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Building Bridges:

**Finding Common Ground for a
Sustainable Future**

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Call for Papers for Issue #11 can be found in the middle of this issue.

More information will be announced on our web page and our Facebook page.

Tvergastein accepts submissions in two categories: Shorter op-ed pieces (2,000 - 5,000 characters) and longer articles (10,000 - 20,000 characters), in either English or Norwegian.

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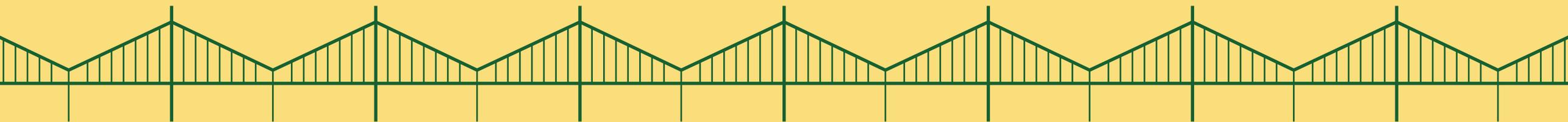
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Letter from the editors

This issue of Tvergastein marks an exciting threshold for our journal. In 2012 a group of students pulled together the first ever issue, and five years later we have reached our 10th. During this time over 50 students have been involved at different times, all working interdisciplinarily to explore the environmental issues of our time.

As a tribute to what first inspired the start of Tvergastein we have chosen the topic 'Building Bridges' for this anniversary issue. Inspired by Arne Næss, the founders of Tvergastein wanted this journal to be a platform for rebuilding bridges between activists and academics in the face of environmental issues. In the first editorial board's own words:

"We recognize that the scale of environmental problems is such that they affect nearly every field of study. What is needed is to join forces, to understand our greatest challenges through every available lens and from every perspective." Although all of our issues in different ways try to tackle this task, issue 10 seeks to explicitly explore the ways in which we communicate and collaborate in pursuit of sustainable societies.

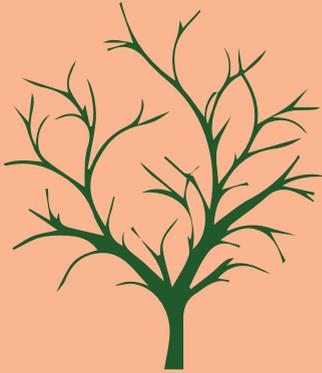
This issue is packed with different perspectives on the topic of building bridges. Scattered among academic theories on communicating climate change and building bridges in environmental governance you

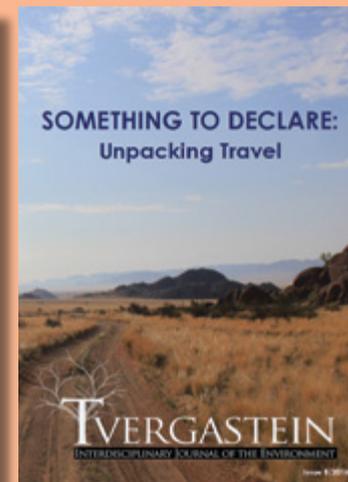
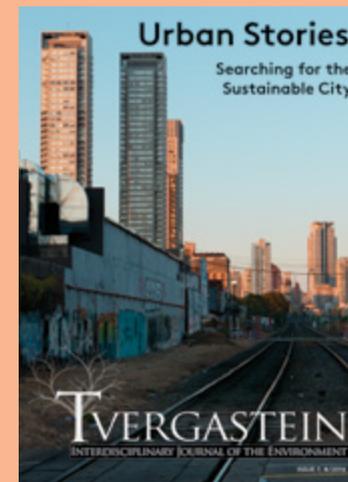
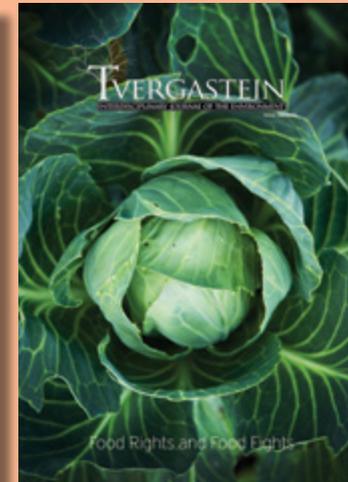
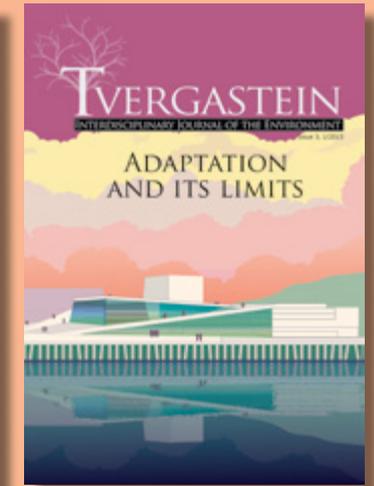
will find practical examples from neighbourhood collectives and festivals to planet-friendly parenting and climate fiction. Through this diverse collection we hope to inspire communication and collaboration in all levels of society, and encourage all of us to build bridges through rewarding dialogue and collective action.

Adjoining this editorial we proudly present an exhibition of our previous issues, each approaching environmental issues in their own unique way. We now add this one to the collection, and hope you enjoy it as much as we do.

Tvergastein Board of Editors




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ISSUES
 — OF —
TVERGASTEIN



Searching for the Middle Ground on Climate Change

Christopher Shaw

The key task facing humanity at this moment is to develop a structure which brings people together in democratic, deliberative discussion about the risks posed by climate change. Such dialogic processes will be essential if we are to move beyond simply improving awareness of climate risks to a situation in which people have the confidence, knowledge and networks needed for the creation of new forms of economic and social organisation that are best suited for living through the unfolding crisis.



