations that is opened up through a screening or a lecture, which is interesting, albeit perhaps sometimes frustrating, too. When, just to give an example, the film *Snowpiercer* ends with an Asian woman and a child of African descent – apparently the only human survivors of the narrative's catastrophe – facing a polar bear, the power of the allegory is as strong as the number licit interpretations is manifold. What is engrained in such an image, is a profound complexity of inter-human and human-nonhuman-nature relationships; a complexity that remains to be newly addressed and interpreted in the Anthropocene epoch. The responses to that image, a mixture of fear and longing, are ethically ambiguous. But that this complexity already forms part of the *Zeitgeist's* consciousness (or its unconscious?) is a fact that we may not have known by other means than by watching the movie. Its point of departure is a – rather shallow, one might say – fantasy about climate engineering. But its purview makes us think much further, and what is more: it connects us to other sensibilities also thinking – or rather, feeling – further. As the poet Marina Zwetajeva once put it, 90 years ago, literary critique can convey "the absolute pitch on the future." We'd have to take the risk of truly listening, though.

As the co-lead of the IASS's current research program "Economics and Culture," it is my honor to introduce this Working Paper on Cli-Fi, as a joint venture between my institute and the John F. Kennedy Institute for North American Studies of the Freie Universität Berlin. I hope it is just the beginning of many more collaborations in the discovery of sustainable development's traces and auguries in popular culture.

This working paper is adapted from the "Cli-Fi Workshop" that was held at the John F. Kennedy Institute for North American Studies at the Freie Universität Berlin on 13 May 2016, and co-sponsored by the Institute for Advanced Sustainability Studies (IASS), Potsdam. The workshop was a joint event bringing together two M.A. seminars, taught by Dr. Kathleen Loock and Dr. Alexander Starre at the John F. Kennedy Institute at the Freie Universität Berlin during the summer semester 2016. We designed the event to include input from both sides: the seminars' instructors and students and the two researchers from the IASS – Prof. Dr. Julia Leyda and Thiago Pinto Barbosa. That day of multi-directional intellectual exchanges and inspiring discussions from the different perspectives we all bring to climate fiction, or cli-fi, provided the starting point for this paper.

1. Cli-fi and the Dystopian Tradition

Kathleen Loock

In the summer term of 2016, M.A. students at the John F. Kennedy Institute for North American Studies could enroll in the seminar "Dystopian Visions of America." The seminar explored the concept of dystopia within an American studies context and traced its historical development in the USA and Canada from the late nineteenth century to today. After addressing a number of theoretical concerns and examining the cultural work dystopias perform, we studied influential literary and cinematic dystopias in historical context, and analyzed and discussed their forms and themes in class. Among the primary texts we took up were novels such as Ignatius Donnelly's *Caesar's Column* (1890), Sinclair Lewis's *It Can't Happen Here* (1935), Ray Bradbury's *Fahrenheit 451* (1953), Margaret Atwood's *The Handmaid's Tale* (1985), Cormac McCarthy's *The Road* (2006) as well as the *Terminator* film franchise. With the rising popularity of dystopian novels and films in recent years, the seminar addressed a timely topic and met with great interest among the students. The growing number of texts that specifically negotiate possible climate change, natural disasters, and their effects made it a logical and necessary choice to include cli-fi on our syllabus and to study it as part of the dystopian tradition.

Dystopian fiction grew out of the utopian tradition and first emerged as a response to the unfulfilled promises of the political and scientific revolutions of the Enlightenment and the radical changes brought about by industrialization and urbanization. Utopian beliefs in technological progress and the potential for the improvement or perfectibility of human beings gave way to a bleak vision of human nature centered around exploitation, poverty, unequal distribution of wealth, riots, strikes, violence, political unrest, and corruption. Since the late nineteenth century, dystopias have reacted to their immediate historical circumstances, generally projecting a dark future for mankind.

Dystopias' principal technique is that of de-familiarization (or, what Darko Suvin has called "cognitive estrangement"): Distant settings and shocking scenarios serve to de-familiarize the fictional world from the known world, thereby foregrounding and commenting on the social, political, and cultural conditions of their time of production. In this sense, dystopias also fulfill a didactic function and are often **cautionary tales or warnings that imagine possible futures for a society on the basis of contemporary preoccupations** and in response to utopian thought and to social, political, and scientific theories or movements. The cultural work of dystopias thus consists of sensitizing readers to critically analyze their environment, to empower alternative modes of thought, and to communicate plans for radical change. Dystopias, in short, have transformative power: they participate in and shape reality.

In the typical utopian narrative, a traveller goes on a journey through space or time to a distant, ideal society that is presented and explained to the traveller by a guide. As the journey reveals the differences between the utopian society and that of the traveller, it simultaneously indicts the society and political system of the contemporary reader. Dystopias, in contrast, typically begin in medias res, i.e. in the dystopian environment. Textual estrangement arises from the main character's questioning the society he or she lives in. The protagonist moves from apparent contentment to alienation and a growing awareness of things that are wrong to taking action and attempting to flee or change the society. Despite a variety of

different themes, **dystopias thus usually combine a narrative of hegemonic order and a counter-narrative of resistance**. Themes range from class struggles and the rise of totalitarian regimes to global nuclear warfare, overpopulation, genetic engineering, pandemic diseases, the impact of new media and social media, and also climate change. When studying dystopian fiction today, it is therefore impossible to ignore the dystopian impulse of cli-fi and the thematic and formal similarities it shares with dystopian fiction more generally.

If we accept that cli-fi is a thematic variety or sub-genre of dystopian fiction, it still remains a special case in comparison to political, feminist, or techno-dystopias because in contrast to these examples, **cli-fi is almost always set in the very near future or even in the present** and the idea of "cognitive estrangement" is less important than the effects of climate change that inform the setting and plot. Even though cli-fi tends to treat climate change as a global threat, **narratives often remain on a local level** when exploring the impact of natural disasters, foregrounding the survival of the nuclear family and its ways of coping with the crisis. This **focus on the nuclear family** – consisting of father, mother, and child(ren) – speaks to the heteronormative anxieties that many examples of both cli-fi and post-apocalyptic fiction articulate and to the traditional values of patriarchy, family structures, and gender roles these texts seem to promote in the face of crisis – as if to provide stability and a moral compass for the impending end of the world. These aspects need to be critically examined, especially since cli-fi, just like dystopian fiction more generally, **fulfills a didactic function**.

In the workshop (see Appendix 2 for the program material), M.A. students attending "Dystopian Visions of America" brought their knowledge about the dystopian tradition, dystopian forms and themes, and the cultural work dystopias perform to the discussions and their analyses of the background reading and the five cli-fi films we selected:

- *The Day after Tomorrow* (Roland Emmerich, 2004)
- *Take Shelter* (Jeff Nichols, 2011)
- *Snowpiercer* (Bong Joon Ho, 2013)
- *Interstellar* (Christopher Nolan, 2014)
- *Mad Max: Fury Road* (George Miller, 2015)



© Shutterstock

In the aftermath of the workshop, many students felt the need to continue the conversation about cli-fi so that we dedicated a large part of the session following the workshop to discussing the political potential of cli-fi films and novels. While some students were convinced that a Hollywood blockbuster like Roland Emmerich's *The Day after Tomorrow* led audiences to engage with the topic of global warming despite the faulty portrayal of science and scientific data in the film, others were more pessimistic regarding the transformative power of a Hollywood-produced film that was clearly aimed at entertaining people and not making them ponder what they saw on screen. Other discussions centered on the question of whether cli-fi novels or films could encourage people to actually change their daily behavior or if consuming cli-fi in itself might be enough to feel better about oneself (a discussion that came up in the *New York Times* debate about cli-fi we had provided as background reading for the workshop). More broadly, students were curious to know how popular treatments of climate change in novels and films intervened in ongoing debates in the political arena and how they influenced scientific research and vice versa.

In the end, many students pointed out that the workshop had been a highlight of the summer term, that they particularly valued the co-operation with the IASS, and that they felt they had profited from the extensive discussions of a topic that concerned them. Two students of the seminar "Dystopian Visions of America" decided to write their term papers about cli-fi: one examined climate anxiety and the uncertainty of knowledge in *Take Shelter*, and the other discussed the climate change discourse surrounding Darren Aronofsky's film *Noah* (2014), analyzing the debate between environmentalists and the evangelical Christian right within the larger culture of neoliberalism.



