

Climate Change Temporalities

An online conference on humanistic approaches to climate change: August 11-13, 2021

-

ABSTRACTS:

Contents

Pernille Almlund.....	3
Kübra Baysal	3
Henrik Bødker	4
Frédérique Brossard Børhaug & Line Alice Ytrehus	5
Hannah Entwisle Chapuisat.....	5
Ragnhild Freng Dale.....	6
Elisabetta Dall'Ò	7
Subarna De & Swarup Kumar Dhar	7
Anne Eriksen	8
Blake Ewing	8
Emil Flatø	9
Anna Friberg.....	10
Sissel Furuseth.....	10
Diane E. Goldstein.....	11
Lykke Guanio-Uluru.....	11
Helena Hörnfeldt	12
Camilla Asplund Ingemark.....	13
Jenny Ingridsson and Maria Vallström	13
Stefan Gaarsmand Jacobsen and Jakob Egholm Feldt	14
Elisabeth Schøyen Jensen, Sissel Småland Aarsheim & Scott Bremer.....	15
Miriam Jensen.....	15
Christina Berg Johansen	16

Jilt Jorritsma	17
Lars Kaijser.....	17
Julia Leyda.....	18
Chang Liu	19
Solveig Helene Lygren	20
Martina Mercellova	20
Lone Ree Milkær	21
Hedda Susanne Molland	22
Marion Moussier.....	22
Chukwu Romanus Nwoma.....	23
Laura op de Beke	24
Michał Pałasz.....	24
Anna Madeleine Raupach.....	25
Siddharth Sareen & Timothy Moss	26
Josefine Løndorf Sarkez-Knudsen.....	26
Isak Stoddard & Magdalena Kuchler	27
Tore Størvold.....	28
Henrik H. Svensen	28
Tonje H. Sørensen	29
Marianne Takle.....	30
Trine My Thygaard-Nielsen	31
Tessa van der Staak	31
Camille Deschamps Vierø	32
John Ødemark.....	33

What calculations and numbers do to political work and decisions

Pernille Almlund

Since the Paris-agreement, governments around the world have in varied manners and intensity outlined laws and action plans to live up to their obligations connected to their subscription of the agreement. We can see how these years' discussions and more alarming calls for action from climate researchers have raised popular awareness. In the Nordic countries this has led to more ambitious climate proposals and laws, than hitherto. In both Norway, Sweden and Denmark, these proposals are now government policies and new climate laws which became effective the 1st of January 2018 and 1st of January 2020 respectively.

In sociological analytical perspectives, we have seen how numbers become more important in journalism (Luhmann 2002) and in the political decisions (Tynell 2014). This seems to be no exception in climate change politics. In a Danish context, numbers and calculations is a dominating approach in political parties' climate proposals and the political communication and debate in general (Almlund 2019).

This paper investigates this perspective in an international context with a focus on Norway and Sweden as national actors and EU as a transnational actor. Can we see the same trends as in Denmark as in these cases? Moreover, what are the consequences on how climate change is being handled, politically?

With inspiration from Niklas Luhmann (Luhmann 2000, 2016, Åkerstrøm Andersen 1999, 2014), I therefore conduct a semantic analysis of the climate laws and plans of action made by these three Nordic governments and by the EU parliament. The analysis will focus on how they use both their own and internationally announced calculations in their political announcement, in order to understand how calculations in general affect the political process, discussions and decisions about reduction of emissions – or in other words, how calculations and numbers become part of the political systems logic (Luhmann 1990, Almlund 2019).

—

Climate Change Fiction since the Nineteenth Century: After London, Mara and Dann and Lost Girl

Kübra Baysal

Coinciding with the three phases of the Anthropocene, Richard Jefferies's *After London, or Wild England* (1885), Doris Lessing's *Mara and Dann: An Adventure* (1999) and Adam Nevill's *Lost Girl* (2015) reflect a deep concern for the nonhuman environment by pointing out the extent of the damage the Anthropos has caused as a single species in the brief span of human history. The urgency and extremity of natural and societal devastation prophetically depicted in the novels accentuate the

rise of the anthropogenic transformation on Earth in reality that reaches its peak in the twenty-first century with catastrophes, diseases, species extinction, social unrest and political tension, among other factors all of which occupy the current world agenda. Through fictive apocalyptic worlds, these narratives underline the deep time impact of the human age and present a picture of what happens to the world when humans persist anthropocentrism. Upholding great potential to generate effective solutions for environmental, social and political crises in the twenty-first-century world, *After London*, *Mara and Dann* and *Lost Girl* depict fictive but persuasively realistic worlds to their readers.

Journalism, time and climate change

Henrik Bødker

For a number of interconnected reasons, the issue of climate change sits uneasily within the temporal hierarchies of journalism. Firstly, as the largely invisible, gradual, accumulative and long-term effects of climate change are “outside and beyond the reach of our senses” (Adam, 1998, 9) they are somehow incompatible with journalism, which — being premised on witnessing — is focused on tangible events. Getting “beneath” such events, however, necessitates a closer relation to the underlying science, information normally outside the vestiges of journalism. Secondly, the “invisible” character of climate change, and the temporal horizons or pre-emptive measures, cut across the basic rhythmic connections between journalism and politics; following this — and given that climate change is a global issue — there is no “natural” relevance for national structures of governance and thus for journalism; finally, since journalism operates in the “logical field of the dominant reality” it “cannot be detached from pre-theoretical notions in order to present reality” (Meditsch, 2005, p. 129), which need to be transgressed as these notions are — at least in the West — immersed in the regime of industrial time.

Against such considerations, this paper analyses the negotiations of various temporalities as they emerge within specific mediations emerging from an edited volume (in progress) that contains analyses of how climate change gets inscribed within the temporalities of journalism inflected by local, regional, national and global times as well as perceptions of change related to generations, (living) memory and (national) politics, which again are linked to the temporalities of globalisation, colonialism, class, ethnicity, gender and culture. Following this, the broader aim is to develop a theoretical understanding of such mediated instances in relation to the temporalities of journalism, modernity, technology, science and culture.

Caring for biological and cultural diversity: The epistemic contribution of the Capability Approach in times of anthropogenic climate change

Frédérique Brossard Børhaug & Line Alice Ytrehus

In times of man-made climate change, the extinction of biological species coincide with linguistic destruction of minority languages (Terralingua, 2003). However, the interests of biodiversity and cultural diversity are rarely merged (Brossard Børhaug, in press; Maffi 2005).

This paper discuss the relations between biological and cultural sustainability through a research analysis of the Capability Approach's journal (the Journal of Human Development and Capabilities (JHDC)). The capability approach (CA) aims to discuss human development and to what extent "people have opportunities to function well as human beings and live flourishing human lives" ([HDCA](#)). The CA-approach is multidisciplinary covering economics, education, ethics, human rights, technology, indigenous people, and health. As such, the approach's transdisciplinarity might match the complexity of the climate change.

The research question is 'What is the epistemic contribution of the JHDC about the protection of the biocultural diversity in times of anthropogenic climate change? The paper is based on a qualitative document analysis and systematic review of the HDCA-journal from the launch in 2000 to present.

The twofold destruction entails corrosive functionings and capabilities for human and non-human living beings. Although biocultural diversity studies are emergent, the studies of indigenous epistemologies have for decades discussed the relations between indigenous ontologies and territories, and disclosed the threats to cultural and biological sustainability (Escobar 2016; Ytrehus 2019). The review analyses the CA-journal's academic discussion on indigenous' capabilities and functionings for the preservation of biocultural diversity and how it deals with climate change temporalities.

Artistic Engagement in International Responses to Disaster Displacement: Ways of Working and Potential Impacts

Hannah Entwisle Chapuisat

Artists increasingly develop and exhibit artworks in collaboration with intergovernmental organizations like the United Nations (UN), building upon their longer history of working in relation to government institutions at national and local levels. Current literature exploring artists' and art's impacts on social change, including as part of transnational movements, has not significantly engaged with international relations research on how international norms emerge and change. Building upon current debates in these two fields, this paper will discuss three cases studies of art practices engaging with UN institutions (art at the UN Palais des Nations, TBA21, and my personal practice DISPLACEMENT: Uncertain Journeys) to better understand how art organizations contribute to

intergovernmental processes. In particular, I will focus on the policy issue of climate change-related human displacement to explore how art's potential roles may evolve as international norms crystalize and develop over time. This project will increase understanding about how art contributes to social change on a global scale and explore why artists may want to take a global approach to pressing climate change-related issues by focusing on the neglected issue of art's potential impact in the development of international law and policy.