“When has humanity as a whole even undertaken – let alone controlled, still less achieved – any single explicitly and collectively deliberate end?”¹

Though political polarisation on climate change is most pronounced in the anglophone countries (e.g the US and, to a slightly lesser extent, the UK and Australia)²⁻³, there is a sense that many other countries lack the level of public support required to motivate politicians to act decisively on this issue. In order to generate a widespread and manifest public demand for action it will be necessary to build bridges across political fault lines.⁴ Part of this bridge building will involve improving public understanding of the risks posed by climate change, alongside offering possibilities for responding to climate change that are commensurate with the scale of the threat. However, the bridge building agenda is in itself problematic, in so much as it suffers from the demand that we must all agree on one answer. That one answer to the question of how to ‘solve’ climate change is, in large part, the product of liberal ideology. The Western institutions that have defined what sort of problem climate change is, and hence what sort of responses are appropriate, are governed by liberal norms.⁵ The liberal capture of climate change poses a significant challenge to the bridge building agenda, in so much as it is an agenda which requires everyone to embrace liberal representations of what constitutes a reasonable and acceptable trade-off between harm and cost, whilst masking what is an ideology as a natural state of affairs.

Liberalism (in the classical, rather than neo-liberal sense)⁶ is presented by its supporters as

occupying the centre ground of politics. Yet it is not, if the goal is to avoid dangerous climate change, *prima facie* the best perspective from which to construct climate change policy. Visualising the bridge building metaphor provides an image of all ideological roads converging on the liberal centre ground, an inalienable post-historical, post-ideological and post-political space where it is possible to construct climate change policy free from all personal interest and bias.⁷ The absence of any historical precedent for the peaceful resolution of ideological differences makes it important to look afresh at this comforting vision, open our eyes and examine the extent of bridge building that is realistically achievable, acknowledge the compromises required for that bridge building, and from that place attempt a more inclusive discussion about the acceptability of those compromises.

This paper begins by examining the compromises required to reach agreement on how much climate change is too much (the concept which *apropos* Marx, constitutes the very base of the climate change superstructure). The paper then proceeds with a brief overview of strategies for building bridges on the energy policies seen as appropriate for delivering those goals. The final part of the paper assesses the potential of peer-to-peer conversation for generating inclusive visions and strategies that are capable of moving beyond a defence of liberal ideologies.

Turning climate science into liberal ideology

‘Solving’ climate change involves agreeing what counts as a successful outcome or target for climate policy, building trust in the scientific knowledge underpinning that target, and creating a social consensus on the policies needed to deliver that target. It seems doubtful that the threat of devastating climate change will be enough to bridge the ideological divides on climate change. As evidence for this conclusion we can look to the 2OC target enshrined in the Paris Climate Accord, a target designed to unite humanity in achieving Stirling et al.’s ‘collectively deliberate end.’⁸ The agreement reached in Paris in 2015⁹ was the result of more than 20 years of bridge building efforts. But the Americans have just voted for a President who feels such policies are unnecessary, leaders from the global south feel 2OC is too high a limit,¹⁰ whilst the science underpinning the targets remains in dispute.¹¹

The 2OC target is itself a compromise that entails a commitment to grave climate risks, which has emerged out of an unreflective and undemocratic process.¹² Leaving aside discussions of the extent to which there is any real commitment to observe the 2OC goal, let alone 1.5OC (with current agreements giving at best 2.7OC of warming)¹³ it should be recognised that the 2OC policy framework does have some merit, but only as a starting point for bridge building, not an end goal. The target has merit because in those countries which are signatories and which have agreed targets aligned with the Paris agreement, there is now a focal point and an imperative for action. But as will be argued later, the bridge building process will be more robust if it seeks to open up the discussions beyond simply seeking consensus for the 2OC target.

“It seems doubtful that the threat of devastating climate change will be enough to bridge the ideological divides on climate change.”

Using language to build bridges between different values

Public attitudes to climate science are no longer seen as straightforwardly attributable to a lack of knowledge (the so-called ‘deficit model’ of science communication).¹⁴ Values, along with worldviews and political ideology, are much more fundamental in shaping views about climate change than people’s level of knowledge about the science.¹⁵ Values are ‘guiding principles in the life of a person’, and are distinct from beliefs or attitudes, in that they are relatively stable and fixed.¹⁶ There is now a robust body of evidence that shows people have a range of values, and may draw on different ones at different times, but certain types of values cluster together (while others conflict with each other). In particular, ‘self-enhancing’ values like wealth, status and power conflict with ‘self-transcending’ values like altruism and concern for the welfare of others.¹⁷ It is the self-transcending values which are most strongly correlated with concern about climate change, whilst endorsement of free-market economics and ‘self-enhancing’ values are associated with higher climate change scepticism.¹⁸

The ‘science of climate science communication’¹⁹ is highlighting how language that speaks to people’s values can help build bridges between what the climate science is telling us about the threat posed by climate change and different political beliefs.²⁰ Like all science, the science of climate communication is an ongoing process of refining our understanding, rather than a set of settled answers. Indeed, this is one of the key findings about the effective communication of climate science; when people understand that science is a debate rather than a fixed set of answers, that uncertainties remain because it is in the very nature of science to generate uncertainties, then those uncertainties are less likely to be interpreted by the public as reasons for inaction.²¹ This is an important step because uncertainty has long been used to reinforce the scepticism of the political right.²²

Campbell and Kay described the phenomenon of ‘solution aversion’ among US conservatives, arguing that Republicans’ scepticism towards scientific knowledge about climate change and the environment

is actually explained by a conflict between their ideological values and the most popular solutions to environmental problems, rather than the scientific evidence itself.²³ As a result communicators attempting to broaden support for climate policy often focus on the co-benefits of climate measures. For example, renewable electricity generation is promoted less as a climate mitigation strategy and more as a means of ensuring cleaner air and improved health.²⁴ And a recent study carried out in partnership with researchers at Cardiff University found that communicators should focus on ideas like avoiding wastefulness in energy use and a patriotic sense of investment in the energy system in order to speak to common political ground.²⁵

Instead of talking about the need for a social, political and economic revolution, which can alienate many on the political right, it is more effective to talk about an energy revolution. The goal of this energy revolution is to rapidly decarbonise the energy supply. This centre ground narrative reassures the political right that we will have as much energy to use

as we ever did, the switch to renewables can be achieved by the market, boost economic growth, create new jobs, ensure energy security and deliver cleaner air. The scientific projections of life altering climate impacts at 20C are absent from this scenario – climate change has simply disappeared as a result of finding a set of policies which builds bridges between the different ideological positions.