The Standing March **(www.thestandingmarch.com), a public art event by artist JR and filmmaker Darren Aronofsky, projected on l'Assemblée Nationale in Paris during the 2015 COP21 talks.**
© Pierre Suu/Kontributor (Getty Images)

2. Cli-fi and American Ecologies

Alexander Starre

While preparing our syllabi for the summer term 2016, Kathleen Loock and I became aware early on that the genre of "climate fiction" usefully connected the interests of both of our courses. Cli-fi partakes in the literary and cultural history of dystopian narrative and also engages the long-running tradition of nature writing, mobilizing **such timeworn cultural tropes as wilderness, pastoral, or ecological apocalypse**.

Building on a capacious understanding of ecology as a mode of describing the interdependence and interaction of living organisms (including humans) and their environment, my M.A. seminar "American Ecologies" touched on three distinct areas of cultural inquiry. First, it was concerned with the wide-ranging theoretical, historical, and cultural scholarship produced in the burgeoning field of ecocriticism. Established in the 1980s as an academic outgrowth of the environmental movement with a specific interest in so-called "nature writing," ecocriticism has evolved through various stages and now encompasses a wide variety of artistic media and theoretical variants with various degrees of political engagement. As Greg Garrard has usefully outlined, the main currents of ecocritical scholarship and practice can be grouped into five categories: cornucopia, environmentalism, deep ecology, ecofeminism, social ecology/eco-Marxism, and Heideggerian ecophilosophy. While the first two of these roughly correspond to mainstream positions that either doubt the possibility of environmental catastrophe (cornucopia) or seek to avert it through officially sanctioned channels and methods (environmentalism), the latter four modes constitute more sustained and mostly also more radical attempts to rethink the human place in nature.

As a second focus, my students and I explored contemporary cultural theories of ecology by such authors as Timothy Morton, Jane Bennett, Bruno Latour, and Donna Haraway. Though stemming from different academic fields and traditions – literary studies, political science, sociology, and feminist science studies, respectively – these four authors represent **the broad interdisciplinary appeal of ecological approaches in the realm of social and cultural theory**. At the risk of painting with too broad a brush, we may perhaps say that today's critical theorists are searching for ways to think and ways to express the lessons of Barry Commoner's famous ecological law that "everything is connected to everything else." Timothy Morton's provocative claim, as voiced in *The Ecological Thought*, is that **we need to let go of "nature" as a critical concept** in order to develop an ecological understanding of the interrelationship of humans and their environment. Jane Bennett and Bruno Latour both vehemently oppose models of the social that differentiate between human "subjects" and nonhuman "objects." Bennett's work has been especially influential in formulating a political philosophy that encompasses the extended alliances of human and nonhuman bodies, as well as the distributed nature of agency in arenas of political discourse and practice. Latour's seminal work on actor-networks is likewise deeply linked to the blurring of the nature-culture divide. In *We Have Never Been Modern*, part of the required reading for my class, Latour accordingly coins the term "nature-cultures" to denote this level playing field of multiple agencies. In Donna Haraway, we finally encountered an approach that fuses historical insight into the workings of science with the critical potentials of feminist theory so as to illuminate the alliances and the forms of kinship between humans and animals. On the latter topic, our class was able to host an additional guest lecture by J.V. Fuqua (CUNY). Her

talk "Interspecies Friendship: The Queer Affinities of the Peaceable Kingdom" built on the theories of Donna Haraway and others and discussed the portrayal of benign human-animal relationships in popular online animal videos as well as in interactive multimedia art. Taken altogether, this strong theoretical footing of my class diversified the students' understanding of the term "ecological," which is often merely used as a synonym for "environmentalist."

As a third and final focus, my course traced the idea of the interconnection of so-called nature and so-called culture through a selection of primary texts spanning four centuries. We set out with an early colonial rendering of the supposed American "wilderness" in Mary Rowlandson's *A Narrative of the Captivity and Restoration of Mrs. Mary Rowlandson* (1682). Students also revisited some canonical texts by American transcendentalist writers, including Ralph Waldo Emerson's *Nature* (1836) and Henry David Thoreau's "Walking" (1862). Further material included writings by Rachel Carson, Gregory Bateson, and Leslie Marmon Silko, paintings by Thomas Cole, Frederic Edwin Church, and Georgia O'Keeffe, and the movies *Wall-E* (2008) and *Beasts of the Southern Wild* (2012). By studying the rhetorical and aesthetic forms used in these productions, students were able to confront contemporary theoretical approaches to ecology with the ecological descriptions, metaphors, and symbolisms that permeate American cultural history.

Based on the heavy arsenal of theory covered in class prior to the Cli-Fi workshop, my students and I sought to find out whether cli-fi narratives mobilize innovative understandings of the human place in an expanded ecosphere or whether they perhaps fall back on more simplistic social scenarios that use rising sea levels or barren deserts merely as a backdrop for telling Americans their preferred stories about themselves. Sweeping notions like "climate change" or "global warming" describe such distributed spatiotemporal phenomena that it is almost impossible to think of verbal or iconographic representations to adequately express their complexity. So it is probably fair to say that seen through the eyes of experts, **most popular cli-fi novels and films fail to "accurately" render ecological science and thinking**. Yet this is where cultural scholarship comes in, as it offers the critical tools to analyze *how* specifically cli-fi fails. While several points of criticism were raised during the workshop discussions (see section below), the final research papers submitted by students showed that the immersive and often captivating reading or viewing experience of dystopian cli-fi narratives may function not only to raise awareness on climate issues but also to open up new ways to affectively and ethically connect these global matters to one's private life (cf. a student paper on scientific truth claims in Roland Emmerich's *The Day after Tomorrow*). Other papers, such as a thesis about the ecological thought of the 18th-century Quaker preacher John Woolman, historicized cli-fi's contemporary interest in notions of dwelling and apocalypse. In our concluding discussions, we indeed found that while climate change as a global crisis will necessitate global political actions, it will also spawn more area-specific cultural narratives.

3. The Cultural Affordances of Cli-Fi[1]

Julia Leyda

My IASS research project explores the cultural work of literary and screen media in shaping and reflecting popular notions of anthropogenic climate change. Drawing on current research in the environmental humanities, film and media studies, and American studies, I am researching the circulation of sustainability discourses within contemporary culture, taking up the recent explosion of climate change narratives in fiction and film, as well as the media and academic conversations about them.

The timeliness and relevance of this project is undeniable, taking place the year after the United Nations Conference on Climate Change in Paris – known as COP21 or, as Rebecca Solnit dubbed it, "the End-of-the-World's Fair," and the accompanying worldwide mass demonstrations and global media free-for-all. One might think, too, that the urgency of the issue is not in question; indeed, the power of images to express concern about government inaction asserted itself in "The Standing March," the large-scale sound and image projection by Darren Aronofsky onto the grand façade of the Assemblée Nationale in Paris, which was exhibited in public spaces around the city throughout the COP21 meetings. Another powerful symbolic action during COP21 took the form of a silent "shoe" protest, in which over 20,000 people (including Pope Francis and UN Secretary General Ban-Ki Moon), forbidden to demonstrate in person in Paris as a result of the November 13 terror attacks, voted with their feet, arraying thousands of empty pairs of shoes in the Place de la République. These public artistic statements and the solidarity marches around the world left no doubt that large numbers of global citizens are concerned about climate change.

However, the US remains mired in indecision and inaction, thanks in part to its economic and political commitments to fossil fuel industries. Public support for political action to ameliorate climate change in the US also lags behind other countries, although the reasons for that are becoming clearer: a recent study shows that over the past two decades, corporate funding has directly supported the promotion of climate skepticism, even as transnational corporations such as Exxon have knowingly suppressed knowledge about the dangers of, for example, fossil fuels. Given this increasingly dire scenario, I have been investigating the role of cultural production in sustainability formations, namely the newly prominent genre of cli-fi in fiction, film, and television.