Futures on trial: courtroom performance and petroleum disputes in the Norwegian Arctic

Ragnhild Freng Dale

As the 21st Century is increasingly marked by climate change and demands for climate action, debates on the future of petroleum has also intensified. In Norway, the government regularly awards new licenses for exploration, and opened a previously unexplored part of the Arctic Barents Sea in 2015. Such expansion is often portrayed as necessary to keep the welfare state alive and continue the petroleum 'fairy-tale' of wealth and prosperity. But amidst climate change, proximity to the ice edge and the risk of stranded assets, these decisions are increasingly controversial. Though the government insisted the new exploration licenses were purely a continuation of a widely accepted bureaucratic practice, environmental NGOs disagreed, and filed a lawsuit against the government.

This climate lawsuit traversed through all instances of the Norwegian legal system between 2016 and 2020, and in 2021 six young people have taken the case to the European Court of Human Rights. As Bourdieu (1987) holds, moving such controversies to the judicial field alters the way the conflict is performed. The legal arguments, as performed in court, bring to light how a change of direction is next to impossible under current state practices. As an effect of the activists' intervention, then, the judicial procedures exposes how otherwise oblique bureaucracy fuels a path-dependency on petroleum. Meanwhile, most exploration wells in the Barents Sea South East have been dry, and petroleum companies are pulling out of the area. With the Norwegian state caught in a dilemma between climate action for the long term and a carbon-intense but profitable industry in the short term, the lawsuit reveals how different temporalities are at work within the conflict, and how things might be otherwise.

Based on ethnographic fieldwork, courtroom observations, media coverage and document analysis, this paper seeks to explicate how the court performance in the Norwegian legal system altered both the environmentalists' and the government's arguments, and rendered visible the timescales and imagined futures at stake in the question of Arctic oil.

Where the Dragoons were. Climate change, Anthropocene and ice imaginaries in the Mont Blanc area

Elisabetta Dall'Ò

The aim of this proposal is to present the preliminary results of an ethnographical and historical research I've been conducting on the Mont Blanc region, relating the impacts of climate change and glaciers melting on the Italian Alps, and the local communities responses.

Nowadays the Alpine region lies at the heart of climate and environmental debate, providing new outlooks about research and unedited inputs for the human sciences. The Alpine space constitutes a point of convergence within the sacred, the eighteenth-century science, the popular orality, the christian hagiography, the classical mythology, the traditional knowledge and the memory; and it marks a symbolic universe and a preferential observation point from which to look at the contemporary world, and our relationship with "nature". In this presentation I will explore the imaginaries linked to the Italian and French Alps and their symbolic and physical presence. Among the most diffused legends which constellate the Alpine imaginaries, the most remarkable one is provided by the presence of "dragoons". Alpine dragoons are fantastic beasts, related to water elements, even in their solid form, to "evil", to "demons", and they sometimes become a very personification of glaciers, symbols of unpredictability and threat of "climate changes".

Until the end of eighteenth century, a period which coincides with the Anthropocene advent, little or nothing was known about glaciers, monstrous ice seas, sliding snakes rolling down to the valley, and whose tongues warmed their way among the canyons. Definitely the mountaineers feared them, they were scared about their progressive sloping forward, which could "to devour" pastures and fertile lands, just like it happened in the past ages, and the world "curse" was given to them. In this moment, due to climate changes, and high speed melting of glacial fronts, we are witnessing to the glacier disappearance and its irreversible decline. "Dragoons" are doomed to disappear and maybe to only survive in the popular imaginaries.

An Environmental Reading of Gun Island: Discourses on Indigenous Notions of Climate Change

Subarna De & Swarup Kumar Dhar

Studies across the world have demonstrated that both the human population and the animal world are vulnerable to climate change. Prominent examples are the melting of the ice-sheets, forest and bushfires, from Arctic to Australia. The potential impacts of climate change have resulted in a shortage of clean drinking water, rise in the sea-water level that threatens the coastal towns of the earth. With this understanding, this paper will explore the ongoing discourses on climate breakdown that is the background of Amitava Ghosh's *Gun Island* (2019). *Gun Island* unfolds a story of migration and

climate crisis that blends with indigenous Bengali myth and folklore. The novel narrates a journey that begins in the mangrove swamps of the Sundarbans in the India-Bangladesh border and then travels to California benighted by forest fires and finally to a gradually sinking Venice. *Gun Island* records contemporary climate narratives of the carbon economy, the stark rise in stranded whales and dolphins due to the spread of oceanic and riverine dead zones, and the freaking cyclones and oxygen-starved waters.

Reading *Gun Island*, this paper attempts to create a space for climate crisis dialogue between the Indigenous East and the Capitalist West and argue how climate crisis results in the crisis of culture. In doing so, from a bioregional perspective, this paper will explore how the Indigenous peoples from the forests in India adapt to climate change and find new ways of survival.

—

Kelp and climate in 18th century Norway

Anne Eriksen

At the turn of the 19th century, the production of kelp ash along the north-western coast of Norway caused popular protests, even riots. The heavy smoke from the kilns was accused of changing the weather for the worse, and causing damage to both agriculture and fisheries. In 1804, Christen Pram, member of the Chamber of Commerce, was sent by the authorities to investigate the “kelp affair”: Did the burning of seaweed really change the climate in this part of the country?

Pram took a very determined stance. He would not listen to rumours, but investigate the matter empirically. In order to achieve this end, he planned to execute an experimental kelp burning. Only by such exact measures could he gain knowledge that was sufficiently reliable to solve the issue. My paper will discuss how this knowledge, and the ideals of exactitude, precision and scientific universality that it represented, gradually became entangled with situated local knowledge embedded in natural cycles, seasonal work and in the long-term experience of people living along the coast. The different types of knowledge carried different types of authority, and they were also defined through different temporalities. Pram learnt how to negotiate them all, even if he never found a definite answer to the issue he set out to solve.

—

Is politics the problem? Reassessing the charge of political short-termism

Blake Ewing

The politics around climate change are often framed around conflicting time horizons and priorities, whereby politics is seen as an impediment to considerations of longer-term natural processes and intergenerational justice. As David Stockman, a budget director in the early Reagan administration

once remarked: “I’m just not going to waste a lot of political capital on some other guy’s problems in 2010.” But analysts of political institutions, language and processes can do more to investigate whether such short-termism, and its different dynamics and causes, is in fact a pervasive and permeant feature of political thinking and practice.

Building on the idea of ‘critical junctures’ among political scientists and in comparative historical analysis, locating particular moments in time when decisions have longer-term historical and institutional impact, this paper will employ natural language processing and corpus analytic techniques to assess rhetorical expressions of long-term thinking in political speech. The paper will look at the use of key temporal concepts illustrating longer-term thinking, along with the tense of verbs, in a new dataset of British parliamentary speeches between 1811 and 2015.

Spikes and trends in long-term thinking will then be analysed relative to particular policy debates and outcomes. It will also look at whether routinised temporal occurrences – like elections, budgets and Queen/King’s Speeches – boost rhetoric on governing for the present or extended future. Spikes in debates over long-term planning, and looking at key environment/climate change debates, will also allow for closer historical analysis.

—

Futurity, Models and the Time of the Climate Issue

Emil Flatø

Scientific visions of futurity has been a topic of immense interest in recent scholarship on STS and the history of science. Most scholars have argued for the centrality of global circulation models and attendant infrastructures of environmental monitoring and data processing in explaining the genesis, content, epistemologies, function and politics of the scientific future outlook exhibited in climate science. The result is that scientific futurity can appear as a byproduct of the scientific enterprise that has converged around models, a view that is seconded by contemporary futures scientists in the IPCC. This view fuddles understandings of the expertise at the intersection of science, politics and public spheres – management, social engineering, planning, systems science – that shaped regimes of futurity in Western societies of the Cold War.

In this presentation, I will consider the tendency to overstate the epistemological power of models in light of the call in STS to conceive of politics as a process revolving around things. Arising at the peak of the spatial turn, temporality was consistently neglected. Global circulation models became epitomical of the effort to construct a global object of inquiry with which to think climate change.

By contrast, I will argue that models were also a striking, novel medium for thinking time. From their introduction in big science, models have provided scientists with a means through which futurity may be systematically simulated, and alternative future trajectories of the Earth system explored, with a

measure of rigor. However, they were only granted meaning as part of the effort to build scientific advice to politicians and the public as the climate issue was emerging around 1970. In this translation work, a complex and contingent story of the genesis of climate futures, and the temporalizing affordances of models, awaits.

