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Introduction: Exemplifying Climate Change

By Kyrre Kverndokk & Marit Ruge Bjærke

The latest special report from IPCC, on the 1.5 degree target of the Paris Agreement from 2015, repeats what has been commonly known for a couple of decades, that "[w]arming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system, such as sea level rise […]"(Allen et al. 2018: 7). The scale and range of this simple description seems overwhelming. What does global sea level rise imply? What are the consequences for the next generation, in the next century, or thousands of years from now? How will anthropogenic emissions affect the environment? How will it affect the different ways people live their lives? And how is it possible to solve or meet the global climate crisis?

The IPCC defines climate change as "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer" (IPCC 2014: 120). It is apparent from this definition that a major challenge in communicating the severity of climate change to a larger audience is that it is not directly observable. Climate change as defined by the IPCC is about means, variability and statistical tests, and the measuring and calculation of global climate change depends on advanced computing and huge amounts of global scale data. In her book, *Mediating Climate Change,* media scholar Julie Doyle states:

> To understand the urgencies of climate change is not simply a question of understanding or communicating the science better. […] [W]e need also to understand how climate change is *made meaningful* in order to be able to better address this issue. How climate change is perceived – individually and collectively – depends upon how it is made socially and culturally meaningful to particular audiences. (Doyle 2011: 2)

One way of making climate change meaningful is to focus on the specific effects of contemporary and future climatic changes. Climate researchers, policy makers, politicians, and popular media all use examples of such effects extensively. While the climate-changed future is personalized through the trope of "our children",

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often exemplified through the authors' own children and grandchildren, specific heat waves, hurricanes, droughts, and floods are used as examples of the disastrous effects of climate change. In this thematic section of *Culture Unbound,* we therefore explore the uses of examples as an approach to examining how the cultural meaning of climate change is produced and maintained.

Exemplifying examples

Chapter 3 in the already mentioned IPCC Special Report on the 1.5 degree target adds textboxes containing a number of examples of how a warmer climate will affect different regions of the world to the highly synthesized body text (Hoegh-Guldberg et al. 2018). The textboxes on the consequences of rising temperature in sub-Saharan Africa, increased vulnerability of water supplies for small island states, decline of warm water coral reefs, and the impact of climate change on the global economy all tell the same story: A global temperature rise of 2 degrees at the end of this century will have huge impacts on nature and society, while the impacts of a 1.5-degree rise will be more moderate. The information presented in the textboxes does not differ substantially from the descriptions in the body text of the report. The difference is that the figures and numbers are substituted by examples.

One of the textboxes is entitled "Droughts in the Mediterranean Basin and the Middle East". It presents the area as "an example of a region with high vulnerability where various adaption responses have emerged" (Hoegh-Guldberg et al. 2018: 200). The textbox continues:

> The long history of resilience to climatic change is especially apparent in the eastern Mediterranean region, which has experienced a strong negative trend in precipitation since 1960 (Mathbout et al., 2017) and an intense and prolonged drought episode between 2007 and 2010 (Kelley et al., 2015). This drought was the longest and most intense in the last 900 years (Cook et al., 2016). Some authors (e.g., Trigo et al., 2010; Kelley et al., 2015) assert that very low precipitation levels have driven a steep decline in agricultural productivity in the Euphrates and Tigris catchment basins, and displaced hundreds of thousands of people, mainly in Syria. Impacts on the water resources (Yazdanpanah et al., 2016) and crop performance in Iran have also been reported (Saeidi et al., 2017). Many historical periods of turmoil have coincided with severe droughts, for example the drought which occurred at the end of the Bronze Age approximately 3,200 years ago (Kaniewski et al., 2015). In this instance, a number of flourishing eastern Mediterranean civili-

> zations collapsed, and rural settlements re-emerged with agro-pastoral activities and limited long-distance trade. This illustrates how some vulnerable regions are forced to pursue drastic adaptive responses, including migration and societal structure changes. (Hoegh-Guldberg et al. 2018: 200)

The textbox concludes that "[r]isks of drying in the Mediterranean region could be substantially reduced if global warming is limited to 1.5 degree compared to 2 degrees or higher levels of warming […]. Higher warming levels may induce high levels of vulnerability exacerbated by large changes in demography" (Hoegh-Guldberg et al. 2018: 201). Thus, the collection of examples of drought in the eastern Mediterranean brings a threefold lesson: The change in precipitation from 1960 and onwards illustrates a global climatic tendency, the description of the drought between 2007 and 2010 as the "longest and most intense" in 900 years indicates the size of this tendency, and the reference to the drought 3,200 years ago shows the possible consequences for civilization. The historical description of droughts in the Middle East constitutes the background for future predictions on drought in the region, as well as for the societal consequences of such droughts.