As the study of climate change-related fiction and screen texts progresses and finds new directions, it will reveal much about how people imagine their own cultures, value systems, beliefs, and futures. Asking these questions can lead to insight not only into the topic of climate change but also the **"structures of feeling"** that circulate around it. Structure of feeling is a concept devised by cultural theorist Raymond Williams, in which he emphasizes that affects, emotions, and feelings are not only individual cognitive and/or psychological events, but also often intricately connected to the social and historical world. He meant this expression to signify as **a set of shared sensibilities and values held in a particular time and place, most often articulated in artistic forms and conventions** such as the novel or the cinema. The role of cinema in the production of structures of feeling is obvious; Steven Shaviro rightly calls moving-image media "machines for generating affect." The dual role

[1] Parts of this paper draw on a piece co-authored with Dr. Susanne Leikam (University of Regensburg) for the journal *Amerikastudien/American Studies*, which grew out of a Cli-Fi Roundtable that we co-organized at the European Association for American Studies in April 2016 in Constanţa, Romania.

of the film scholar in this regard, then, is to produce close readings of particular films that interpret and analyze the way they generate affect and to develop a wider sense of the prevailing structures of feeling that permeate and inform contemporary cinema. To study film and television as generators of affect, in the context of anthropogenic climate change, I select a wide range of primary texts, some that explicitly involve climate change in their scenarios and stories, and others for which it functions more as an "climate unconscious," not overtly mentioned in the text yet arguably informing the structures of feeling in the early twenty-first century.

3.1. Key Elements of Cli-Fi

For my own research, I chose to use the term "cli-fi" precisely because it provokes discussion of the disciplinary and didactic usefulness, the creative potentials, and the conceptual limits of the current scholarly inquiries into climate-conscious works from various interdisciplinary and intermedial perspectives. The key premise behind my use of this neologism is that our current moment, in which humans face pivotal changes in our climate, demands new categories and vocabulary (a point to which I return below in my discussion of the generic). By way of outlining a provisional definition for cli-fi, I identify seven keywords that help to explain its unique cachet.

CLI-FI KEYWORDS

- **contemporary**
- **controversial**
- **transmedial**
- **transnational**
- **didactic**
- **generic**
- **political**

Recent years have seen a remarkable flourishing of cultural texts that work to articulate the implications of anthropogenic climate change. While narratives of human interferences with the weather have a long tradition, we are seeing a significant **contemporary** surge in production marked by the foregrounding of the human role in causing (and adapting to) climate change and fictional engagements with catastrophic results as well as less spectacular but equally damaging structural social and environmental injustices – termed "slow violence" by Rob Nixon – closely imbricated with anthropogenic modifications of the global climate. Cli-fi texts are also contemporary in the sense that they are overwhelmingly set in the present or very near future, which distinguishes them from (nevertheless important) precursor texts such as *Dune* (Frank Herbert, 1965/David Lynch, 1984) which usually rely on distant futures and outer space settings. With examples including popular Hollywood films like *The Day after Tomorrow* or *Interstellar*, novels such as Kim Stanley Robinson's *Green Earth* and Barbara Kingsolver's *Flight Behavior*, and hybrid science/fiction formats such as historians of science Naomi Oreskes and Erik M. Conway's *The Collapse of Western Civilizatiozn: A View from the Future*, cli-fi has been particularly prolific in recent North American literatures and cultures, which is why a closer examination of this newly emerging genre from the interdisciplinary vantage point of American cultural studies is warranted.

Cli-fi boasts its own **controversial** origin story. Cli-fi as a term was purportedly coined in 2007 by the Taiwan-based North American activist and blogger journalist Dan Bloom, who continues to actively promote it. Indeed, Bloom has not only publicized it, but also vehemently (and vainly) attempted to maintain some degree of control over its meanings and usages. Like most creations, however, the expression cli-fi has entirely escaped the control of its self-proclaimed creator. The term cli-fi has not only been proliferating at recent international conferences, but also within university curricula as educators in many disciplines embrace the recent spate of fiction and film dealing with climate change in humanities courses and beyond. While I acknowledge Bloom's role in early discussions, I do not defer to his sense of ownership. Rather, in my study of cli-fi I consider the proliferation of the term and theorize about its usefulness. If the novelty of the term itself provokes discussion, perhaps that too makes it an asset in generating interest climate change-related fictional and screen texts.

Practically speaking, from a standpoint within film and media studies, the term is preferable because it is more intuitively comprehensible as **transmedial**

than "climate fiction" or "climate change fiction," although those may be perfectly appropriate for works that primarily consist of the written word, such as literature and popular fiction. For screen media, however, "fiction" can cause confusion as it frequently refers to a text-based medium rather than moving image media such as film, television, and video. Cli-fi thus serves my purposes because most people hear the echo of "sci-fi" (itself a contested term), another transmedial phenomenon encompassing text-based as well as visual and moving-image narrative forms. The term's implicit reference to science fiction thus underscores the fact that it is not medium-specific: cli-fi does not immediately connote a single kind of text, but rather a (loose) category that may encompass printed media such as fiction and comics, as well as moving-image media including film and television as well as live performances and theater. Thus, importantly, it acknowledges a debt to the genre of science fiction – there are significant overlaps between the two, although I would not reduce cli-fi to merely a subgenre of science fiction.

For scholars within American studies and film and media studies, too, engaging with cli-fi's emergent archive offers up pathways to **transnational** frameworks. While the US – in its hegemonic roles as producer of carbon emissions and exporter of cultural texts – occupies a central place in climate change narratives for obvious reasons, the global phenomenon of climate change is fostering a worldwide outpouring of creativity that frequently urges the crossing of national boundaries in content, production, and audience. The collective engagement with the topic of climate change by artists in recent years means that films and television series are arriving on screens in multiple countries, through innovative as well as traditional media channels. For example, with the widening global access to digital entertainment via streaming services such as Netflix, many subscribers can watch the first season of the "quality television" series *Okkupert* [Occupied] (2015-) – the most expensive Norwegian production ever. The political drama portrays a realistic, contemporary scenario in which an incumbent green party prime minister announces the abrupt shutdown of Norway's oil industry, resulting in immense pressure from the EU and Russia, culminating in a de facto Russian invasion and occupation of Norway. The series's interest in the geopolitical implications of climate change-related energy transformation has clear implications for our own world, in which the Russian petrostate continues to pursue power through its control of oil and gas markets, most recently in its territorial ambitions in Georgia and the Crimea. Moreover, the series *Occupied* also breaks new ground in the transnational distribution of cli-fi. Even a few years ago, this kind of saturation release was reserved primarily for mainstream and premium US television series; with the proliferation of online entertainment platforms, viewers around the world have access to what could be the first cli-fi series in global distribution.[2] So while cli-fi *can* easily work within a given disciplinary boundary such as American Studies or Media Studies, a scholarly interest in the contemporary reach of the topic also encourages the blurring of those boundaries.

3.2. Didactics, Genre, and Politics

Students and scholars of literary history know that **didactic** fiction can harness the emotions and appeal to the morality of its readers, compelling them to recognize the injustices in their midst. The power of literature can make a strong impact on society by winning over large reading audiences to support movements that foster change: in the past, Harriet Beecher Stowe's best-selling novel *Uncle Tom's Cabin* (1852) swayed US public opinion against the legal institution of chattel slavery, while Upton Sinclair's *The Jungle* (1906) played an important role in garnering public support for regulations in the American meatpacking and processing industries. Similarly, most of us assume that raising awareness of climate change is an important result of the increasing popularity of works of climate-focused ecofiction such as, for example, Sarah Crossan's young adult novel *Breathe* (2013) and Claire Vaye Watkins's critically acclaimed *Gold Fame Citrus* (2015), and films such as those we focused on in the workshop (listed above by Kathleen Loock).

[2] In addition to distribution to broadcast outlets in Europe (including Belgium, Denmark, Estonia, Finland, France Germany, Iceland, Luxembourg, the Netherlands, Sweden, Poland, Ukraine, and the UK), the series has been available on Netflix in dozens of countries in the Europe, the Americas, Africa, and Asia.