Now or in the future? Reflections on climate rhetoric and de-temporalizations of the future in the language use of youth climate movements

Anna Friberg

For politics, time is essential. Political possibilities depend upon how the future is conceptualized, i.e., they demand a future that is open, at least to some degree. If the future is determined, the space for imagining, creating, planning, and deliberating disappears. This paper explores how linguistic expressions of the climate crisis highlight ideas about time and temporality, and how this affects political possibilities and imaginaries. Taking cue from the new generation of youth climate movements, the paper argues that the mainstream climate discourse contains two temporal narratives that run parallel; one that can be thought of as a vernacular eschatology (“we are heading for a disaster”) and one that is seemingly postapocalyptic (“the catastrophe is already upon us”). Taking cue from Reinhart Koselleck’s categories “space of experience” and “horizon of expectation,” the paper argues that in the postapocalyptic narrative, the future has transcended our horizon of expectation; we do not even expect the catastrophe but instead experience it as a present reality, and this seems to have left us in a sort of end-time. In the paper, this closing of horizons is analyzed by using Ernst Bloch’s notions “acts of educated hope” and “utopian impulses”. The paper argues that both above mentioned narratives do provide visions of a better future-to-come, and by using the notion of “anticipation,” the paper states that even the seemingly postapocalyptic narrative can be mobilizing and offer possibilities of change. Thus, the youth climate movements can be thought of as providing a new kind of discourse for the future, one that is open and can be acted upon.

The Ethics of Posterity in Maja Lunde’s Climate Change Novels

Sissel Furueth

In her recent book *Climate Change and the Contemporary Novel* (2019), cli-fi scholar Adeline Johns-Putra addresses what she calls “the ethics of posterity” and examines how the parental rhetoric of posterity frames not only environmentalist discourse in general (cf. climate scientist James Hansen’s *Storms of My Grandchildren*) but also anglophone climate change fiction in particular. In this paper, Johns-Putra’s reasoning will be tested in an analysis of the Norwegian author Maja Lunde’s popular climate change novels. In *The History of Bees* (*Bienes historie*, 2015), *The End of the*

Ocean (Blå, 2017), and *Przewalski's Horse* (Przewalskis hest, 2019) climate change is narrated as a back and forth movement of constant time shifts as well as in the form of intergenerational dialogue between parents and children. The paper will discuss what emotional and empowering effects such a parental rhetoric of posterity may have on the readers of Lunde's climate change novels.

'Where is global warming when you need it?': The role of immediacy in vernacular constructions of climate change

Diane E. Goldstein

Over the last twenty years, numerous international surveys of public understanding of climate change have argued that there is limited lay understanding of the scientific and technological issues involved, beyond a generalized knowledge of ecological deterioration and a general sense that humans are having a detrimental impact on the environment. Analysts frequently assert that an educated lay public is key to not only changing individual consumer behaviors but also providing public support for environmental regulations and initiatives. Lessons learned in the exploration of scientific assumptions about lay knowledge of medicine suggest, however, that experts frequently disregard the ability of laypeople to absorb information and therefore ignore lay patterns in thinking and interpretation which may be crucial in future policy endeavors. This paper explores a broad range of international reports and surveys of lay perspectives on climate change using content analysis of transcripts, ethnographic interview, and narrative. Analysis of this material identifies important patterns in the role of immediacy (in space, time and personal lifestyle) in vernacular understandings of climate change. Lay understanding of climate change is challenged by complicated cause and effect relationships in which long-term climate patterns are harder to perceive than short-term localized weather, and similarly, the experience of climate change is distant not only in time but also space. Ironically, while a lack of response to the immediate crisis of climate change is of grave concern to scientists, a different kind of immediacy (in the sense of closeness, concurrence, proximity) pervade lay understandings.

Plant Representation in Climate Fiction for Young Adults

Lykke Guanio-Uluru

Climate fiction (cli-fi) is a novelistic genre that imagines the causes and effects of global warming (Irr 2017). A frequent literary strategy in cli-fi is to avoid the tension between scientific fact and fictional depiction that challenges the cli-fi novel as a form by embedding scientific predictions in the novel's setting (Trexler 2015). Thus, cli-fi likely mirrors and amplifies figures and patterns of representation from the global discourse on climate change.

Drawing on previous research on climate fiction and on the emerging field of critical plant studies, this paper discusses plant representation in three Nordic climate fictions for young adults, *Bovetøya 2052* by Lars Mæhle, *The World According to Anna* by Jostein Gaarder, and *Memory of Water* by Emmi Itäranta. The hypothesis, based on research indications from several fields, is that plants are underrepresented in cli-fi scenarios that imagine the causes and effects of global warming, in spite of the vital role they play in the regulation of the planet's biosphere (Schramski et al. 2015).

Methodically, the analysis combines a quantitative with a qualitative approach. A count is taken of how many and what species of plants are mentioned in the stories, and the references are sorted into the categories: foodstuffs, medicinal, building material, decoration, symbolic, wild, cultivated, climate change and other. These quantitative findings are used as the point of departure for a discussion of recurring plant topoi in the primary texts. The result indicates the degree to which plants feature as integrated in literary depictions of climate change causes and effects.

—

A future lost? Children facing uncertainty before and in times of climate crisis.

Helena Hörnfeldt

Our natural environment is in a state of rapid and dramatic change, not least because of human intervention. Human influence on the earth's geology, biodiversity, and climate has created a new global uncertainty about the future. Concepts such as climate crisis and climate catastrophes form part of the narrative of a dystopian future in the media and the political discourse. Climate change is present both in the landscape and in political discourse, but it is also felt, sensed and apprehended emotionally as part of the fabric of everyday life, not least among young people.

However, feelings of uncertainty in regard to the future is not a new phenomenon. The fear of life-threatening events is a constant presence in history. This presentation aims to explore how young people come to terms with the loss of the idea of a future. By focusing on children's narratives of fear and worries of climate change in the contemporary as well as archival material about uncertain times, I will examine the ways in which children and young people relate to a future in the Anthropocene and how the narratives of an uncertain future are related to historical narratives of fear and uncertainty. In what sense is the idea of dramatic change incorporated in the biographical narratives of young people?

By combining a broad contemporary analysis of textual narratives of fear with narratives of fear from the past it becomes possible to say something about the intertextuality and the contexts from which fear narratives derives its power and authority. I use intertextuality as an approach to analyse how the narratives and the informants' statements about fear of, for example, the end of the world

cannot be understood in isolation from either the past or contemporary cultural matrices of fear and ideas of doomsday.

The Temporalities of Coping with Climate Change in Vernacular Texts

Camilla Asplund Ingemark

What is the status of climate change as a cultural trope in vernacular culture, and how does it function? These are the guiding concerns in this paper, which focuses on responses to questionnaires on climate change and weather from three Nordic countries: Norway, Finland and Iceland. This paper proposes that climate change as a concept is capable of organizing multiple temporalities, while at the same time being organized by certain other concepts of a similar nature, such as catastrophe or crisis. These temporalities form chronotopes which have been absorbed into the vernacular texts studied, and the paper examines how these temporalities are played out, coordinated and presented in them by conducting careful textual analyses.

These texts on climate change also invite more philosophical questions. Is climate change one of those ‘black hole’ concepts that suck in everything that comes into its orbit? Or are we witnessing the beginnings of its transformation from a discourse to a figure of thought in philosopher Johan Asplund’s sense – like progress or childhood – the elemental constituents of our cultural thinking? Will climate change eventually engulf ‘catastrophe’ and ‘crisis’?

Mobilized villages: local community agency during the Swedish wildfires in 2018 and the process of re-orientation towards the future

Jenny Ingridsson and Maria Vallström

In the summers of 2014 and 2018, wildfires erupted in Swedish forests at a magnitude without precedence in modern Swedish history. These wildfires had a major impact on local communities and forestry, also stirring national debate on climate change, forestry production, biodiversity, and the infrastructural challenges for handling disaster connected to extreme weather. In this presentation we would like to introduce a newly started project (FORMAS) which purpose is to study how local communities in the counties particularly affected by the wildfires in 2018 mobilized local resources to cope with the wildfire, how local residents narrate the events of the wildfire and its aftermath, and what the wildfire led to in terms of strategies and awareness of sustainable development in the future. Through digital ethnography, ethnographic interviews and participatory observations with local residents in three counties affected by wildfire in 2018, this project examines three questions:

A. How did local residents act during the actual events of the wildfire?

B. How are the wildfires and the mobilizations remembered and narrated?

C. Does local history and forestry traditions and practices impact on how local communities imagine possible futures?

Through an ethnographic approach, we wish to capture the tensions between the past, the present and the possible future, with the idea of showing the potential for resilient communities in a world of global climate change. This study contributes ethnographic empirical insight into how disaster can be managed by activating cultural norms and conceptions of time, as well as management of resources in local communities.