Building bridges through conversation

Communication and messaging, which speaks to the self-transcending values we hold in common, is an important aspect of building support for the transition to a decarbonised energy system. But it is not enough if we want to build an inclusive climate citizenry which can be part of a truly historical shift of consciousness that moves us all into a deeper engagement with what is being risked under the 20C regime. We are going to have to move beyond one way communication from experts to the people, and instead open up the space for people to talk to each other about these issues. The evidence of the past two or three centuries is that profound progressive social change will require giving people the opportunity and space to come together and talk with each other about the choices we face, rather than being lectured to about targets and atmospheric chemistry. The power and potential of conversation in delivering large scale climate change mitigation remains unrealised, because climate change has been turned into an economic problem, to be understood and managed through the medium of number. But politics functions in the medium of language.²⁶ In order to build engagement with climate change policy, our options must be transcribed from the medium of money into the medium of language,²⁷ and this transcription must happen democratically. It should not be a professionally facilitated encounter, designed

with the goal of manufacturing agreement with numerical objectives determined by socially and geographically distant bureaucrats or politicians. These conversations should not be grounded in externally defined ideas of direct or immediate utility.²⁸ This is a special kind of conversation. It is the kind of conversation that informed the massive social changes of the Russian Revolution, it was the kind of conversation that led to the Paris commune,²⁹ it is the kind of conversation that gave birth to the enlightenment.

Climate Outreach is a charitable think tank, with a focus on bridging the gap between research and practice in order to widen engagement across a broad spectrum of society. It is our experience that when people come together - and by people I mean ordinary members of the public, the unconverted - and are given the opportunity to sit down round a table and talk about the future they want, what climate change means for that future and the fairer and kinder society needed in order to deliver a desirable future, then people really come alive.³⁰ Beginning the conversation disinterestedly slouched in their chairs, by the end of the conversation people are leaning forward and demanding to know why governments aren’t taking action on climate change. We don’t encounter scepticism. What we do encounter time and time again is gratitude for having been given the chance to talk about climate change, because this is not something that people feel free to talk about in ordinary life.

In summary, ordinary people can build their own bridges, when given the space and permission to do so. Bridge building is not going to be managed from above; elite interests are more concerned with building walls between people and diverting the political energy of the general public into high energy consumption and safe forms of cultural outlets.



Conclusion

This paper began with a quote casting doubt on the possibility of reaching global agreement on how to deal with a problem like climate change. There is little historical evidence that bridge building between all sections of society has ever played much of a role in the kind of profound and rapid social changes implied by the need to mitigate and adapt to climate change. Marxist theory maintains that societies progress through a dialectical process of conflict. The bridge building metaphor – which is essentially the product of liberal ideology – challenges this conception of social change, and points to the possibility of a peaceful, orderly transition to an environmentally sustainable way of life. The research into the science of science communication has made significant progress on identifying strategies for communicating climate change that can at least diminish some of the barriers to broaden and deepen the social consensus on climate change. The real challenge now is to move beyond communication to conversation in order to democratise access to the knowledge, networks and tools for living through what promises to be a period of extremely damaging climate change. The benefit of this process will not be to avert dangerous climate change, but to understand how it was that we found ourselves in this situation and what can be done to make sure future generations never face such a horrific and unnecessary scenario as the one that now confronts us.



“The real challenge now is to move beyond communication to conversation in order to democratise access to the knowledge, networks and tools for living through what promises to be a period of extremely damaging climate change.”

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Bridging Academia and Activism

Sean Michael Thompson

This article takes an interview with a neighborhood activist as the point of departure for exploring the relationship, and possible bridging points, between academia and activism. The author's fieldwork, located in a series of parks in Buenos Aires, Argentina, led to an interest in how activism and academia can complement each other in order to achieve their often-similar goals.



Photo: Paul Sakuma

The origins of this article lie in a non-descript café located on one of the main traffic arteries in the Buenos Aires neighborhood called Palermo. Seated with me was a respected lawyer in the twilight of his career named Octavio. His passion over the previous few decades was focused on a complex of parks named Parque 3 de Febrero, and their treatment at the hands of successive federal and civic governments. Toward the end of the conversation, he was curious as to whom I had contacted for the project. After rattling off a list of anthropologists and other academics Octavio leaned back, guffawed, rolled his eyes and said: “Academics do nothing, you need to talk to more activists”.

As a bright-eyed Masters student embarking on my first fieldwork, this sentiment was expected—the tension between academia and activism is not a new subject—but still a shock. The anthropologists with whom I had spoken had virtually the exact same objectives as Octavio, so what could explain this disconnect? In this article I want to explore some possible weaknesses in institutional academia and activism, as well as the points where the gap could possibly be bridged.

Starting with academia—and primarily looking at anthropology, the discipline in which I have been trained—I want to start with a theme that can be dismissed and left unanalyzed by academics, namely middle- and upper-class activism. My fieldwork took place in the decidedly posh district of Palermo, leading many of my informants to be middle- and upper-class Porteños. Searching for researchers who had done similar fieldwork in similar contexts, I came across the anthropologist Setha M. Low’s analyses of parks and plazas in various places throughout Costa Rica.¹ When reading her research on middle class residents, I found her conclusions to be simplistic and underdeveloped in contrast to

her thoughts on visitors who came from less well-off backgrounds. Middle- and upper-class residents who protested developments in the park, most notably the proliferation of street-side vendors, could only be motivated by classist nostalgia that sought to displace poorer residents. I was unconvinced, and wanted a deeper understanding of what I had seen. In the context of my own research, Parque 3 de Febrero had become safer, greener, and more technologically connected to the city, and in fact many of the developments had been pushed by conservative governments who represented the wealthiest of society. My conclusions, which are not the object of this article, were simply that these older and wealthy residents were motivated by an idea of modern urban development that had been popular when they were younger. Rather than looking back to a bygone era, their intention was thoroughly forward-looking.