The cinema can be a potent player in the contest for public attention, as the many studies of environmentalism and film attest, by offering plot- and character-driven engagement. Moreover, cli-fi movies and novels can have still more overt didactic power when assigned and studied in educational contexts, where they allow teachers to combine the analysis of cultural texts with researching and discussing real-life climate change. As film scholar J.P. Telotte points out, cli-fi films can be usefully adopted in the classroom as "attractive, non-textbook ways of introducing students to issues that are terribly resistant to narrativization." Similarly, the study of cli-fi novels provides emotional connections with characters dealing with the impacts of climate change, pushing readers to "care enough to change our actions now, and to pressure our governments and corporations to do the same." Engrossing audiences in filmic and fictional narrative means **allowing them to process emotionally the implications of what they may well already know via facts and figures.** Various and volatile combinations of fear, anxiety, confusion, anger, and hope mark the reception of literary and film texts and other cultural phenomena dealing with climate change, while academics and intellectuals seek to understand, and contribute to, discussions around the framing of the issue in interdisciplinary field formations such as ecocriticism and environmental humanities.

Many scholars, writers, and theorists contend that the new visibility of climate change in popular culture demands new categories, which brings up questions of **genre**. The terminological spectrum of the often hotly debated new terms comprises substantially distinct approaches, extending from established literary and film genre designations such as speculative and science fiction, disaster film, or nature writing to newly coined expressions and neologisms such as, to name but a few: eco- everything (-fiction, -poetry, -drama, -media, -cinema); literary rubrics such as petrofiction, the risk novel, and Anthropocene fiction; and cinema and media studies monikers including eco-genres (such as eco-horror, -thriller, -disaster, even -anime) and eco-trauma cinema. Environmental humanities offer further conceptions of interdisciplinary critical approaches that address climate change narratives, such as ecocriticism, petrocriticism, extinction narratives, and energy humanities. Many of these contested keywords and concepts intersect with discussions of cli-fi, lending precision to the analysis of the cultural texts in this project. Each of these terms is, of course, entangled within its own specific critical traditions and ideological frameworks, yet they attest collectively to **a demand for new categories in what we must admit is a new era**.

As mentioned above, cli-fi has the advantage of referencing science fiction at the same time it demarcates a new subject; as an adjective, it can also, like science fiction, modify both film and fiction equally well. Subordinating cli-fi to simply one variety of science fiction (SF), however, does not apply at all to the contemporary literary fiction such as Nathaniel Rich's *Odds Against Tomorrow* (2013) or Paolo Bacigalupi's *The Water Knife* (2015); not only are these novels unconcerned with key SF themes of advanced technology or space travel, but they also conspicuously position themselves in a dystopian present day rather than, as most SF, a dystopian future (as Kathleen Loock mentions in section 1 of this paper). The long-running, contested conversations about the literary canon also come into play here, as SF has traditionally been relegated to the less prestigious position of "genre" fiction, connoting (however falsely) less educated readers, formulaic plots, and mass-marketed fiction with lurid cover art; the recent ventures of elite authors and filmmakers into cli-fi has prompted a welcome reevaluation of these hierarchies of taste.

My project argues that studying cli-fi cultural texts offers useful insights into the "structures of feeling" around this topic within the general public, with a view toward better gauging their **political** impacts (and here I include politics of inequality such as gender, race, nationality, and sexuality along with more conventional definitions of social organizations such as government). **Mainstream movies**, of course, tend to appeal to the common denominator in their audiences, and thus cannot be expected to offer politically innovative representations; they do however frequently **fulfill a kind of baseline "liberal" mandate in some areas, while at the same time opting for more conservative or traditional conventions in others.** For example, several cli-fi movies center around heroic father figures who (attempt to) rescue not only their families but the world from climate disaster, reinforcing traditional patriarchal values.[3] *In The Day after Tomorrow*, the heroic climate scientist sets off to walk from Washington DC to New York City to rescue his teen son, now imperiled by the rapid-onset po-

lar ice storm that will, it appears, destroy large portions of the US and the northern hemisphere. The machismo on display in his physical acts of bravery is tempered by his allegiances to "liberal" causes like environmentalism, his devotion to family providing impetus for his feats of daring while simultaneously proving his humanity. Similar paternal motivations animate the main character in *Take Shelter*, a tall, rugged man whose extreme protectiveness of his wife and fragile daughter feeds into what appears to be a form of mental illness in which he foresees a catastrophic storm that threatens the whole town.

On the other hand, in their deeply flawed female protagonists, both Barbara Kingsolver's *Flight Behavior* (2012) and Claire Vaye Watkins's *Gold Fame Citrus* (2015) provide readers with complex characters in the realist mode, showcasing individual anxieties, (heteronormative) family crises, and conflicting responses to their own place in the Anthropocene. Far from ecofeminist utopias, yet not devolving into nihilism, both novels portray women in the process of coming to terms with climate change while also struggling with traditional heterosexual partnerships, motherhood, and sexual autonomy. Yet most of the woman-authored and woman-centered novels, even when they display an awareness of feminist issues, frequently lack complexity when it comes to race or sexuality (along with the majority of the male-authored ones).[4] In her best-selling *Washington Post* Book of the Year, Kingsolver's characterizations are both progressive and at times sadly familiar: the white, rural, working-class protagonist's admiration for the African American scientist disrupts class and race stereotypes, yet his character frequently "mansplains" to her the unusual phenomena that drew them together (a mass migration of butterflies led astray by climate change).

Inquiries into gender politics as well as sexuality are beginning to surface in the scholarly publications within the humanities that take up climate change. Queer theorists such as Nicole Seymour offer trenchant critiques of the heteronormative assumptions about futurity that are embedded in much popular discourse about nature and environmentalism, which my study interrogates as part of its remit in analyzing the role of politics in cli-fi fiction and film. Cli-fi is a good example of how the rhetorical use of the child is emotionally effective in narratives about sustainability and climate change. Yet, if we engage with **the critical concept of reproductive futurism**, questioning the "naturalness" of what we think of as Nature and of "natural" institutions of heteronormative coupling and families, it becomes clear that **the figure of the child oversimplifies our ethical obligations by reducing them to blood relations** that have been historically privileged over other kinds of bonds, including those of child-free adults as well as legally unrecognized LGBT families. These discourses of reproductive futurism circulate rampantly in the news media, as just in April 2016 Secretary of State John Kerry created a photo opportunity by signing the Paris Agreement on Climate Change with his granddaughter in his lap. Concern for the survival of life on Earth need not center on concerns over immediate family members, yet cli-fi films frequently reduce it to such narrow parameters. As Natasha Lennard argues, the dominant political rhetorics of "reproductive futurism" that claim that the moral obligation of civil society is to protect the future for "our" children invoke the very heteronormative and patriarchal assumptions that got us in this mess to begin with: "I'm not fighting for the children. I'll go further — I'm on the side of those not fighting for the children." My project finds that scenarios of the family and the characterizations of parents in particular

[3] To name only a few: *Beasts of the Southern Wild, The Day after Tomorrow, Interstellar, Noah, Sharknado,* and *Take Shelter*. A rare exception is the German film *Hell*, set in a dystopian near future when humans can no longer endure minimal exposure to the sun's rays; in this film, two sisters fight for survival with shifting alliances with various male characters. Along similar lines, *Mad Max: Fury Road* and *Snowpiercer* present critiques of patriarchal power structures.

[4] Most of the novels in my study resort to these traditional heteronormative formations for their protagonists, including those by Bacigalupi, Crossan, Gee, Greenfeld, Jensen, Juchau, Kingsolver, Moss, Rich, Robinson, Trojanow, Tuomainen, and Watkins (see Appendix for full citations). The important exception is Sarah Hall's *The Carhullan Army*, whose dystopian rural England is home to a militant separatist colony of women led by lesbian conservationists. Interestingly, lesbian militants are demonized as persecutors of the embattled black male protagonist in Maggie Gee's *The Ice People*. The disabled heterosexual female protagonist in Liz Jensen's *The Rapture* presents another kind of challenge to the taken-for-granted reproductive futurity in many dystopian and cli-fi novels.

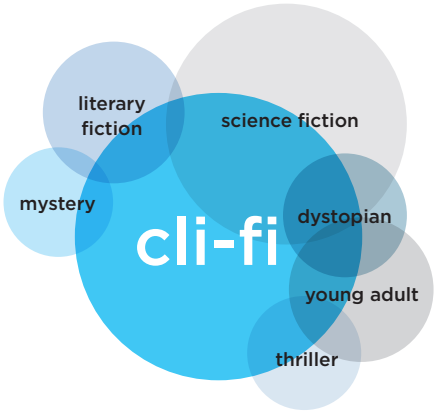


Figure 1:
Cli-fi overlaps with established genres in literature, mapped provisionally here, as well as in cinema.