One reason why these examples work so efficiently is that they are presented as facts. The drought between 2007 and 2010 is indisputable. It was observed and measured, and millions of inhabitants in the region experienced it. Thus, a seemingly unquestionable reality is brought into a text that otherwise contains statistics, graphs and abstract conclusions about the development of the global climate. The drought works as "a way of gesturing outside the pure discourse of the speaker/writer toward support in a commonly accepted textual or referential world", to use the words of literary scholar John Lyons (Lyons 1989: 28). This is, according to Lyons, one of the rhetorical qualities of an example.

Lyons further remarks that examples are not naturally given, but carefully selected, framed and presented in order to make a clear point (Lyons 1989: 33–34). The authors of the IPCC report choose to focus on periods of drought in the Middle East and connect them to "periods of turmoil", rather than, for instance, focusing on the large-scale fires in countries such as Portugal and Greece. The text does not explicitly claim that the drought between 2007 and 2010 was one of the factors that facilitated the Syrian civil war. Yet by stating that "[m]any historical periods of turmoil have coincided with severe droughts", it implies that it was likely. With the Syrian war as a backdrop, the descriptions of droughts are turned into alarming examples of the consequences of climate change. Thereby, they also demonstrate how the practice of selecting and framing examples is a useful rhetorical strategy for persuasion.

However, these examples of drought are more than cleverly framed illustra-

tions of a point. They are also epistemological tools. The drought in 1960, the drought period between 2007 and 2010, and the drought 3,200 years ago do work as three inductive examples demonstrating the vulnerability of the region. But when the text moves on to discuss the future "potential evolution of drought conditions", they also work as a basis for predicting the societal effects of droughts in the future (Hoegh-Guldberg et al. 2018: 201). Even though the IPCC does not spell it out, both the drought that caused the collapse of "a number of eastern Mediterranean civilizations", and the drought between 2007 and 2010, with its implied connection to the Syrian civil war, work as models for imagining the future.

According to literary scholar, Alexander Gelley, there are two distinctly different logics of exemplarity. One is where the examples are used inductively to illustrate a tendency or a general statement. And the other is where the example works as a paradigmatic ideal or a model. Gelley terms these Aristotelian and Platonic logics of exemplarity, respectively (Gelley 1995: 1–2). Anne Eriksen et al. (2012: 13) have, however, remarked that these logics are often entangled. "The example is *both* one of a series and one of a kind, and it is in this doubleness that its power resides. Functionally, the example is a point of exchange between the regular and the exceptional, and from this stems its cultural and rhetorical energy," writes Anne Eriksen, in her contribution to this thematic section of *Culture Unbound*. The examples of drought from the eastern Mediterranean region illuminate this duality; they are at the same time illustrations of a series of droughts in the past, and warnings of what may happen in a climate-changed future.

This duality is the main reason why we claim that examples are so important in climate change discourses; in political speeches and popular media; and even sometimes in scientific texts, as Svensen, Bjærke and Kverndokk show in their contribution to this thematic section. As we have demonstrated by using the IPCC report on the 1,5 degree target as a case, examples may seem like concrete snippets from real life directly turned into text. They seem to be useful devices for researching and communicating a phenomenon that is, at the same time, both concrete and abstract. However, since they work as both illustrations and models, they become something more than pedagogical devices and tools for persuasion. They retain their role as epistemological models, not only innocently illustrating, but at the same time answering questions of what is right and wrong.

Exploring three analytical shifts

Climate change is an entangled academic, political and societal field, which is highly normative. Texts produced within this field constantly balance between emphasizing scientific uncertainty and trying to convince an audience, and they very often do this by using examples. The uses of examples, however, may imply

some almost unnoticeable analytical shifts. The articles in this thematic section of *Cultural Unbound* explore three such shifts facilitated by using examples: an epistemological one, from probability to an emphasis on exemplarity; a temporal one, from chronological to non-chronological temporalities; and a discursive one, in the sense that examples of climate change also tend to dominate neighboring environmental discourses. The articles also demonstrate how these epistemological, temporal and discursive shifts are often interconnected.

Several of the contributions show how the uses of examples imply a shift away from an argument based on probability and uncertainty towards an argumentation based on exemplarity. Kyrre Kverndokk's article, "Risk Perception through Exemplarity: Hurricanes as Climate Change Examples and Counterexamples in Norwegian News Media", examines how news media present extreme weather events as examples of a climate-changed future. Extreme weather events such as hurricanes are used by newspapers as examples of climate change or the climate crisis, but are also used by climate skeptics. Kverndokk argues that the usage of hurricanes as examples of climate change "is a way of producing an experienced basis for imagining and predicting the unpredictable future, where both weather patterns and the climate will change fundamentally." The article shows how these hurricanes, through the rhetorical use of them by mass media, are incorporated in a global web of disasters. Kverndokk argues that such example-based reasoning may be understood as a certain kind of risk perception involving both a temporal and spatial entanglement of the future and the present and an entwining of actual, emerging and potential disasters. This rhetorical practice represents a notion of cultural catastrophization by calling upon a fear of an uncontrollable disastrous future. In this light, the climate change skeptics' attempts to turn hurricanes into normal and local phenomena, independent of human action, may also be regarded as attempts to de-catastrophize contemporary society.