Turning away from academia, this failure to connect hurts activism as well. After spending some years in environmental activism, I have seen that an unfortunate development has been a sort of divide between urban activists and the often rural populations who live in the concerned environments. The anthropologist Lesley Gill² has also shown how this transfers to social and economic fights for

“After rattling off a list of anthropologists and other academics Octavio leaned back, guffawed, rolled his eyes and said: “Academics do nothing, you need to talk to more activists.”



Photo: Phil Roeder

justice. During the workers’ movements and subsequent violence in 1990s Colombia, he recounts how middle-class students and the workers were unable to unite in a unified front. The students, educated in a human rights-based perspective, failed to recognize the economic nature of the conflict. Whereas they focused on the abuses of Coca-cola, the fight was itself on the economic exploitation of capital in general.

So how do we, as activists and academics, move on from this impasse? The two areas I have identified—improved rigor from academics when they research activists of any kind and increased levels of solidarity on the part of those often young and enthusiastic activists—are areas where we can start. Disciplines based in ethnography—namely anthropology, sociology, and human geography—can and should approach activists with the same intellectual curiosity as they would approach other interlocutors. Likewise, activists can reach out to academics who research solidarity and social movements, in order to improve their ability to represent disadvantaged and oppressed people, as well as exploited places. It is possible that even ineffective middle- and upper-class activism can teach academics

much in the way of how group identity and dominant ways of perceiving nature, society, and the economy are formed. Likewise, when wealthier or student activists learn to understand solidarity and work in unison with the people who are most affected by their adopted struggle, the outcome can be powerful and successful. These bridges between activism and academia, given the resistance they face from the vested interests with whom they are locked in struggle, are vital for stronger social movements. The anthropologist Anna Tsing states simply that “we can do better.”³ In my opinion, we must do better.

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Vi treng å høyre om resultata, ikkje katastrofane

Anja Marken

Anja Marken fortel her om resultata frå masteroppgåva si, der ho undersøkte korleis Bergens Tidende, Sysla og Energi og Klima rapporterer om klimaendringane. Gjennom analyser av 150 nyheitsartiklar og intervju med fem journalister og seksten lesarar ser ho på korleis denne rapporteringa påverkar lesarane sine haldningar om klima og om vi burde snakke om klima på ein annan måte.

Katastrofar og dommedagsprofetiar har lenge prega klimadebatten, men det er ikkje dette som skal til for å fange folk sin merksemd, i følgje masteroppgåvestudien min.

Informantane i studien min definerte klimaendringane som ei krise som kjem til å skje i andre land eller for framtidige generasjonar. Dette visar at i staden for å få oss til å handle har den negative vinklinga til media ført til fornektning blant folk flest. Når folk blir presentert med ein trussel dei ikkje kan gjere noko med, fører dette til at fleire forsvarsmekanismer blir iverksett. Til dømes trua på at det ikkje kjem til å skje med dei, at det ikkje blir så ille som alle påstår, at lettvinde løysingar vil bli funne, eller at vi ikkje har nok informasjon til å handle. Klimaendringane blir tross alt portrettert som noko som berre skjer i Arktis eller med Stillehavsoyene.¹

Resultat og metaforar

Dette betyr ikkje at media skal ignorere dei negative nyheitene knytt til klimaendringane. Informantane mine uttrykte at det var nødvendig å fokusere på dei dramatiske konsekvensane for at folk skal forstå alvoret. Problemet er at vinklinga i media til no har vore lite balansert.

Som lesar treng ein faktisk å få vite kva ein kan gjere med problemet og at det fins ei løysing. Det var i alle fall dette informantane mine sakna frå media. Dei uttrykte eit ønskje om å lese meir om resultatata frå innsatsen vår og om dei positive forteljningane.

Ingen visjonær skildring

Informantane mine etterlyste blant anna meir bruk av metaforar. Forsking viser til dømes at dersom ein omtaler drivhuseffekten som eit «tjukt teppe av karbondioksid» som «fangar varme» i atmosfæren, så gir dette ein merkbar forbetring av folk sin forståing og respons.² Ifølge George Monbiot, kommentator i The Guardian, er det enkle grep som skal til for å betre klima-kommunikasjonen. Han meiner vi bør bruke andre ord for å skildre naturen og vårt forhold til den. Til dømes argumenterer han med at «miljø» berre er eit tomt ord som ikkje skapar noko bilete i folk sitt sinn, og at vi i staden bør bruke skildringar som «vår levande planet»³. Men kven er det eigentleg som har ansvaret for å kome opp med slike skildringar? Eller meir generelt, kven har ansvaret for å informere den norske befolkninga om klimaendringane?

Nokon av journalistane eg intervjuar i studien min meinte det var aktivistane sin jobb å mobilisere folket til klimahandling. Dei formidla berre vidare omgrepa informantane deira brukte. Andre derimot jobba aktivt med å forandre den norske klimadebatten til det betre. Dei argumenterte for at media har eit ansvar for å halde debatten i live.

Som den fjerde statsmakt meiner eg at det norske media har eit stort ansvar. Media

blir framleis sett på som folk si viktigaste kjelde til informasjon om klimaendringane.⁴ Den norske klimadebatten manglar derimot ei visjonær skildring som viser korleis eit klimavenleg samfunn vil sjå ut; folk veit ikkje kva dei skal kjempe for. Den norske medierapporteringa er i staden trongsynt, og gløymer i stor grad korleis hendingar i verda kan påverke oss her i Norge. Dette gjer at vi blir sitjande her i vår vesle boble, overttydd om at klimaendringane er noko som kjem til å skje i andre land og for framtidige generasjonar.

Klima må bli relevant

Som følgje av arbeidet med masteroppgåva mi har eg konkludert med at klimaendringane må knytast meir opp mot det lokale, mot kvardagslivet vårt, mot andre tema i livet vårt som til dømes helse. Dette er utfordrande, spesielt sidan vi i Norge er så heldige at vi foreløpig slepp unna dei verste konsekvensane. Det vi likevel kan gjere er å forklare dei globale konsekvensane med lokale ord. I staden for å sei at det kjem til å bli meir ekstremvær, kan vi til dømes snakke om at norske vegar kjem til å bli meir utsatt for ras. Deretter kan vi snakke om korleis vi kan forberede oss på dette. Men dette krev kunnskap om klima og lokale forhold, noko ein journalist som til vanlig skriv om heilt andre tema kanskje ikkje har. Desto viktigare er det at forskarar og andre informantar tenkjer over dette når dei snakkar om klima med journalistane.