Source: IASS

frequently employ traditional tropes of reproductive futurism in cli-fi texts.

The question of politics in larger social and governmental contexts also play a role in my project, from examining the numerous critiques of US government inaction – almost a cliché in cli-fi, well illustrated in *The Day after Tomorrow* – and contrasting them with the portrayal of the disastrous results of hasty governmental decisions in the Norwegian series *Occupied*, to unpacking the allegorical implications at the heart of speculative cinema like *Snowpiercer* and *Take Shelter*.

3.3. A Climate Unconscious?

The critical etymology of this expression – climate unconscious – extends back to the Freudian notion of the individual, *psychological unconscious*, and its radical reworking in Fredric Jameson's groundbreaking book, *The Political Unconscious* (1981). Jameson argues that not only individual people, but also texts can be said to have an unconscious; he delineates a Marxist framework for incorporating "History" into a political interpretation of cultural texts to tease out what makes up that unconscious. Jameson's claim that the political is "the absolute horizon of all reading and all interpretation" drew criticism, predictably, yet the contours of his argument that "narrative [is] a socially symbolic act" continues to influence literary and cultural studies to this day.

Thirty years later, in proposing the very Jamesonian-sounding concept of the "energy unconscious," Patricia Yaeger's 2011 presidential address to the Modern Language Association speculated on the idea of naming the literary eras of the Anthropocene after their dominant fuels (coal, whale oil, etc.). Along with geographer Matthew Huber, environmental humanities scholar Stephanie LeMenager, art historian Ross Barrett, and literature scholar Daniel Worden, Yaeger argues that petroleum has been a dominant cultural force since the twentieth century, even when not overtly thematized in cultural texts (as it is in *Occupied*). In a similar vein, and drawing on the critical foundations of Jameson and Yaeger, I suggest that film and television studies could productively seek out textual and visual traces of a "climate unconscious" in popular "quality" series such as *Game of Thrones*, *The Walking Dead*, and others that are not, at first glance, "about" climate change.

The attention to weather in HBO's blockbuster series *Game of Thrones*, with its opening episode entitled "Winter is Coming," points to American (and global) audiences' readiness to consider extreme weather and climate change as a threat. Even though the approaching ice age in *GoT* is not designated as anthropogenic, the series builds tension by juxtaposing the fear of the coming long winter – accompanied by the undead army of White Walkers – with most governing powers' utter lack of political will to prepare for it. This series, renowned for its innovative willingness to kill off major characters in acts of politically-motivated violence, portrays the banality of ruling classes scrabbling for power instead of preparing for war with the White Walkers.

I am not the first to make this connection, however, so I employ *Game of Thrones* as an example of the climate unconscious that has already been interpreted and debated in the public sphere, from the prestigious *Atlantic* magazine to popular websites like *IFLScience* as well as in YouTube videos. Political scientists are also researching this notion, as we see in Charli Car-

penter's article in *Foreign Affairs*, and Manjana Milkoreit's study of the online political behavior evidenced in fan blogs that draw parallels between the inaction and denial of today's real-world political leaders and the fictional rulers of Westeros, most of whom deny or ignore the coming crisis. Milkoreit argues that the popularity of the series allows bloggers to easily communicate their political points about climate change through references to the pop culture text that so many of their readers know and love, the show that "create[es] a shared set of ideas, stories, images, and emotions" (22). These examples of journalistic and scholarly interpretation prove that a baseline awareness of climate change can drive critical thinking in relation to "entertainment" texts like *Game of Thrones*. A logical next step, then, is to ask: what if we performed a thought experiment looking for evidence of a climate unconscious, even in popular culture texts that don't mention climate at all? **Would it be productive to revise Jameson and ask if climate change could be the horizon of all reading and all interpretation?**

The blockbuster series, AMC's horror dystopia *The Walking Dead*, mobilizes visual images and affective scenarios that articulate many of the structures of feeling that mark cli-fi texts. The series portrays the steamy American Deep South in what we could call the **post-air-conditioning era**. After the collapse of social institutions and energy infrastructures caused by the zombie pandemic, the ensemble cast of *The Walking Dead* traverse the cities, towns, and rural areas of the southeastern US. Fans on the Internet have also noticed the significance of the heat imagery in the series: Reddit threads have already asked questions like "Why is Rick always so sweaty?" and "Why is it always summer in *The Walking Dead*?" An article on the Weather Channel website focuses on the difficulties posed by the subtropical heat – usually over 90F or 32C – for the show's mostly on-location shooting process, including the challenges for makeup artists and the cast. The balmy setting and mise-en-scene recall many of the enduring stereotypes of "the South": its subtropical climate, its sparsely populated rural areas, and its undercurrent of violence and danger. The hot weather in the south has served as a metaphor for primitive and animalistic attributes, often taking the form of overactive sexual energy or the brutish violence of racism. Here, it serves as an echo of those previous associations and builds on them a new, post-apocalyptic meaning in the form of the aimless herds of zombies as well as the threat posed by other, non-zombie humans.

The Walking Dead reanimates conventional metaphorical interpretations of the zombie genre as social criticism that originated with George Romero's *Night of the Living Dead* (1968). Among these conventions is its **sense of an irrevocable future**: the gradual realization of the inevitability of our transformation. In the zombie storyworld, we would all be merely pre-zombies, just delaying the horrible moment when we die and are resurrected as undead "walkers." The horror of post-Romero zombies is that they are us in the future tense. This sense of the future, tinged with dread and resignation, also resembles some of the most common emotions associated with climate change: as we pass one tipping point after another, we must avoid surrendering completely to the admittedly bleak outlook and adopt a contingent optimism in order to survive and adapt.

Another standard trope of zombie lore also makes up part of the climate unconscious of *The Walking Dead*: the fact that although zombies are terrifying, they can often be managed, avoided, or destroyed, while **the real enemies are other humans**. The survival of non-zombie humans in the series is continually threatened by other bloodthirsty non-zombie humans. As Kathleen Loock discussed above, many cli-fi texts fall into the category of the dystopia, which is usually marked by a cautionary impulse to warn humans not to self-destruct. The series depicts the protagonists struggling to protect their at times utopian communities from hostile outsiders, championing the humane and embattled values of generosity and care. Charli Carpenter identifies *Game of Thrones* as a "collective action story," which clearly also describes *The Walking Dead*, in which humans must rely on one another to survive.

Moreover, the ostensibly human-created virus that produces the zombies and the continual threat of hostile non-zombie people point to human culpability for their own demise. In these ways, the series alludes to a collective responsibility for having caused, as well trying to survive, the coming catastrophe: behind the zombie apocalypse, we can discern the growing fear of, and for, the warming planet, the need to pull together and work as a team, and the dire consequences awaiting future generations if we don't act soon and decisively.

4. Summary of the Workshop Discussion

Thiago Pinto Barbosa, Julia Leyda, Kathleen Loock, Alexander Starre

The workshop raised many important themes and questions in the discussions following Julia Leyda's keynote as well as during and after the student group presentations on the cli-fi films. Some of the most productive topics that came up in the lengthy discussion at the workshop included cli-fi aesthetics, its potential as an agent of social change, its portrayal of the social and political consequences of climate change, considerations of its representation of science and technology, among a range of critiques of cli-fi.

4.1 Narrative Form and Social Change

Aesthetics of narrative form played a prominent role in our discussions of the films during and after the student presentations. We noted the **inevitable fragmentary nature of cli-fi** narratives and theorized that it stems from the fact that they cannot portray the entire scale of the problem – neither spatially nor temporally. To remedy this issue, such films make use of **ensemble casts and focus on the family as a microcosm**. Thereby, they often explore anxieties, fear and other emotions implicated in gender-roles expectations and children-parents relationships, which, as we discussed, resorts to the representation of heteronormative nuclear families. In any case, the distinction between, on the one hand, individual characters and their personal feelings and, on the other, the wider structures of feeling around climate change permeate cli-fi movies. Insofar as they individualize and focalize the perhaps overwhelming enormity of the implications of catastrophic climate change into a smaller cast of characters and a more manageable array of situations, cli-fi texts can be seen as inherently less political in that they cannot directly express the scale of, nor the collective responsibility for, anthropogenic climate change. By focusing on a limited cast of characters and situations, cli-fi texts risk minimizing or localizing the issue, yet they also bear the potential to allegorize broader societal responses to the challenges of climate change.