—

Climate Justice and the Multiplicity of Timescales

Stefan Gaarsmand Jacobsen and Jakob Egholm Feldt

As a concept in activist and academic circles, Climate Justice has been developing with only scarce references to limited temporalities and urgency. Rather, the main drivers of debate and agitation on climate justice have been past distributional injustices and debt structures. In a recent turn, timescales have become pivotal for large groups of activists. The perspective of species extinction and IPCC's renewed focus on a 2030 deadline has inspired activists like Extinction Rebellion, FridaysforFuture and scientific groups to engage in temporal arguments alongside justice arguments with a number of innovations to follow. Via the above-mentioned examples, we will discuss how time scales of human history are contingent on use, (re)iteration, institutionalizations, and expectations for the future within the social system. New expectations re-organize the relevance of time scales in the social system, new causalities come into view, and others disappear. The notion of the strike, as used in school strikes, has strong temporal connotations in its threat to delaying or even halting production. Extinction rebellion offers a direct translation of the climate emergency, voiced by leading climate scientists, to the realm of governance, calling for a state of emergency. What is shared is a focus on a turning point in a near future – the notion that human agency is tied to a deadline that takes us from increasing numbers (of CO₂, GDP, biodiversity destruction) to the opposite. The change is understood to be an event only if it happens before a certain point in time. Future agency is tied, accordingly, to the deadline. In this way, challenges for the social system and discoveries of new causalities play an instrumental role for which time scales link the past and the future of the system. It is link between past and future, between before and after, which enables agency.

—

Marking seasonal change using primstavs; re-representing natural and social order

Elisabeth Schøyen Jensen, Sissel Småland Aarsheim & Scott Bremer

Social life is organised by a tangle of timescales or chronotypes, with seasonality one key chronotope where natural and social rhythms become intertwined. Arguably, all societies divide the year into periods of natural conditions and structure social activities and institutions by these; seasons constitute both natural and social order. But what happens when long-held seasonal representations are destabilised by rapid climatic, natural and social changes? In the CALENDARS project we investigate if modern institutions possess stable sets of seasonal representations, and if so, how these are used to anticipate and plan for the year. To this end we have experimented with the primstav, a traditional Norwegian calendar stick, as an object “good to think with” about seasonal representations and practices in Bergen. Primstavs were in use up until the 19th century, and depicted religious holidays and important days like solstices and pagan celebrations, as well as highlighting days connected with different activities.

This talk presents the CALENDARS project’s conceptual use of the primstav in the explorative phase of the project, focusing especially on four workshops held in autumn 2019 and spring 2020 where we worked to re-create primstavs that are accurate to how we experience and live by seasons in Bergen, today. We demonstrate the ways that we are engaging different social groups – from school children to artists collectives – in drawing the conditions, events and activities that mark the year for them, and will discuss some of our findings. This is a creative research method with three facets. First it generates important information on how people seasonally organize their lives today. Second, it engages participants in critical reflection on what seasonal time actually means, challenging stereotypes, with the potential to effect change within institutions. Third, the exercises are a means of communicating the research projects findings.

The significant now as a meeting place for local narratives on change: An opportunity for conflict management?

Miriam Jensen

The Danish river system, Gudenåen, is currently destabilized by extreme flooding. Such changes alters what Hastrup and Rubow (2014) refer to as the “known” landscape for local actors and their temporal orientations. These destabilizations are becoming prevalent due to climatic changes and can create a specific and significant moment in time (Kairos), in which actors and resources become mobilized. An example can be found in climate adaptation, where local authorities are using such moments to engage local actors in planning and co-design processes. Although previous research provide important insights into the understanding of the conflicts and negotiations involved in such processes, little attention has been on how such significant moments can provide an opportunity for conflict

management through a focus on the temporal dimensions of local narratives on change. In this study, I discuss how a significant point in time can establish a meeting place for what Marschütz et.al. (2020) term as “narratives of change” imbedded with often diverging notions of time. Taking the starting point in fieldwork, observations and interviews conducted with local actors at Gudenåen, I here argue that the temporal orientations imbedded in local narratives on change shape the different valuations of the river and landscape, which influences the conflict context in which these actors interact. The main conclusion of the work is that localized conflicts in climate adaptation settings can be managed through an increased awareness and acknowledgement of the various temporal orientations imbedded within local narratives on changes. This is important as local authorities in climate adaptation planning often assume that actors negotiate the future from a shared notion of time, thus missing an important component in making adaptation measures locally meaningful.

Organizing in the Anthropocene – a utopian exploration

Christina Berg Johansen

The geological denomination of the ‘Anthropocene’ epoch, and the titanic climate changes it involves, constitutes an ontological shift in human beings’ relations to time. The future no longer belongs to the Enlightenment notion of human ‘progress’ (Koselleck 2004), but to eco-system changes that will be massive, catastrophic and real in our own lifetime as well as for thousands of years to come. To meet the uncountable challenges of the Anthropocene requires not only technical solutions, but new ways of being in and with the world, implicating also new ways of *organizing* ourselves in the world (Ergene, Calás, and Smircich 2018; Wright et al. 2018). Whereas contemporary organizing is largely based on templates from the industrial era, with its clock-time, efficiency obsessed, teleological agency, organizing in the Anthropocene requires different kinds of agency driven by ‘attunement’ (Morton, 2013) to the timescales of life on Earth, and new kinds of care for the human and non-human lives that human organization depends on (Haraway 2016; Yusoff 2016). My presentation at the Climate Change Temporalities conference will explore how alternative temporal orientations both exist (Parker et al. 2014) and can be cultivated in contemporary organizing. The exploration uses utopian thinking as a method to “disrupt the closure of the present” (Levitas 2013:119) and imagine and carve out modes of agency that allows for radically different ways of being in time, through for example practices of hope, smallness, slowness and care.

Future Pasts: History, Space and the Environment in the Imagination of Urban Submergence in Amsterdam, New York and Mexico City

Jilt Jorritsma

This paper aims to reveal how imaginaries of sinking cities make use of site-specific histories in order to bring the complex, global scale of the climate crisis into the realm of the local and the contemporary. Due to the accelerated rise of sea levels and global temperatures, several of the world's major cities are slowly sinking into the sea, while others subside into the earth due to groundwater evaporation. Adaptation to these problems is highly reliant on the development of future imaginations: predictive imagery (maps, narratives, scenarios) that visualizes future realities of submergence in order to shape present-day decisions. Current research on such imagined futures, however, tends to conceptualize global warming as a singular and common problem, thereby overlooking the cultural specificity of such imaginaries across different geopolitical areas. This paper examines the particularity of how societies relate to the uncertainties of climate change. It compares future imaginations (policy mappings and literary texts) of three sinking cities: Amsterdam, New York and Mexico City, and asks how these imaginations produce “future ruins”: spaces where, on the one hand, future submergence is imagined to have already taken place, and, on the other hand, forgotten layers of a city's history re-emerge and assume new meanings and affective functions in the present. This paper suggests that site-specific histories play an important role in the perception of climate change. In the case of Amsterdam, future submergence is imagined as a possible return to a “natural”, pre-industrial time; in New York, submergence is presented as a possible return to a pre-Hudson time; and in Mexico City, submergence opens up the urban environment to a pre-conquistador time during which the city was an island within Texcoco Lake. In all cases, the underlying temporality is one in which the future is portended as a return of the past.

Advocating equilibrium. On climate-change at public aquariums

Lars Kaijser

Public aquariums constitute a genre of popular science, relating to books on natural history and natural history museums. They work on the border of science and entertainment, with the ambition to teach on nature in a “fun way”. Often their state of mission includes a paragraph on their assignment of informing on environmental threats, sustainability and to make the visitors to adept to an environmentally friendly way of life. Several aquarium has also been very successful, they attract a vast amount of people, and they have become an important place for informing on nature and the environment.