Min forskning viser at måten vi har snakka om klima på til no, har ført til ein distanse mellom det norske folket og klimaendringane. Dersom nordmenn skal engasjere seg meir i klimakampen, må dei føle at klimaendringane også angår dei. Ved å knytte dei globale klimaendringane opp mot lokale forhold, ved å bruke metaforar til å forklare vitskaplege omgrep, og ved å fokusere på løysingar og resultat kan media gi folk håp og inspirasjon, og dermed skape meir klimahandling.

«Dersom nordmenn skal engasjere seg meir i klimakampen, må dei føle at klimaendringane også angår dei. Ved å knytte dei globale klimaendringane opp mot lokale forhold, ved å bruke metaforar til å forklare vitskaplege omgrep, og ved å fokusere på løysingar og resultat kan media gi folk håp og inspirasjon, og dermed skape meir klimahandling.»

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Building Bridges Blind

An argument for why we cannot
(and need not) wait for climate
change risk perception consensus.

Jonathan Frænkel-Eidse

The ways we perceive risk and Climate Change both as a society and as individuals are essential to understand and strengthen not only crucial adaptation and mitigation efforts, but the radical changes needed in communicating sustainability too. This piece looks, from an academic perspective, at the importance of how these perceptions could help mobilising the public towards a more sustainable future.



Throughout human history species have come and gone, new lands have been claimed and others abandoned, and civilisations have risen and fallen, all to the ebbs and flows of environmental opportunity and calamity. A century of punishing drought, for example, is believed to have been the demise of the great Mayan civilisation,¹ yet climatic and environmental change of similar nature and scale correlate with the rise of the great civilisations of the Nile and Mesopotamia.² Similarly, the Little Ice Age witnessed the drastic collapse of the agricultural Norse civilisation's Arctic outposts in Iceland, Greenland and the Scandinavian peninsula, yet a simultaneous population surge of the nomadic pastoralists the Saami in the same region. The modern era is also rife with research examples, ranging from Burkina Faso's

Fulbe goat herders³ to Finnmark's cod fishers.⁴

What is it that enables one group to adapt to, and even thrive in, the new circumstances and another to fall into ruin? Their knowledge and technology? Or perhaps social organisation and leadership? There are likely countless factors that led to the success and failures of previous civilisations depending on their unique contexts. In our times, however, we can hardly claim ignorance, inadequate technology or the weakness of the modern state as the barriers to adapting to climate change. It is increasingly apparent that the determining factor to our ability to adapt and mitigate is based on the degree to which we, collectively and individually, subjectively perceive climate change as a high-priority risk.

While there is a general consensus of culture's key role as both a driving and adapting

force to climate change, subjective dimensions tend to be side-lined in present day climate change policy-making arenas, which generally prefer to focus on physical parameters (e.g. forest carbon sinks), technological parameters (e.g. harbour sea defences), and economic parameters (e.g. cost-benefit analyses).⁵ These parameters lend themselves well to empirical data, and take the world as an objective reality "out there".⁶ In the rare case where humans enter these calculations, they are seen to act as rational agents. From this perspective, when two rational individuals meet the same changes in objective reality, they would be expected to adapt similarly. This is, however, rarely the case. Just as perceptions of change can vary greatly from one individual to another and from one culture to another, their adaptation to it can vary as well.⁷

Because they negate the social milieu into which they are received, policies based on "objective" parameters alone are often seen to fail the moment they leave the drawing board. Regardless of their accuracy, satellite sensors and "objective" data cannot override the human senses and subjective perceptions on the ground. In response to the repeated observation that lay individuals' perception of risk diverges greatly with expert assessments, research exploring the factors that shape public perception and support of adaptation and mitigation policies have increased exponentially in recent years.⁸

Perception

Whether it be a felt injustice, feared potentiality or sensed adversity in one's physical environment, perception is a crucial catalyst to individual and social change. The linkages between perception and adaptation are similarly well-supported in a growing body of adaptation research, with perception being seen as a "trigger"⁹ that determines how adaptation takes place, or sometimes whether it takes

place at all.¹⁰ As such, an understanding of the inner-workings of perception is essential to any efforts to successfully design and implement adaptation and mitigation policy.

Experiential versus Cognitive Perception

The relationship between knowledge and perception has been discussed at length since the time of ancient Greeks, yet the mechanisms of this relationship have only recently undergone rigorous analysis and experimentation. Earlier risk perception theory focussed on the so-called "dual-process model", the notion that there are two overarching ways in which we perceive and learn – experientially and cognitively.¹¹ Experiential perception refers to information we receive from our body's primary senses: vision, hearing, smell, taste, and touch, while cognitive perception refers to information received through a variety of channels including texts such as words, images, sounds and/or gestures.

Of the two, experience is considered our primary/primal system of perception, one which we share with the rest of the animal kingdom. This requires real world experience and teaches us among other things to avoid situations that have previously brought us pain and to seek out situations that have previously brought us pleasure. In short, it registers experiences and partners them with affective responses (e.g. fear and anxiety, or hope and anticipation), whereby risk is translated into a feeling.¹² Experiential learning is ingrained into our DNA, and as such requires no prior training in its use and is virtually instantaneous.¹³

Yet when this method is used alone, it has numerous setbacks. For example, it risks action based upon faulty judgment with regards to one's fallible understanding of cause and effect and probability. Rare events, for example, have per definition a low probability of occurring



and as such do not factor into day-to-day decision making. This can result in greater risk taking, as negative consequences rarely occur.¹⁴ When they do occur, however, the individuals may be taken completely unaware and suffer significant losses. Contrarily, following a rare, devastating event, the individual may then give more attention to this particular risk than its probability warrants. All told, these shortcomings make learning by experience quite volatile, and decades of experience may be necessary before it attains any degree of reliability.¹⁵ Fortunately, and perhaps in response to this shortcoming, humans have developed a supplemental form of learning that is able to compensate for the errors in one's own judgments – one that learns from the collective experiences of others.