Cli-fi's **potential to drive social change** was another topic that surfaced often in our discussions, whether in the context of questioning the audience's expectations of a work of popular culture, or in terms of the effectiveness of cli-fi in the classroom as a motivation to active debate and even to action. Under discussion here was the distinction between raising awareness as a relatively passive result, and motivating action in a more direct way. Some discussants raised the concern that the resulting higher awareness could lead audiences to feel self-satisfied and over-confident without making changes in behavior or political action. We discussed the need for realistic expectations, in that no single work of cinema or even group of films can credibly claim responsibility for solving the problems of climate change.

The discussion also revolved around the **political and social consequences** climate change and extreme weather phenomena have in all the movies and which the students identified as dystopian elements of cli-fi in their group presentations. Some of these issues involved the portrayals of global politics and environmental justice in *The Day after Tomorrow*, which featured meetings at the UN in which US representatives cast doubt on the warnings of climate change, as well as a poignant reversal of geopolitical power relations as Americans flock across the Mexican border hoping to escape the coming ice storm. Natural resources and power were a key theme in *Mad Max: Fury Road*, which centers around the control of scarce water resources in a desertified world by a tyrannical leader figured as a perfect avatar of toxic masculinity. We discussed at length the image

of a future society and its inherent social inequality in *Snowpiercer*, as well as the way the train (and its never-stopping engine) serves as a metaphor for capitalism. The critique of the US health care system's rationing of mental therapy was a starting point for the discussion of *Take Shelter*, as well as its condemnation of status quo-preserving groupthink in the small rural Midwestern town – itself a microcosm for the United States and its climate change deniers. In this film, the protagonist Curtis's urgent predictions of a catastrophic storm fall upon deaf ears, as his wife, friends, and neighbors (and he himself) increasingly question his sanity, placing him in a Cassandra-like position of seeing (what he believes to be) the future yet being unable to convincingly warn anyone. As pointed out by some IASS scientists in the discussion about the film, Curtis's situation is in many ways analogous to that of climate scientists who have labored in vain because their research, complex analyses, and predictions similarly fail to elicit adequate social and political responses.

4.2 Knowledge, Science, and Technology

The workshop also brought to light a range of critiques of cli-fi in relation to knowledge about climate change. The paradigmatic case study in that conversation was *The Day after Tomorrow*, which was widely criticized at the time of its release for its inventive, yet utterly improbable portrayals of a rapid-onset ice age. In addition to potentially misleading audiences about the likelihood of an ice age within our lifetimes, the obvious exaggeration runs the risk of allowing viewers to easily dismiss the "catastrophe" of climate change and thus turn their backs on the issue entirely. The students pointed out that the question of scientific accuracy matters and that the criticisms of the film on that count risked invalidating its well-intended message that climate change constitutes a real threat. In fact, some students mentioned that, at the time of its release, *The Day after Tomorrow* had played into the hands of climate change deniers who found it easy to dismiss the science and scenario as grotesque exaggerations. Students also called attention to the enormous expenditures of energy and other resources involved in producing and distributing the blockbuster film, although we discussed whether it mattered that filmmaker Roland Emmerich paid $200,000 to an organization called Future Forests to effectively reduce the carbon footprint of the movie. Future Forests planted trees to offset the approximately 10,000 tons of carbon dioxide generated by the production of *The Day after Tomorrow*, making it perhaps the first carbon-neutral Hollywood film. Other objections to this film arose on aesthetic grounds, given that it is a high-concept, big-budget film designed as mass entertainment and thus, to some critics, lacking in artistic value. Regardless of such objections in terms of aesthetic and artistic value, the film's high production values and wide distribution enabled *The Day after Tomorrow* to break down the complex issue of climate change in ways that made it palatable and easy to understand for global audiences. The Hollywood blockbuster thus reached many more people than any scientific text on climate change, or even a documentary, could ever hope for.

A provocative thread in the workshop traced the **representations of technology and science** through several of the films, from utopian fantasies to the disastrous failures of climate engineering. Students uniformly criticized *Interstellar* for its cynical politics. Like the recent Disney film *Tomorrowland* with its retrograde celebration of an SF-inspired techno-fix for the survival of humanity facing climate disaster, Interstellar's superficially hopeful ending only demonstrates that the people of the Earth (portrayed by predominantly white American and British actors) still possess the bootstraps ingenuity to find an escape route after they have ruined their home habitat. The film repurposes for the space age the masculinist, expansionist, and imperialist rhetorics of the American past, reviving a valorization of American (interstellar) mobility for its own sake. The film's protagonist, Cooper, a NASA pilot sums up the essentially anti-environmentalist politics of the film in a single line: "Explorers, pioneers, not caretakers. … We're not meant to save the world. We're meant to leave it." Instead of harnessing the creative potential of science fiction to produce cli-fi that pushes us to take responsibility for climate change and imagining adaptation strategies to ensure our future survival here, *Interstellar* presents us with what George Monbiot identifies as "[t]echnological optimism and political defeatism: this is a formula for the deferment of hard choices to an ever-receding neverland of life after planetary death." In the classic hero dad role, Cooper celebrates the space program's mission to discover new habitable planets – we have destroyed our planet and must relocate to another – by reviving the tradi-

tional American mobility myth once more, this time describing the colonization of space as our manifest destiny, even a final frontier, as immortalized in science fiction precursor text *Star Trek*. In contrast to *The Day after Tomorrow*, the *Interstellar* screenwriters worked with a science advisor in order to portray the science accurately (especially the quantum physics of time travel and the black hole). The workshop, however, concluded that this film fails precisely in its uncritical view of science. Despite visually impressive representations of scientist-astronauts traveling in space-time, *Interstellar* presents science in an unironic resurrection of the very expansionist ideologies that in large part contributed to the environmental situation we find ourselves in today. That is, the film mobilizes the mindset of heroic explorers and scientists as driving forward the teleological progress narratives from the Enlightenment through the Cold War and beyond, calling to mind the ways in which these narratives have not only permeated the practices of science, but also justified colonialism, slavery, and the instrumentalization of nature throughout the past four centuries.

On the other hand, rather than simply replicating them, the film *Take Shelter* poses important **challenges to rationalist epistemologies**, as well, suggesting that Curtis's intuitive forms of knowledge – nightmares, feelings of dread and anxiety, contemplation of the weather, and visions often involving other animals – could be a valuable alternative or complement to empirical, scientific methods of verifying and interpreting the natural world. Representations of technology in other films also fostered a more critical and complex interpretation of science's role in society. *Snowpiercer* is set on a frozen Earth, the result of a climate engineering attempt gone wrong, where a self-powered train endlessly circumnavigates the planet. Already in the premise, the film cautions against overly optimistic trust in science and technology to right the wrongs of climate change; the political allegories we can draw from the film extend its critique to hierarchical, capitalist society more generally.

4.3 Critique of Cli-Fi: Limitations, Potentials, and Beyond

Due to the urgent need for political action imposed by the planetary environmental crisis, we build up high expectations upon the potential of texts, scientific or artistic, to mobilize political-ecological transformation. When approaching films in relation to climate change, there is a **strong temptation to evaluate them based on how well they are able to deliver a particular message** to their target audience – the long legacy of didactic novels and the frequent tendency of dystopian fiction and film to serve as warnings only reinforce this impulse. Certainly, cli-fi has been adopted widely in pedagogical contexts to encourage students to engage with the real-world challenges ahead, and many champion the ability of climate change-related fiction and film to draw out emotional connections with scenarios and characters that scientific knowledge and news reports fail to do. In this context, the participants of the cli-fi workshop traced a comparison between, on the one hand, Hollywood's climate-themed movies as part of popular mass entertainment and, on the other, alternative forms of visual narratives about climate change such as more focused, often independently produced documentaries. While documentaries, similar to scientific texts, are likely to be an efficient communication vehicle of accurate, objective facts (although of course they too are constructed, in particular ways and with particular aims), it is also clear that Hollywood movies reach larger audiences that might be less familiar with the topic, and that they can present controversial dialogues about climate change and related social issues, which audiences must consider and may choose to continue.