This paper will investigate the representation of climate changes at public aquariums. The starting-point is a walk through the Ocenário de Lisboa. This will be analysed using the combination

of William Labov's theory on narratives on personal experiences and Bakhtin's theory of chronotopes. The aquarium aims to inform on nature and to establish more environmental friendly behaviours. Important in this procedure is to support changes in the everyday life, here defined as banal sustainability. Two paramount chronotopes are presented. The first one is the habitat carrying a circular time, stability, and continuity, rooted in a geological deep-time. The second is climate change, characterized by manmade alterations of the oceans threatening the balance of the habitats. Together these two temporalities constitutes the modern aquariums general chronotope.

This presentation is part of an ethnographic study of public aquariums, taking place in mostly Sweden, England, and US during the last five years.

Strange Weather: Race and Superpowers in Recent Cli-Fi Film and Television

Julia Leyda

This talk juxtaposes transnational Afrofuturism and Nordic rhetorics of unmarked white ethnicity as they operate in contemporary cli-fi imaginaries.

As Yusoff (2018) points out, overturning the structures and dynamics that brought about the Anthropocene requires a Black and Indigenous poetics at its center. In my selection of case studies, then, I stake out new ground in a field that has too often centered around white, Anglo-American cultural production at the expense of the so-called margins, a tendency that has only reinforced the messy universalizing inherent in many theorizations of the Anthropocene. A growing number of scholars acknowledge that fictional representations of the (post-)apocalypse, including environmentally compromised futures, "have often been framed through an exclusionary hierarchy of humanity, necessitating closer examination of how clichéd genre conventions that saturate our media environment rely on anti-Black racism and indigenous erasure" (Gergan et al. 2020: 92). While such conventions regularly erase Black and Indigenous experience, this talk also examines how whiteness is both unmarked and foregrounded in new Norwegian eco-dramas, which capitalize on the successful region branding and clichés endemic to Nordic Noir.

Case studies: Ruth, a homeless recovering addict, belongs to a multigeneration matriarchal line of Black women whose rain-making superpowers may hold the key to alleviating the water shortages already endemic in the near-future drought-ridden US of Julia Hart's indie film *Fast Color* (2018). Reading Blackness in this film, I argue that it subverts cli-fi clichés that rely on a white male scientist as savior, placing Black women at the center of a post-climate-crisis world. Weather-controlling superpowers are also at the center of the Norwegian eco-fantasy teen drama *Ragnarok*, in which the protagonist is an avatar of the Norse god Thor. Depicting an epic environmental struggle against climate change, this show (whose title evokes the end of the world) employs Norway's cultural

heritage—its mythology and its enduring reverence for sublime nature—to think through the contemporary paradoxes behind the country’s eco-friendly self-image. The show’s mobilization of Norwegian ethnic identity via Norse mythology is not inherently racist, although white supremacist groups regularly appropriate its iconography. My talk explicates the series in light of Stougaard-Nielsen’s analysis of the Nordic television export boom (2016) as participating in a form of white nostalgia, whereby bourgeois audiences abroad consume Nordic ethnicity along with the shows.

In tune with Geological Time: A Political Ecological Approach to Touring

Chang Liu

A political ecological angle enables us to understand that music is not intangible, and it has serious material and ecological consequences. Focusing on the practice of touring, this paper explores how tours are organized and narrated in various cultural texts, and argues that the temporality within which tour operates is closely related to climate change and geological time.

The practice of touring often involves extensive use of fossil-fuel based transportations, such as private cars, vans, and jets. Its carbon footprint thus goes beyond the scale of touring and resonates with the larger geological time, where climate change is registered. I will begin by outlining two dominant models of touring. First, by car or van, which is embedded in American road narrative and automobile culture and offers musicians a sense of cultural orientation and belonging. Second, by private jet, which signifies financial success, social prestige, and a sense of realizing the American dream. Both models are deeply rooted in American culture, and on the contrary of achieving a low-carbon emission future. I then propose a change to employ public transportations such as buses and trains, and public airlines as a means for touring, which contributes to reducing carbon emission in the music industry and questioning the narrative that is central to American culture and society.

I will conclude by introducing my scholar-activist project “Low-Carbon Emission Tours” as a potential model. I consider China as a relevant space for American musicians to explore a low-carbon emission touring future. Touring China involves long distance traveling, and the newly established high-speed railway system enables travel across long distances in a short time scale. Thus, my scholar-activist project points out a relatively carbon neutral way of touring, which resonates with the geological time differently.

The Anthropocene and the Apocalypse: Environmental crisis and motifs of end time in contemporary Norwegian novels

Solveig Helene Lygren

Whether the narrative form is suited to represent our epoch or whether the present environmental crisis necessarily implies a narrative crisis, is an ongoing debate within ecocriticism. The idea of the Anthropocene challenges human understanding of time, and thus possibly traditional ways of representing time within a narrative. Drawing on examples from Norwegian literature, this paper will discuss challenges and possibilities of the novel in a time of climate crisis.

In contemporary literature, it seems like the present environmental breakdown often is represented as a sort of terminal crisis. This paper will discuss how this is being expressed, in content and form, in Karl Ove Knausgård's novel *Morgenstjernen* and Maja Lunde's *Climate Quartet*. When discussing the motifs of end time in these novels, I will attempt to demonstrate how the narratives are inspired by both scientific and metaphysical discourses and world views. Finally, by examining how the past, present and future are intertwined in the narratives, I will discuss whether traditional ways of analysing narrative time might be challenged when we read these stories.

—

Whitewash Brainwash linear Greenwash: Leslie Marmon Silko and Leanne Betasamosake Simpson against colonial linearity of green discourse

Martina Mercellova

Climate-related narratives like the “rush against time,” “great acceleration,” “apocalypse” and “doomsday machine” are among the most marketable ideas of the Capitalocene. Both indigenous and personal-autobiographical/narrative time problematize the predictable oneness and linearity of temporality in mainstream notions of climate-change – a temporality too easily coupled with the idea of growth and scalability. The coupling/marriage of “climate-time” and “market-time” is paradoxical. In trying to deconstruct clock-time, one unfortunately de-stabilizes the validity of climate-change temporality as well.

The above point becomes visible when analyzing memoirs and ecocritical life-writing. This is why the “objects” of my analyses (acknowledging the word “object” here as problematic) are *The Turquoise Ledge: A Memoir* (2000) by Marmon Silko and *As We Have Always Done: Indigenous Freedom through Radical Resistance (Indigenous Americas)* (2017) by Leanne Betasamosake Simpson. Both narratives are memoirs written by indigenous female-writers. They both particularize what it means to truly stay with the trouble not in today's ‘rush against time’, nor in the future, where the apocalypse awaits, but always-already, for hundreds of years, personalized. Memoir ‘situates’ and ‘catches’ time, making it comprehensible. Narrative identity

collapses time without “ending” it. Such identity, within its own narrative time, presents continuities, both temporal and spatial, instead of breaking deep time, or attempting to define planetary time, as the “ticking” clock time does. Autobiographical narrative identities elucidate how current approaches may be trying from the wrong “end”: that neither history, nor nature or human has ended, but that homo economicus is a white-wash-myth gone viral, never worthy of receiving so much attention to begin with. They also show why (at least some) posthumanism(s) are not truly environmentally friendly, and that Cartesian dualism should not be the only alfa and omega of green discourse. Instead, first person autobiographical narration helps disentangle different levels of description.

In other words, looking at these two memoirs, I ask “whose” temporality climate change research follows. Whose time are we in? And who is the “we” in the previous question? Whose time am I in? First-person autobiographical narratives help to approach the issue of “not being particular enough” – especially in terms regarding temporality and the vastness of climate change. Such narratives resolve the conflicting scales of analyses: allowing for the planetary (outside and independent of humans) to be embedded within the experiential global and local (constructed by humans). First-person autobiographical narrative identity, as exemplified by the two narratives I analyze, puts into forefront the situatedness and perspectivism necessary for a grounded and theoretically ‘in-dependent’ approach to climate change.

The Great Re-Skilling: Understandings of generation, tradition, and nostalgia as part of climate change mitigation in suburban Bergen

Lone Ree Milkær

Activist reactions to climate change increasingly takes form in ways integrated into existing everyday practices, especially focused on consumer culture and households, i.e. recycling, vegetable gardening or some degree of self-sufficiency. The organisation *Sustainable Lives* in Norway is based in urban and suburban local communities, primarily in Bergen and focuses on everyday-climate activism and the local answers to global challenges. The activities of the organisation tries to connect climate change mitigation to everyday practices and explicitly aim to ‘reduce the ecological footprint and raise the quality of life’, as the slogan of the organisation states.