Cognitive perception operates using the learned rules and algorithms of normative models (e.g. Capitalism, Buddhism, the Scientific Method etc.). Unlike experiential perception, its logic must be learned in advance and it is much slower, requiring conscious effort on the part of the individual.¹⁶ The key advantage of this form of perception is that by collecting data from numerous sources over

“(…) Yet when faced with information from both forms of perception, individuals are more likely to prefer their own, vivid personal experiences over abstract statistical summaries.”

sometimes very long timespans, it minimises the potential for error. Moreover, it does not require that an individual personally experiences anything of the subject in question in order to make a sound judgment based on its probability and potential impact.

While cognitive perception clearly offers greater reliability than experiential perception, it also requires a great deal more of the perceiver, such as access to precision measuring equipment or other previously collected large datasets, as well as training/indoctrination to understand, analyse and fit the information into whatever form of logic is being used. It is not automatic but must be initiated by the individual or ordered by somebody who sees value in its initiation; if its appropriateness in a certain context is not obvious, it may not even be triggered at all.¹⁷ Not only does this process require great amounts of time, organisational capability and cognitive effort, but it may also require a great deal of capital. These requirements make this the more exclusive of the two types of perception.

In short, experiential perception is seen as a far stronger motivator, encouraging immediate action to a perceived vulnerability or opportunity. Cognitive perception, on the other hand, provides a far more reliable account of change and the likelihood of various hazards resulting in harm or loss. As such, it is well-suited for anticipatory adaptation and the long-term planning required for our society's significant social and material structures, which cannot easily be altered or retrofitted should conditions suddenly change. Yet when faced with information from both forms of perception, individuals are more likely to prefer their own, vivid personal experiences over abstract statistical summaries.¹⁸

This “dual-process” perception model, however, was soon placed under harsh scrutiny as an over-simplified psychological model, one that neglected the larger social contexts within

which risks were framed and debated.¹⁹ It was thus accused of depoliticising serious social issues, framing them as problems of individual perception. Moreover, the ability of this model to explain and predict outcomes in the real world was found to be completely inadequate.

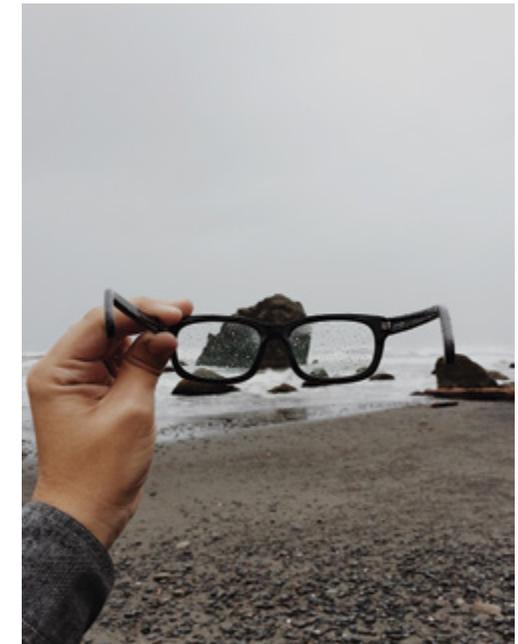
These criticisms led to a new wave of theories that continue to the present which, in addition to the “dual-process” model, focus on worldviews, values and attitudes as well as demographics to explain and predict individual risk perception. With some research claiming that these factors explain up to 70% of variation in risk perception, the results of combining cognitive and experiential perception with socio-cultural and demographic factors appear to be promising.²⁰

Perceiving Climate Change?

Returning to the issue of climate change, the obvious question that follows from the above theoretical summary is “can we directly perceive climate change?” According to the IPCC (2012), climate change refers to:

[a] change in the state of the climate that can be identified (e.g. 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.²¹

In other words, it is a statistical description, one that reflects the probability of a certain climatic parameter's value of either increasing or decreasing based upon a wealth of historical data, scientific observations and climatic modelling. This does not appear to be compatible with human sensing, which is occupied with the sensation of summer heat, the smell of the sea and the memory of a white winter years ago. We all know that weather is remarkably variable from one day to the next. Similarly, one year can have dramatically different weather than the one preceding it.



In light of this, if climate change is occurring, individuals would need to filter out the extraordinary fluctuations of what might be called a typical state of atypical weather in order to discern the trend of say, temperature or precipitation increase. Furthermore, this is assuming there has ever been a stable state in their region for any length of time, an assumption which is dubious at best. Finally, the perceiver would need to spend considerable time in the area to have first witnessed the variation and then discern a trend.

While some research has found that individual recollections of historic weather can in fact approximate the trends of actual instrumental climate data, all in all the ability to actually “see” climate change is for most people suspect. Indeed, this is a feat that even climate scientists struggle with as they try to detect the linear trend of climate change which is usually understood as hidden within the “noise” of natural variation and the cyclical trends of the various oscillations.²⁴

At best, the argument can be made that

most individuals can perceive variability, but not the trend. At first glance this contention seems rather obvious, as individuals across the globe are undoubtedly registering changes to their environment of one sort or another. In that sense, how important is the distinction between climate change and variation in terms of understanding adaptation?

Perhaps not very important at all. If we understand climate change as a statistical trend spanning decades and even centuries, the trend is built upon individual data points accumulating over time. Each data point is an abstraction of one parameter or another, and represents measurable changes both large and small to the environment. It is believed that the major impact of climate change will not be the average increase in the annual temperatures or precipitation, but rather will manifest itself in singular, irregular events.²⁵

If these assertions are accepted, it is then entirely relevant to examine how individuals perceive such events and changes, their degree of vulnerability to them, and their capacity and manner in which they adapt to these changes, whatever their cause. Climate change trends simply reflect an accumulation of these changes large and small over time.

Yet not everybody will experience such extreme events in their lifetime, and not everybody is out in the elements taking notes on precipitation or sea level rise; for many, the majority of modern life is spent in relative safety indoors. Some have argued that as a result of urban lifestyles and technologies, modern societies have become domesticated and have thus abandoned environmental knowledge as a non-issue.²⁶ It has also been suggested that this has led to a disconnection with nature in general, and a more blasé attitude towards protecting it.²⁷ While talking weather around the office canteen may be a relic of our ancient dependence on environmental perceptions for our survival,

today such knowledge is virtually irrelevant to how we live our lives.