In this sense, beyond the question of its function or "message," cli-fi texts present complex scenarios of imagined future or present societies, articulating representations of different social settings that are worth considering in more depth, for instance when it comes to issues related to gender, science, and politics. Thus, as the discussions we had in our cli-fi workshop and that resulted in this working paper show, engaging with cultural products in the field of cli-fi can indeed foster insightful reflections, making us – academics, scientists, students, and other readers – engage our knowledge and emotions to imagine the planet's climate future – and think and talk about issues in our own present societies.

5. Bibliography

Adorno, Theodor W. *Rede über Lyrik und Gesellschaft.* 1957. Noten zur Literatur. Ed. Rolf Tiedeman. Suhrkamp: Frankfurt, 1988. 49–68.

Barrett, Ross, and Daniel Worden, eds. *Oil Culture.* Minneapolis: U of Minnesota P, 2014.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things.* Durham: Duke UP, 2010.

Carpenter, Charli. "*Game of Thrones* as Theory." *Foreign Affairs*. 29 Mar. 2012.

Commoner, Barry. *The Closing Circle: Nature, Man, and Technology.* New York: Knopf, 1971.

Garrard, Greg. *Ecocriticism*. 2nd ed. New York: Routledge, 2012.

Haraway, Donna J. *The Companion Species Manifesto: Dogs, People, and Significant Otherness.* Chicago: Prickly Paradigm, 2003.

Huber, Matthew. *Lifeblood: Oil, Freedom, and the Forces of Capital.* Minneapolis: U of Minnesota P, 2013.

Jameson, Fredric. *The Political Unconscious: Narrative as a Socially Symbolic Act.* Ithaca: Cornell UP, 1981.

Latour, Bruno. *We Have Never Been Modern.* Cambridge: Harvard UP, 1993.

LeManager, Stephanie. *Living Oil: Petroleum Culture in the American Century.* New York: Oxford UP, 2014.

Lennard, Natasha. "Against a Dream Deferred." *New Inquiry*. 2 Feb. 2012.

Milkoreit, Manjana. "Winter is Coming: Using *Game of Thrones* to Shift US Climate Change Politics." Unpublished manuscript. 2016.

Monbiot, George. "Better Dead than Different." *Guardian*. 12 Nov. 2014.

Morton, Timothy. *The Ecological Thought.* Cambridge: Harvard UP, 2012.

Nixon, Rob. *Slow Violence and the Environmentalism of the Poor.* Cambridge: Harvard UP, 2011.

Seymour, Nicole. *Strange Natures: Futurity, Empathy, and the Queer Ecological Imagination.* Urbana: U of Illinois P, 2013.

Shaviro, Steven. *Post-Cinematic Affect.* Hants: Zero, 2010.

Suvin, Darko. *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre.* New Haven: Yale UP, 1979.

Telotte, J.P. "Science Fiction Reflects Our Anxieties." Room for Debate Blog. *New York Times*. 30 July 2014.

"Will Fiction Influence How We React to Climate Change?" Room for Debate Blog. *New York Times*. 29 July 2015.

Williams, Raymond. *The Long Revolution.* London: Chatto and Windus, 1961.

Yaeger, Patricia. "Literature in the Ages of Wood, Tallow, Coal, Whale Oil, Gasoline, Atomic Power, and Other Energy Sources." *Publication of the Modern Language Association* 126.2 (2011): 305–26.

Zwetajewa, Marina. "Der Dichter über die Kritik." 1926. *Ein gefangener Geist*. Frankfurt, 1989.

6. Appendices

6.1 Appendix 1: Cli-Fi Novels

Adams, John Joseph, ed. *Loosed Upon the World: The Saga Anthology of Climate Fiction.* New York: Saga-Simon and Schuster, 2015.

Atwood, Margaret. *MaddAddam.* New York: Anchor-Random House, 2013.
- *Oryx and Crake.* New York: Random House, 2004.
- *The Year of the Flood.* New York: Anchor-Random House, 2009.

Bacigalupi, Paolo. *The Drowned Cities.* New York: Little Brown, 2013.
- *The Water Knife.* New York: Knopf, 2015.
- *The Windup Girl.* San Francisco: Night Shade, 2009.

Ballard, J.G. *The Drowned World.* New York: Berkley-Penguin, 1962.
- *The Crystal World.* London: Jonathan Cape-Random House, 1966.

Bertagna, Julie. *Exodus.* London: Walker Children's, 2008.

Bradley, James. *Clade.* Sydney: Penguin, 2015.

Boyle, T.C. *A Friend of the Earth.* New York: Penguin, 2001.

Brunner, John. *The Sheep Look Up.* 1972. New York: Open Road, 2014.

Butler, Octavia. *Parable of the Sower.* New York: Four Walls Eight Windows, 1993.

Crichton, Michael. *State of Fear.* New York: Harper, 2004.

Crossan, Sarah. *Breathe.* New York: Greenwillow-Harper, 2012.

Danielewski, Mark Z. *Only Revolutions.* New York: Pantheon, 2006.

Davis, Kathryn. *The Walking Tour.* Boston: Houghton-Mariner, 1999.

Galchen, Rivka. *Atmospheric Disturbances.* New York: Farrar, 2008.

Gee, Maggie. *The Ice People.* 1999. London: Telegram, 2012.

Glass, Matthew. *Ultimatum.* London: Atlantic Monthly, 2009.

Greenfeld, Karl Taro. *The Subprimes.* New York: Harper, 2015.

Hall, Sarah. *The Carhullan Army.* New York: Faber, 2010.

Herbert, Frank. *Dune.* New York: Chilton, 1965.

Herzog, Arthur. *Heat.* New York: Signet, 1977.

Holmes, Steven Pavlos, ed. *Facing the Change: Personal Encounters with Global Warming.* Salt Lake City: Torrey House, 2013.

Hume, Clara. *Back to the Garden.* Coquitlam, BC: Moon Willow, 2012.

Itäranta, Emmi. *Memory of Water.* New York: Harper, 2014.

Jensen, Liz. *The Rapture.* London: A&C Black-Bloomsbury, 2009.

Juchau, Mireille. *The World Without Us.* London: Bloomsbury, 2015.

Kingsolver, Barbara. *Flight Behavior.* New York: Harper, 2012.

Kramb, Daniel. *From Here.* London: Lonely Coot, 2012.

Laughter, Jim. *Polar City Red.* 2012. Denton, TX: Deadly Niche, 2012.

Lee, Chang-Rae. *On Such a Full Sea.* New York: Riverhead, 2014.

Lepucki, Edan. *California.* New York: Little Brown, 2014.

Lloyd, Saci. *The Carbon Diaries 2015.* New York: Holiday House, 2009.

Manners, Harry. *Our Fair Eden.* London: Radden, 2015.

MacDonald, Hamish. *Finitude.* Seattle: Amazon, 2012.

Martin, Mark, ed. *I'm with the Bears: Short Stories from a Damaged Planet.* London: Verso, 2011.

McEwan, Ian. *Solar.* New York: Random House, 2010.

Milkoreit, Manjana, Meredith Martinez, and Joey Eschrich, eds. *Everything Change: An Anthology of Climate Fiction.* Tempe: Arizona State U, 2016.

Moss, Sarah. *Cold Earth.* London: Granta, 2009.

Norminton, Gregory, ed. *Beacons: Stories for Our Not-So-Distant Future.* London: Oneworld, 2013.

O'Farrell, Maggie. *Instructions for a Heatwave.* New York: Knopf, 2013.

Oreskes, Naomi, and Erik M. Conway. *The Collapse of Western Civilization: A View from the Future.* New York: Columbia UP, 2014.

Rich, Nathaniel. *Odds against Tomorrow.* New York: Farrar, 2013.

Roberts, Adam. *The Snow.* London: Gollancz, 2004.

Robinson, Kim Stanley. *Aurora.* New York: Hachette, 2015.
- *Fifty Degrees Below.* New York: Bantam-Spectra, 2005.
- *Forty Signs of Rain.* New York: Bantam-Dell, 2004.
- *Sixty Days and Counting.* New York: Bantam-Spectra, 2007.

Salasses, Matthew. *The Hundred-Year Flood.* New York: Little A, 2015.

Strasser, Todd. *The Beast of Cretacea.* Somerville, MA: Candlewick, 2015.

Theroux, Marcel. *Far North.* New York: Farrar, 2009.