On basis of a fieldwork in the sub division *Sustainable Lives, Landås* in Bergen, this presentation will look at the practices of climate change mitigation and how the combination of community building and climate change mitigation is performed in the activities of ‘Sustainable Lives, Landås’.

The presentation will be focused on the concept of ‘gjenkunning’ (re-skilling) as an aspect of the practices of a sustainable present, and analyses gjenkunning as a concept that reflects specific understandings of how past, present, and future relate and how this concept influences the way that

everyday-life climate activists imagine a viable life in a climate changed future. Through the concepts of tradition, generation, and nostalgia, the notion of *gjenkunning* is explored as a powerful point of connection between perceived past, performed present, and imagined future, as well as a point on the scale of the global and local dimensions of climate change mitigation.

Time to act – The temporality of innovation in Norwegian carbon capture and storage policy

Hedda Susanne Molland

The innovation of carbon capture and storage (CCS) is entangled with various temporalities. This is particularly true in Norway, where efforts to invent full-scale CCS has been going on for the last 15 years, with several missed deadlines. Though full-scale CCS has so far failed to materialize, the technology has increasingly been imagined as a win-win solution for the nation's conflicting identities as a petroleum nation and a climate nation. Thus, the technological climate measure represents a focus point for a climate discourse that delineate scope of action, relevant actors, and justified prioritizations.

The policy discourse on CCS is defined by phrases such as maturation of facilities, technological breakthroughs, and strategic planning. This paper therefore asks how innovation is temporalized in Norwegian CCS policy – and how such temporalization shape the scope of action and who is considered relevant climate actors in these policies. I draw on theories of sociotechnical imaginaries and the temporal dimensions of climate change to develop this analysis.

My empirical focus is the CCS strategy that the Solberg government presented to the Norwegian Parliament in 2014. I study how the government established the necessity and feasibility of developing a full-scale CCS facility by 2020, after the much-publicized failure at the facility Carbon Capture Mongstad. Considering how the 2014 Solberg strategy tied industry, innovation, national identities, and the future together but failed to meet its 2020 target, this paper addresses temporal imaginaries of CCS as climate action and some discursive underpinnings for the more recent government CCS strategy, called Langskip.

Synchronizing Human and Geological Temporalities in Climate Fiction: the Example of J.G. Ballard's The Drowned World

Marion Moussier

Narratives underlining the interconnectedness of human and geological temporalities are key to creating awareness on climate change and other forms of «slow violence» (Nixon, 2011) associated with the Anthropocene. How can literary fiction make deep time intelligible in human terms? How can it bridge the gap between immediate human experiences and the immense timescales involved with

climate change? To answer these crucial questions, this paper examines J.G. Ballard's *The Drowned World* (1962), an early example of climate fiction that portrays human and geologic temporalities as deeply intertwined. It provides an analysis of the narrative strategies and aesthetic choices used to synchronize these conflicting temporalities. It also argues that the novel stresses human embeddedness in deep time while criticising short-termism and hegemonic narratives of human rationality. The plot follows a team of biologists exploring the abandoned city of London flooded due to global warming. As heat and sea levels rise, Earth's conditions are quickly reverting to those of pre-Holocene epochs. Influenced by their transforming environment, the characters experience a physical and psychological metamorphosis that takes them on a backward journey through human evolutionary time. The environment is an active force that compels humans to reconnect with their ancient species history and to question their former rationalistic frames of reference. Witnessed from the characters' perspective, the accelerated geological changes depicted in the novel convey a sense of deep time on a human scale. By displacing humans from the Holocene, the epoch whose conditions allowed human development and that climate change threatens, the novel exemplifies our embeddedness in geological temporalities. Through a study of these features, this paper demonstrates how *The Drowned World* invites us to scale up our perception of time and suggests ways of imagining what it means to inhabit deep time as a species shaped by, and shaping its environment.

Environmental Privation and Human Migration in Shimmer Chinodya's Dew in the Morning

Chukwu Romanus Nwoma

Migration as a global phenomenon is one of the factors that characterize human societies as human beings move from places to places. This movement of human beings is motivated by some compelling forces. Political reasons, economic considerations, environmental forces and so on are often the reasons for human migration. The discourse on human migration is expansive and multidisciplinary as a good number of the disciplines in the social sciences and the humanities often participate in this discourse. This study investigates, through the methodical and theoretical approach of ecocriticism, how human migration is represented as an effect of climate change in Shimmer Chinodya's *Dew in the Morning*. Ecocriticism studies the relationship between literature and environment. It is used in this study as an analytical tool to interrogate human migration as a consequence of environmental privation. The novel under study is selected on the basis of the structural and thematic issues it embodies that touch on environment and human migration. The discovery is that climate change and other environmental forces reinforced the phenomenon of human migration in the novel under study. The study contributes to the expansion of the frontiers of the emerging discipline of environmental humanities.

Deep Time LARP: A Speculative Storytelling Game

Laura op de Beke

In these anguished times much of our thinking is future oriented, but perhaps not future oriented enough. At a job interview we might be asked where we see ourselves five years from now; and with scientific understanding, popular coverage, and civil concern about climate change on the rise, we are challenged to think ahead even further, to the year 2100, when global average temperatures may or may not have exceeded a 2 degree increase. However, it remains very rare for us to have to think thousands of years into the future, at least outside of specialist circles. This is where our imagination can do with a little exercise.

In my talk I will present a speculative storytelling game and LARP called Long Story that I am currently developing, and which can be used as a teaching tool to cultivate a sense of what Marcia Bjornerud calls “timefulness,” or (deep-)time literacy. In Long Story players take turns imagining the future at several temporal intervals, each one further removed from the present. Additionally, by assigning players different stakeholders, the game urges them to think about what makes some futures desirable as opposed to others, and for whom. The game is grounded in the philosophy of the New Games Movement of the 60s and 70s, which argues that play has the politically subversive potential to reorient people to each other, and to the world.

My talk will emphasize specifically how the game’s design aims to foreground aspects of negotiation, responsibility, care, and collaboration – in addition to the dimensions of pace (fast-slow) and directionality (past-future) which are more commonly fixated on in temporal design.

Works Cited

Bjornerud, Marcia. *Timefulness: How Thinking Like a Geologist Can Help Save the World*. Princeton UP, 2018.

Pschetz, Larissa, and Michelle Bastian. “Temporal Design: Rethinking Time in Design.” *Design Studies* 56 (May), 2018, pp. 169–84.

Posthumanistic Fix to the Temporal Myopia of Management Practices. Towards the Applied Solidarity of All Things

Michał Palasz

The Intergovernmental Panel on Climate Change (IPCC) reports are clear: the global heating is indisputable and the impact of man on the climate is obvious. Yet business and politics, generally speaking, keep on doing “business as usual”. The hypothesis of this presentation is that one of the

reasons of persistency of this condition is short-sightedness of political and business practices both, in space and in time.

One can conceptualise this short-sightedness in time as temporal myopia meaning very short time horizon of assessing the successfulness of political and business activities. In case of the former it is mainly the next elections, and in case of the latter the profit evaluation done by numerous stakeholders (mainly plain profit measured in money).

In this paper I propose the correction of largely popular, myopic definition of management by Ricky W. Griffin by rethinking the notion of assets. To put it bluntly, the assets need to be treated symmetrically, but not as in “business as usual” tactic, that is not by commodification of humans to human resources, but by assigning dignity and agency to all resources, human or non-human (informational, physical, financial), so they can be treated as persons, not as assets. That kind of progressive role-twist creates a possibility of multi-actor, sustainable, heterogeneously solidar, common good oriented socio-material future reality, symmetrical in the spirit of actor-network theory. This also allows one to explore how dignification of things and recognising their agency changes their position in time in the context of climate crisis.

—

Augmented tree rings: visualising layers of time in environmental bioindicators

Anna Madeleine Raupach

This paper will present recent artwork that uses augmented reality (AR) to embody multiple temporalities of climate change simultaneously occurring in physical space. I will demonstrate innovative use of AR that uses organic markers as image detection targets to re-interpret non-human time scales of the natural environment. My recent practice-based research has applied this technique to environmental bio-indicators such as tree rings that reveal information about past and current ecosystems.

Experiments using natural markers including fossils, rocks and leaves show that AR can vividly represent the hidden affordances of organic entities and the time scales on which they operate. This process is particularly effective in engaging with dendrochronology, the science of tree-ring dating. Augmenting physical wood specimens can portray proxy data that indicates climate conditions that have affected a tree’s growth over time periods of up to 400 years, and translate this time scale into expressive visual and spatial forms.