In any case, these are still early days in climate change and full-scale crises may still be decades away. Waiting for individuals to wake up to the real risk posed by climate change may be like the oft-cited proverbial boiled frog: by the time we feel it is getting hot, it will be too late to hop out of the pot. For this reason, understanding and enlisting the cognitive and social dimensions that affect perception is a matter of some urgency if we are to stop the pot from boiling in the first place.

Cognitive and Social Perceptions of Climate Change

While experience has been established as a significant determinant of risk perception, what about cognitive and social factors? Research into cognitive factors has largely explored the role of knowledge in affecting individual perception, and has had rather mixed results. Because first-hand cognitive perception of climate change requires access to data and an education with which to interpret it, those who are not working with climate change specifically would not be expected to use this form of perception in a sufficient capacity to verify changes to their environment.

Thus, the abstract concept of climate change is often communicated from the experts to politicians and laypersons. In such cases, a “knowledge deficit” is often believed to lie at the heart of any discrepancy between the expert and layperson’s perception of risk. According to this perspective, once individuals have sufficient information about the risk, communicated in a manner they understand, they will become more concerned about the issue.²⁸

While this perspective still holds a prominent position in the minds of scientists, educators and policy-makers, its assumed significance has recently come under increasing

fire as simply not being supported by empirical research, which suggests that knowledge accounts for a mere 10% of variance in public concern about climate change.²⁹ While knowledge may be a prerequisite to affect public concern, it is likely not sufficient on its own.³⁰ Instead, political identity (e.g. Liberal vs. Conservative) and attitudes have been found to have a far greater influence on climate change risk perception, moderating any efforts to convey information.³¹

Political ideology and individual attitudes towards climate change can be seen as gatekeepers, which have a tendency to accept information that aligns with the perceived consensus within one’s reference groups. From this perspective, it doesn’t matter how conclusive the data or how convincingly it is presented if it is being communicated to a person who is disinclined to this type of information. Naturally, this goes both ways whereby individuals whose political views or attitudes are aligned with the climate change narrative will be inclined to readily absorb this information and reject information that is contrary to it.

This tendency becomes even more salient in countries where climate change has become highly politicised.³² Instead of hearing the voice of reason, the expert opinion may be perceived as an overzealous telemarketer or a persistent suitor who just doesn’t take the hint: not interested.

What then?

Based on the above summary of current climate change risk perception theory, there appears to be much to learn when it comes to mobilising public perception in favour of adaptation and mitigation policies. Indeed, the incomplete and contested state of the field of study is more than likely in part to blame for it being left in the cold in recent international and national policy-making arenas.

“Instead of hearing the voice of reason, the expert opinion may be perceived as an overzealous telemarketer or a persistent suitor who just doesn’t take the hint: not interested.”

Meanwhile, at the individual level, people can only worry about so many things at the same time. In survey after survey, climate change continues to rank low on most individuals’ “Finite Pool of Worry”, who are instead more inclined to fret over terrorism, health care and the economy.³³ If climate change models are correct and we see an increase in extreme events, first-hand experience with these events will likely increasingly alter public perception in favour of adaptive and mitigative policies. Until then, however, for as long as climate change remains an abstract line on a chart instead of an immediate, experienced, menacing threat, it is likely to continue to be a low priority issue.

Waiting for everybody to get on board is clearly not an option. Impassioned attempts by both camps to convince the “other” have largely been self-defeating, and have only led to increased polarisation and resistance. Serious catastrophe notwithstanding, this deadlock is likely to continue for some time to come, so we need to begin laying foundations today in order to build bridges tomorrow.

In the West and elsewhere, climate change information has likely reached a saturation

point, and people have by and large made up their minds and begun filtering their perceptions accordingly. Perhaps the best starting point for building foundations is to back away from the heated exchanges at the front-line entrenchments of partisan-politics, and focus instead on capitalising on the potential of those who are already in the climate change camp. Here, there is a majority of people who do not need more convincing; they need practical information on how to respond.

Large scale efforts to distribute prescriptive information to such groups on strategies to mitigate climate change at the individual and group level could have significant broader repercussions.³⁴ Through trial and error, the establishment of large-scale, effective, mitigative lifestyles and social structures could create a foundation upon which building can begin. Pragmatic thinkers from the other camp, in turn, could then see that there is in fact a viable alternative to the current status quo. Such tangible examples might then influence perceptions of risk associated with acting versus maintaining the status quo, allowing individuals to embrace elements of the bridge-

building process without so much as a cross word across the aisle.

There are promising indications that much may already be heading in the right direction. Individual perception of the risks posed by climate change is indeed on the rise.³⁵ Recent climate pacts like the Paris Agreement also attest to the growing political perception globally of the need to mitigate this risk. Compared to the aforementioned Mayans or Norse civilisations, there is certainly good reason to be optimistic when facing these changes as our knowledge, technology and governance capacity have never been greater. Yet in the context of an unprecedentedly large human population, in the midst of one of the Earth's greatest species mass-extinction events, en route to a climate never before experienced in human history, it would be an understatement to say that the urgency and the stakes have never been greater. Nevertheless, knee-jerk reactions to the gravity of this issue with partisan policies and name calling across the aisle are guaranteed to fail. An inclusive process that can address the risk perceptions of all parties is crucial if we are to build a bridge that we can all agree to cross together.

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Adaptation of the Oppressed

Irmelin Gram-Hanssen

What does it mean to build bridges in the context of climate change adaptation? Having recently read Paulo Freire's *Pedagogy of the Oppressed*, I found myself asking: in the proclaimed war against climate change, who are the oppressed? And who are the oppressors? Can climate change adaptation research and communication be informed by a critical pedagogy developed from the context of inequality in the 1960s? I believe it can.



A painting of Paulo Freire

The Adaptive Individual

Paulo Freire wrote his seminal book while working as an educator in Brazil. He describes a society where the haves oppress the have-nots, and where the latter have an internalized view of themselves as less-than human, unable to think for themselves or impact their situation.