Trojanow, Ilija. *The Lamentations of Zeno.* London: Verso, 2016.

Tuomainen, Antti. *The Healer.* New York: Henry Holt, 2013.

Turner, George. *The Sea and the Summer.* London: Gollancz, 1987.

Watkins, Claire Vaye. *Gold Fame Citrus.* New York: Riverhead, 2015.

Winton, Tim. *Dirt Music.* London: Picador, 2001.

6.2. Appendix 2: Cli-Fi Film and Television

4:44 Last Day on Earth (Abel Ferrara, 2012)

2012 (Roland Emmerich, 2009)

Arctic Tale (Adam Leipzig and Keenan Smart, 2007)

Avatar (James Cameron, 2009)

Beasts of the Southern Wild (Benh Zeitlin, 2012)

Carbon Nation (Peter Byck, 2010)

Chasing Ice (Jeff Orlowski, 2012)

The Colony (Jeff Renfroe, 2013)

Cool It (Ondi Timoner, 2010)

Cowspiracy: The Sustainability Secret (Kip Andersen and Keegan Kuhn, 2014)

The Day after Tomorrow (Roland Emmerich, 2004)

Demain/Tomorrow (Cyril Dion & Melanie Laurent, 2015)

Dune (David Lynch 1984)

Everything's Cool (Judith Helfand and Daniel B. Gold, 2007)

Game of Thrones (TV, HBO, 2011-)

Godzilla (Gareth Edwards, 2014)

The Great Warming (Michael Taylor, 2006)

Greedy Lying Bastards (Craig Rosebraugh, 2013)

Hell/Light (Tim Fehlbaum, 2011)

An Inconsistent Truth (Shayne Edwards, 2012)

An Inconvenient Truth (Al Gore, 2006)

Interstellar (Christopher Nolan, 2014)

Into the Storm (Steven Quale, 2014)

The Island President (Jon Shenk, 2012)

Kingsman: The Secret Service (Matthew Vaughn, 2015)

The Last Survivors (Tom Hammock, 2014)

Mad Max (George Miller, 1979)

Mad Max: Beyond Thunderdome (George Miller and George Ogilvie, 1985)

Mad Max: Fury Road (George Miller, 2015)

Merchants of Doubt (Robert Kenner, 2014)

Night Moves (Kelly Reichardt, 2013)

Noah (Darren Aronofsky, 2014)

Okkupert/Occupied (TV, TV2 Norway, 2015)

The Road Warrior (George Miller, 1981)

The Rover (David Michôd, 2014)

Sharknado (Anthony C. Ferrante, 2013)

Sharknado 2: The Second One (Anthony C. Ferrante, 2014)

Sharknado 3: Oh Hell No! (Anthony C. Ferrante, 2015)

Snowpiercer (Bong Joon-ho, 2013)

Soylent Green (Richard Fleischer, 1973)

Take Shelter (Jeff Nichols, 2011)

There Once was an Island (Lyn Collie, 2010)

Tomorrowland (Brad Bird, 2015)

Wall-E (Andrew Stanton, 2008)

Waterworld (Kevin Reynolds, 1995)

Years of Living Dangerously (TV, Showtime TV, 2014)

The Young Ones (Jake Paltrow, 2014)

6.3. Appendix 3: Workshop Program and Poster

ABOUT THE WORKSHOP

This workshop on climate fiction is a cooperation between the M.A. seminars "Dystopian Visions of America" (Kathleen Loock) and "American Ecologies" (Alexander Starre) at the John F. Kennedy Institute for North American Studies and the Institute for Advanced Sustainability Studies (IASS) in Potsdam.

Since the new millennium, a growing canon of dystopian literature and film centers around climate change, natural disasters, and environmental catastrophes. These texts have been labeled "climate change fiction," "climate fiction," or short "cli-fi." Notable examples of North American cli-fi are the novels of Barbara Kingsolver, Paolo Bacigalupi, Margaret Atwood, Nathaniel Rich and others, as well as Hollywood films such as *The Day after Tomorrow*, *Interstellar*, and *Mad Max: Fury Road*. The aim of this workshop is to critically engage with the aesthetics and the cultural work of cli-fi.

INVITED GUESTS

Julia Leyda is an American Studies scholar based at the IASS, where she is working on a project on cli-fi following her research on media representations of extreme weather, most recently in her co-edited collection *Extreme Weather and Global Media* (Routledge, 2015).

Thiago Pinto Barbosa is an anthropologist at the IASS, where he researches environmental awareness and coordinates projects of dialogue between science and arts.

PROGRAM

10:15 Workshop Opening

Speakers:
Kathleen Loock (JFKI), Alexander Starre (JFKI), Thiago Pinto Barbosa (IASS)

PART I: The Politics and Cultural Work of Cli-Fi

10:30 Keynote Lecture

Julia Leyda, "The Cultural Affordances of Cli-Fi"
Moderator: Thiago Pinto Barbosa

11:00 Discussion

12:00 Catered Lunch

PART II: Contemporary Cli-Fi Films

13:00 Group Presentation 1

***The Day after Tomorrow* (R. Emmerich, 2004)**

Speakers:
Miye Hong Thomé de Moura, Leonie Mainx, Angelika Reiss, Bahar Senotay, Mara Goldwyn

13:25 Group Presentation 2

***Take Shelter* (Jeff Nichols, 2012)**

Speakers:
Christoph Baer, Karl Imdahl, Astrid Zimmermann, Matti Kuivalainen, Frantiska Zezulakova Schormova, Christin Oswald

13:50 Group Presentation 3

***Snowpiercer* (Bong Joon-ho, 2013)**

Speakers:
Samira Franzel, Fatemeh Nourollahy, Yujie Wu, Jens Langheinrich, Cameron Seglias, Solveig Raschpichler

14:15 Group Presentation 4

***Interstellar* (Christopher Nolan, 2014)**

Speakers:
Saskia Chelmowski, Jennifer Pechhold, Alexandra Veronica Vescan, Nils Partha, Saskia Heike

14:40 Group Presentation 5

***Mad Max: Fury Road* (George Miller, 2015)**

Speakers:
Philipp Nagel, Jenny Rossi, Philip Scheidemann, Eloise Millard, Daniel Sorenson, Emily Taylor, Fabius Mayland, Timothy Palma, Felicitas Behrendt

15:05 Final Discussion & Farewell

The event is free and open to the public. If you plan to attend, we ask you to register in advance (alexander.starre@fu-berlin.de).

IASS POTSDAM
Freie Universität Berlin
John F. Kennedy-Institut

IASS POTSDAM

Freie Universität Berlin

Cli-Fi Workshop

The Dystopian Impulse of Contemporary Climate Fiction



Image credit: licensed under CC BY-ND 2.0 by Patrick Emerson https://flic.kr/p/iiVfs8

A joint student workshop of the M.A. seminars "Dystopian Visions of America" and "American Ecologies"

Keynote Lecture
Julia Leyda (IASS Potsdam)
"The Cultural Affordances of Cli-Fi"

Organizers:
Kathleen Loock, Alexander Starre, Julia Leyda & Thiago Pinto Barbosa

Hosted by the Department of Culture of the JFKI with generous support by the Institute for Advanced Sustainability Studies, Potsdam

Friday, May 13, 2016
10:00-15:00 h, room 340

John F. Kennedy-Institut für Nordamerikastudien

The event is open to the public.
Please register in advance:
alexander.starre@fu-berlin.de

IASS Working Paper
November 2016

Institute for Advanced Sustainability Studies Potsdam (IASS) e. V.

Contact:
julia.leyda@ntnu.no
thiago.pintobarbosa@iass-potsdam.de
manuel.rivera@iass-potsdam.de

Address:
Berliner Strasse 130
14467 Potsdam
Germany
Phone 0049 331-28822-340
www.iass-potsdam.de

email:
media@iass-potsdam.de

Board of Directors:
Prof. Dr Mark G. Lawrence
Katja Carson
authorized to represent the institute jointly

Prof. Dr Patrizia Nanz

Prof. Dr Ortwin Renn

DOI: 10.2312/IASS.2016.026

CC BY SA

SPONSORED BY THE
Federal Ministry of Education and Research

FONA Research for Sustainable Development
BMBF

LAND BRANDENBURG
Ministerium für Wissenschaft, Forschung und Kultur