My AR practice employs a style of experimental animation different from the usual aesthetics of digital technology. By layering this form of moving image onto physical natural objects, a new entanglement of temporalities emerge: the gestural motion of a hand-drawn line, the expectation of technology to provide instant interaction, and the apparent stillness of a natural component that

changes at a vastly different pace to that which humans normally perceive. The interplay of these timescales is portrayed through ‘seamful’ layering of two-dimensional planes, where separating the visual layers in AR suggests the multiplicity yet variation between timescales, such as those evident in tree rings.

I propose this practice-based research helps express complex climate change temporalities by engaging physical present space with dynamic references to abstract time scales and rhythms of natural cycles. In this paper I will show examples of my practice and discuss these aspects of my work.

—

Demanding demand: Political configurations of energy flexibility in Berlin, 1920-2020

Siddharth Sareen & Timothy Moss

Berlin’s modern history provides an instructive window on the evolution of energy flexibility in an urban context. Since being enlarged to its current territory in 1920, it has encountered a huge variety of political regimes and disruptive socio-economic events that have substantially impacted energy use and supply. This paper explores and assesses a century of responses to fluctuations in energy demand and supply in Berlin, revealing their relevance to contemporary challenges of flexibility in urban energy systems. Drawing on insight from energy studies, energy history and urban studies, it highlights how flexibility options have been – and still are – shaped by a degree of local energy production and an ‘energy urbanism’ agenda.

—

Acting in the Anthropocene: Permaculture as a form of activism

Josefine Løndorf Sarkez-Knudsen

This paper examines the relation between climate activism and notions of time. Departing from the study of resilient farming methods i.e. permaculture I look into how the activists/farmers, through everyday entanglements with human and other-than-human beings organize and negotiate different layers of time, and how this suggests a ‘silent’ form of activism.

Food is a vital element of human well-being and survival. However, the current food and agricultural system is causing environmental and societal problems. Monocultures, overproduction and pesticides exploits and degrades the soil and ruins natural ecosystems and biodiversity. Together with a growing population the agro and food industries will face massive challenges of feeding future generations. Thus, with the need for more a sustainable and resilient agro and food system, I direct attention to permaculture (permanent agriculture), a design system that stands in contrast to the dominating ones.

By mimicking natural ecosystems the permaculture farmers seek to establish a resilient food system that needs less space, water and maintenance than conventional farming systems. However, the transition into this system takes a considerable amount of time, up to 5 years, and demands much planning and maintenance to begin with. Drawing on the respective work of Aleida Assmann and Barbara Adam, I examine how different layers of time are enacted, organized and negotiated by the activists/farmers in their daily work and routines in and outside the field. Moreover, ‘silent activism’ is suggested as a concept for understanding permaculture in connection to current discourses on climate change and activism.

Temporalities of energy transitions: Sociotechnical imaginaries of regional mitigation efforts in Sweden

Isak Stoddard & Magdalena Kuchler

Despite more than 30 years of increasingly dire warnings from science, the establishment of an international climate regime and a plethora of climate action, carbon dioxide emissions continue to rise and are today 60% higher than they were in 1990. As the burgeoning field of energy research in social science and humanities illustrates, the narratives and practices of industrial modernity are deeply entangled with fossil fuels, with future visions “rarely being a radical departure from the past”. The vast research on energy transitions has emphasized the many decades-long time periods involved in the transformation of energy systems. Whilst the Paris Agreement established an unprecedented covenant amongst world leaders to take urgent and decisive action, even industrialized and wealthy countries labelled as ‘climate progressive’, such as the United Kingdom and Sweden, continue to rely on mitigation targets that fall far short of their Paris temperature and equity commitments. In Sweden, the realization that the net-zero climate policy framework adopted at the national level may be insufficient to live up to such commitments has sparked a series of political and bureaucratic efforts at the local and regional level that argue for more immediate and rapid mitigation. In this conference contribution, we ask whether there is any indication that the emerging “fossil free” imaginaries of rapid energy transitions and regional mitigation efforts in Sweden might be an impulse for the departure from the fossil intensive past. We do so by sharing insights into a study of the two distinct Swedish counties of Uppsala (mainland) and Gotland (island) – both declaring ambitions to become forerunners in the transition towards fossil-free energy systems. The socio-technical imaginaries underpinning the climate- and energy visions of these counties are explored, with attention to the temporalities forwarded by the proposed regional strategies. More specifically, we scrutinize various types of speeds and durations of envisioned plans and their ability to imagine energy transitions where energy use decreases and fossil-fuel based infrastructures and practices are disassembled. We argue that temporalities embedded in

regional energy visions are (re)shaped and constrained by the powerful grips of contemporary climate and energy governance and socio-material circumstances.

Audiovisual Temporalities in the Anthropocene: Sound and Musical Aesthetics in Chernobyl (2019)

Tore Størvold

This paper casts light on the ways in which new audiovisual technologies are able to configure specific experiences of temporality. The acclaimed television miniseries *Chernobyl* (2019) features an eerie soundtrack that musicalizes the silence of radioactivity. Hildur Guðnadóttir's score is composed of field recordings from a nuclear power plant, treated and fitted together in ways that evoke the multi-generational temporal implications of the Chernobyl catastrophe. This paper proceeds from the audiovisual analysis of Guðnadóttir's music in key scenes from the television series. I consider radioactivity to be a "hyperobject" (Timothy Morton) which –like climate change– is massively distributed in time and space relative to humans. Hyperobjects are difficult to grasp in meaningful ways and are particularly beholden to aesthetic framing. The music of *Chernobyl* is structured in ways that retain some of the temporal and spatial ambiguities that characterize the hyperobject. As Karen Barad notes –invoking quantum field theory– Chernobyl is a "strange topology"; a superposition of past, present, and future. Such a superposition characterizes the experience of watching and hearing *Chernobyl*. The immersive qualities of the audiovisual aesthetics "arrests" a particular quality of time, and in the process directs attention towards the nuclear futures set in motion by the catastrophic event. Radioactivity involves a layering of human and geological timescales in ways that are similar to climate change. Guðnadóttir's work for *Chernobyl* harnesses the temporal aspects of music to suggest the ambiguous timescales implicated by our present Anthropocene condition.

The future is now: Climate change, permafrost thawing, tipping points and the fluid temporalities of the Anthropocene

Henrik H. Svensen

The geological archive contains records of rapid and catastrophic changes in the Earth system. Several time periods characterized by carbon-driven climate changes have been recognized during the past decades, with global temperature increase in the 5-10 C range followed by oceanic anoxia, sea water acidification, and major environmental changes on land, including mass extinctions. The similarities between these past events and the challenges of the Anthropocene are striking. As a result, environmental knowledge from deep time is often used to derive lessons about how the Earth system

may change and develop in the near and distant future. Such an understanding of Earth history is at odds with the traditional “the present is the key to the past” doctrine, and requires an analysis of both the scientific understanding of the present-past link and how the temporal dimension of knowledge is presented to a broader audience.

Here we investigate how deep time events are understood in the context of current and future anthropogenic changes, by focusing on the Paleocene Eocene Thermal Maximum (PETM) that took place 56 million years ago. During the PETM, the Earth experienced a long-lasting climate change. Today, the PETM is often used as an example of what may happen in the future if the global temperature continues to rise. Among the suggested triggers of the PETM is thawing of permafrost. Permafrost is present at high latitudes and elevations across the world, and below the sea floor on continental margins (called gas hydrate). As permafrost binds huge amounts of carbon, Earth system feedbacks in a warming world will lead to permafrost thawing and an accelerated concentration of CO₂ in the atmosphere. We will investigate to what extent the current climate change and knowledge about permafrost thawing have influenced the interpretations of climate change in the geological past, and how the past might also influence interpretations of the present/future.

—

Creating an Anthropocene Aesthetics ? – The Anthropocene Project as a traveling exhibition and contemporary art installation.

Tonje H. Sørensen

The Anthropocene Project is the name given to a collaboration between photographer Edward Burtynsky and filmmakers Nicholas de Pencier, and Jennifer Baichwal. It states that in «Combining art, film, virtual reality, augmented reality, and scientific research, the project investigates human influence on the state, dynamic and future of the Earth.» (The Anthropocene Project, 2019).