The article "The Past as a Mirror: Deep Time Climate Change Exemplarity in the Anthropocene", by Henrik H. Svensen, Marit Ruge Bjærke and Kyrre Kverndokk, also explores an epistemological shift towards reasoning through exemplarity. It examines how the deep past is used in understanding the present and planning for the future. Pursuing the claim of historian Dipesh Chakrabarty that "[t]he discussion about the crisis of climate change can [...] produce affect and knowledge about collective human pasts and futures that work at the limits of historical understanding" (Chakrabarty 2009: 221), the authors ask how deep time geological events are made relevant for the present and the future. This question is answered through an analysis of how a period of rapid global warming 56 million years ago, the so-called Paleocene-Eocene Thermal Maximum (PETM), is used as an example in texts representing different scientific genres. The article argues that the way the PETM is used as an example has formal similarities with the early mo-

dern notion of history, often termed historia magistra vitae. The deep geological history works as an authority to consult in order to avoid a disastrous future, both in a scientific and in a moral way. In this way, the article shows how old ways of engaging with the past might be actualized in the Anthropocene.

The *historia magista vitae* topos, discussed by Svensen, Bjærke and Kverndokk, is also examined by Anne Eriksen in her article "History, Exemplarity and Improvements: 18th Century Ideas about Man-Made Climate Change". The article provides a historical depth to the discussion of examples in contemporary climate change discourses. Eriksen describes how the Norwegian historian, Gerhard Schøning (1722–1780), discussed the possibility of changing the Norwegian climate by cutting down forests, arguing that this would improve the climate and increase crops. Schøning's argument was based on examples from Greek and Roman history. This way of arguing draws on the *historia magsistra vitae* topos, where history is regarded as a reservoir of examples from which to learn. Eriksen shows how historical examples were used in social planning in the late 18th century, and demonstrates how historically-specific notions of temporality are embedded in notions of the climate and climatic changes.

The connection between examples, climate change, and temporality is also elaborated in John Ødemark's contribution, "Touchstones for Sustainable Development: Indigenous Peoples and the Anthropology of Sustainability in *Our Common Future*", although his aim is to highlight the struggle over *space* within discussions of the Anthropocene. Through a close reading of the report, *Our Common Future* (1987), he demonstrates that "indigenous and tribal peoples" are construed as living examples of the sustainable management needed to face new ecological challenges. Even though, as he writes "this may seem like just another case of the much-commented upon 'noble' or 'ecologically noble savage'," Ødemark's main argument is that the particular conceptions of "culture" and "ecological" wholes that are part of this exemplarity enable a translation between vastly different scales in the report – between local and "bounded" indigenous cultures, and the earth as a blue marble suspended in cosmic space.

The use of examples may also facilitate shifts of focus between different environmental discourses. Mass extinction and biodiversity loss is currently an intensely debated topic in environmentalism as well as in popular media. Marit Ruge Bjærke's article, "Making Invisible Changes Visible: Animal Examples and the Communication of Biodiversity Loss", discusses how examples of threatened species are used in texts on biodiversity loss. Bjærke contends that the choice of examples affects the understanding of the size of an environmental problem as well as of what the solution might be. It matters whether the example of biodiversity loss is a ptarmigan, important for recreational hunting, or a cuckoo, connected historically to magic and bad omens. Bjærke shows that biodiversity loss is

often presented as a local effect of global climate change, pointing towards future effects of climate change, but overlooking present pressures such as changes in land use.

One challenge when exploring examples is the way the examples themselves seem to pop up everywhere in our own texts. We simply cannot avoid using them; neither when we try to show how examples are used, nor when we try to show what the various examples do. Still, we contend that the five articles in this thematic section demonstrate that examples are not merely simple pedagogical illustrations of climate change, but are integrated parts of the processes of giving climate change meaning, in the interface between science, politics and popular media. They show how notions of climate change are related to a range of societal and cultural fields, such as understandings of traditional culture and sustainability, understandings of biodiversity loss, imaginaries of disasters and expectations of the future. In other words, examples are not just illustrations of general principles of climate change, they are also devices for interpretation and cognition. Herein lies the power of examples.

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The contributors to the thematic section participate in the ongoing research project "The Future is Now: Temporality and Exemplarity in Climate Change Discourses", funded by the The Research Council of Norway. The project lasts from 2017 to 2020, and one of its main objectives is to use exemplarity as a methodological approach to understand notions of time and temporality, and how the past, present and future interconnect in vernacular, media and scientific discourses on climate change.

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