It seeks to do so via the combination of a significant number of Burtynsky’s large scale aerial photographs, a selection of documentary films and a traveling exhibition currently touring selected, high cultural venues in Europe.

As the title, mission statement and participants indicate *The Anthropocene Project* is intermedial and interdisciplinary and situated somewhere between the contemporary art scene and current academic debates about the anthropocene. In this paper I will engage with and reflect upon *The Anthropocene Project* as an example of contemporary museological and art historical reactions to the climate crisis. In particular I will consider how the project creates a form of what I term Anthropocene Aesthetics, and if this aesthetisation helps or hinders the dissemination of the project’s proclaimed ideological agenda.

In this undertaking I will give particular focus to Burtynsky's use of aerial photography, and consider how this situates him at a convergence between the traditions of landscape photography (for instance the work of Emmet Gowan) and the practice of aerial surveillance and mapping. I will also consider the exhibition's extensive use of AR technology (the AVARA-app) and how this high tech interaction is presented as a novel way of making the visitor engaged in the exhibition, and by implication in the larger themes of the anthropocene and climate crisis which project proposes to embody.

The boundaries of solidarity – an extension of time

Marianne Takle

Over the last three decades, an increasing number of legislative and policy measures have included a concern for future generations. In parallel, there is a growing academic literature analysing the theme. Behind this political and scholarly attention is a worry about the highly problematic consequences if present generations transfer irreversible environmental damages to individuals who will be born in the future. Yet, it is unclear what kind of responsibility the current generation has.

This proposed paper aims to examine critically: What would it mean to act in solidarity with people who are not yet born?

The point of departure is that the boundaries of whom we will act in solidarity with can be drawn in relation to the nation, Europe or the whole world. However, a concept of solidarity with future generations requires that the boundaries are not only drawn in relation to territorial space and administrative unit, but it also requires an extension of time. Therefore, we need to include various understandings of the relationships between past, present and future.

National solidarity is based on a sense of timeless continuity with past generations, which is transmitted to future generations understood as future citizens of the nation state. In contrast, a cosmopolitan concept of solidarity with future generations would accentuate the future, rather than the historical traditions, to define the policy of the present generation. This way of connecting past, present and future would be better equipped to approach the current environmental challenges, but its foundation is weaker as it lacks the historically defined national boundaries that typically help determine with whom one should act in solidarity.

This paper analyses in which ways the various understandings of time are decisive to what it means to develop and legitimate a future oriented policy i.e. to what extent and how responsibility for the future generations can be built into current policies.

Working with climates: multiple climates in Spanish conventional greenhouse production

Trine My Thygaard-Nielsen

Anthropologists have increasingly drawn attention to the dilemmas caused by changing climates around the world, especially in areas most inflicted by drought, flooding and glacier melting. In contrast, this paper turns the lens towards how climate change is experienced by people who are regarded as leading producers of climate change: namely, those guiding large-scale mainstream agricultural production. By presenting material from recent fieldwork in the industrial greenhouse production area of Southern Spain, this paper sheds light on climate understandings and resilience among conventional Spanish horticulture producers. The paper takes seriously that each producer becomes an expert in the “micro climates” outside and inside his greenhouse and that these knowledges matter deeply to the shape of contemporary agriculture in Europe. It explores how producers engage with climate histories in ways that refute predictions that climate change will soon turn their region into a desert. Concretely, this paper highlights how such climate knowledges and histories continue to shape and refine greenhouse architecture and agricultural methods. By moving their engagements with climate into the spacetime of the everyday production cycle, the producers turn climate (change) into an everyday phenomenon in response to which they continue to experiment and tinker on their farms. Within this framing, they are successful if they manage to balance the unique climate of their greenhouse with the microclimate outside. Overall, attention to climate within mainstream agricultural production shows how it is important to understand climates in the plural, where global climate change is merely one kind of climate that intersects with others, each with their own rhythms, temporalities, and practices of engagement.

Climate change “on the body”: Anecdotal evidence and experts

Tessa van der Staak

My thesis: „Understanding climate change in Oslo: Dealing, sense-making and building on non-experience“ combines cultural frameworks and individual considerations in exploring how people live in a state of non-experience, relying on a scientific narrative rather than their own sensory experiences when making sense of climate change.

After the rather extreme weather events of the summer of 2018, I assumed that the climate-aware, young adults in Oslo would tell me about the drought, the heat and troubles of Norwegian farmers, and point to these as the actual results of climate change. But they did not.

My participants all believed climate change to be a real and current issue. They also agreed that the weather occurrences had been extreme and unusual, yet, they refused to build on anecdotal stories as

proof, and displayed a surprisingly conscious relationship as to the time that frames changes in climate. They helped me uncover the connection between truth and experts playing a vital role in shaping reality for these young adults, and how a number of local norms and values play an important role in this dynamic. Furthermore, I found interesting discrepancies as to what was experienced in the here and now, in terms of own sensorial perception, and how climate was framed as an issue of time.

The findings of my research highlight the importance of examining localized understandings of climate change as a complicated combination of global and scientific narratives, of local norms and values, and individual sensory experience; All of which hold their own temporalities, yet all commenced parallelly in the present moment in which people are trying to make sense of this large and abstract issue that is climate change.

—

Temporalities of walking in the Anthropocene

Camille Deschamps Vierø

Climate change provokes new ways of thinking our Western societies and their mechanisms. Deeply associated with the accelerated pace of industrial society, lives follow the economic pulsations of capitalism. With the Industrial Revolution and the beginning of the Anthropocene, we have moved from a way of life largely based on natural cycles and an agrarian era to the unbridled race for Progress. The rhythms of life, by accelerating and mechanizing, have ended up cutting humans off from their environment. Also, climate change is provoking new life practices that try to extract themselves from a dehumanized temporality cut off from nature. This is the case of walking.

Indeed, walking allows a triple movement. One step after the other, it allows one to abstract oneself from the time of the city, to seize the moment and to reconnect with natural temporality.

This paper will be based on the texts of Tomas Espedal, Erling Kagge and Arne Næss, while studying them in the tradition of literary and philosophical walkers (Henry David Thoreau, Jean-Jacques Rousseau). It aims to demonstrate that walking allows them, at a time when the climate and the environment are changing under human pressure, to reconnect with a forgotten temporality. Deeply subversive, walking goes against speed, noise and human disorientation in a world whose rhythms we no longer understand / know. The walker is part of a temporal stratum which is that of his environment and the cosmos. Walking is the channel that allows authors to sharpen their attention and senses, to see how human constructions disturb nature. Walking allows the authors to learn to observe the world, to read landscapes and to understand their place in the environment and its temporality.

Espedal, T. (2006). Gå. (Eller kunsten å leve et vilt og poetisk liv). Gyldendal Norsk Forlag AS.

Kagge, E (2016). Stillhet i støyens tid. Kagge Forlag AS.

Næss, A. (2008). Ecology of Wisdom. “An example of a Place: Tvergastein” (B. Devall & A. R. Drengson, Éd.; Vol. 1 1). Penguin Classic (2016).

Origin Myths from the Cultural Historical Archive of the Anthropocene: Vico, Burnet, and the Time of the Deluge

John Ødemark

In the seminal essay “The Climate of History”, Chakrabarty claims that the Anthropocene calls for interdisciplinary translations across an epistemological divide between nature and culture, and thus a reconciliation of Western historiographical genres, natural and cultural history, and their vastly differing timescales. Chakrabarty traces this divide in historiography back to Vico and the so-called *verum factum* principle. In Chakrabarty’s wording, this epistemological principle comprised the idea that ‘we, humans, could have proper knowledge of only civil and political institutions because we made them, while nature remains God’s work, and ultimately inscrutable to man’. Consequently, nature – the product of divine creation – was excluded from a historiography solely concerned with human constructions. This paper will retrace this history of a modern division of nature and culture within historiography. This will be done through a close reading of a section of the *First New Science* (1725) where Vico tackles Thomas Burnet’s sacred theory of the earth. Both Vico and Burnet set out to defend Christian chronology against the deep time of what we (with reference to the modern division) would call natural (emergent geology) and cultural history (accounts of Chinese and Egyptian chronologies). The paper examines how Burnet and Vico sift the narrative of the deluge – a shared paradigm – in relation to different ideas of historical time (obscure, fabulous and certain history) and various kinds of evidence for historical events (stones and linguistic forms). By doing this, the aim is to deconstruct the neat story of the division of natural and cultural history in Vico – and recuperate an early modern mode of ‘fabulous history’ where animals and humans are semiotic beings.