Informed by Marxist theory, Freire proposes a pedagogy that transforms the relationship between teacher and student, recognizing that the former is not merely “the-one-who-teaches” while the latter is “the-one-who-is-taught.” Rather, both are teaching and learning as historical human beings in the process of becoming.

Freire argues that the first step towards freedom and becoming truly human is to be conscious of ones’ situation. He proposes a problem-posing education that supports “the emergence of consciousness and critical intervention in reality.”¹

Transformative Research and Communication

How does this relate to climate change research and communication?

Researchers and politicians increasingly realize that climate change is more than a technical problem to be solved with technical solutions.^{2,3,4} Despite technological know-how, implementation of a new technology or system depends on political decision-making and people’s willingness and ability to use it. These steps are tied to values and beliefs.⁵ Others still argue that we are not only talking about reducing CO2 emissions, but reconfiguring our relationships with nature and one another.⁶

If climate change is not just an environmental crisis but a cultural crisis, then what are we as social scientists hoping our research will achieve? Is our goal to make people abandon the dictum of unlimited economic growth and instead embrace the dictum of green growth and sustainable

development? Or are we more ambitious than that? Is the climate change challenge calling for an entirely different way of being human in the world?

Freire criticizes the use of what he calls the “banking educational method” (depositing information in the heads of students) in the pursuit of essentially human liberation, arguing that this method will “negate the very pursuit.”⁷ Similarly, it could be argued that doing research and communication as usual, no matter the good intentions, will never yield the results we need. Instead, we need our research to support people in their process of becoming increasingly conscious.

With the clock ticking, some argue that we cannot afford to spend time on such introspective and subtle shifts, while others believe we cannot afford not to.

Reflection and Action

What does this mean for how we do and communicate research? It means doing so with and for people with the purpose of stimulating reflection on their stake and voice in the face of climate change.

“If what we want is a profoundly different society, then we need profoundly different methods that take the agency and transformative potential for individuals and groups seriously.”

Freire warns about teachers (or in our case, researchers), who see themselves as the executors of the transformation. “They talk about the people, but they do not trust them; and trusting the people is the indispensable precondition for revolutionary change.”⁸

If we want a profoundly different society, then we need profoundly different methods that take the agency and transformative potential of individuals and groups seriously. As with Freire’s problem-posing education, a humanizing research practice must also take into account the historicity of people, and allow them to be co-creators of knowledge.

This does not mean that there is no room for climate change experts. However, with time running short, we must recognize that societal transformation starts with people engaging in what Freire calls praxis; “reflection and action upon the world in order to transform it.”⁹

Bridging the Inner Divide

Maybe the real bridge-building needs to happen within ourselves. Each of us plays the role of oppressor and oppressed, both contributing to and maintaining the current systems and patterns of action and in-action, while falling victim to the consequences. This is not to say that we all carry an equal amount of responsibility – we contribute to and suffer from the results of climate change differently across the world. Still, pointing fingers at perpetrators and pitying victims is not sufficient.

Each of us has the capacity to learn and reflect. If climate change truly is the biggest challenge to ever face humanity, now is the time to foster and use this capacity.

“Maybe the real bridge-building needs to happen within ourselves.”

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Bridging Neighborhoods and Actions for Sustainability

You and I, the nature and the future

Simon Neby

In this Op-ed Neby argues for the need to respond to global problems by reconnecting with the local. Through *Bærekraftige Liv*, the neighborhood collective in which he resides, they make sustainability engaging, fun and available in pursuit of reintroducing people's sense of connection to society's development and to nature.





Landåsfest 2014. Photo: Lars Ove Kvalbein

Sustainability is not easy. An environment influenced by society, climate change and its impacts often leaves an impression that individual action matter little to global problems. But as the climate has impacts on our lives, where we live them, taking action is a local task as much as it is a global one. This is the basis for a movement of neighborhood initiatives called *Bærekraftige Liv* (Sustainable lives).¹

Many of our less sustainable habits are there because we lack visible alternatives, and because available choices and habits cater to personal desires. Think about travels and transportation, plastic wrapping and consumerism: airplanes take you further, choosing your car over your bicycle is easy, and buying new products requires less effort than repairing old ones. We're all part of a global economy that makes these choices so available and efficient. Efficiency equals comfort, and comfort is, well, comfortable. But what if this global connection makes us lose our sense of place and social belonging?

Bærekraftige liv responds to global problems

by making local connections as important as the global ones. By focusing on the potential for efficiency, comfort and social strength of neighborhoods, it may be possible to reintroduce a sense of connection to society's development and to nature. To make that happen, sustainability must be engaging and fun, available and visible. Neighborhoods are the perfect arena for reconstructing the local response to global challenges – but it takes deliberate efforts and hard work.

So what is *Bærekraftige liv*? It is a movement focusing on socially and environmentally sustainable activity and engagement in the widest sense, but also a cluster of organizational, economic and entrepreneurial efforts. Originating as an initiative in the neighborhood of Landås in Bergen, Norway, the movement now includes some 40 neighborhood groups across the city, region and country. These initiatives, although not formally organized as part of an association, run a range of activities that focus on creating sustainability and improving the local embeddedness of peoples' lives across

individual, community and societal scales. The idea is that local activities add value to reducing footprints. This value is not measured in economic terms, but rather by heightened awareness of sustainable choices, increased sense of community, and improved quality of life. Participation, shared resources and experiences – and having fun – are intimately connected to this approach. By arranging local festivals that display sustainable choices, good food and local entertainment, through action based on a groups' shared interests (from bicycle repairs via joint cooking sessions to sustainable semi-urban farming), and by allowing engagement to be inclusive, voluntary and based on a low threshold for participation *Bærekraftige liv* facilitates experiments that make action a driver for changes in attitudes. The gap between personal choices and global challenges is used as a playground for improvement, making social sustainability nudges a part of everyone's lives.

There are obstacles to this bridging of local and global. By example, buying locally produced food could be what it takes to reconnect the farmer, the consumer and nature. For *Matkollektivet* (the Food collective)², focusing on shifting food consumption towards local, natural and ecological products and making sustainable choices, the means of achieving the shift depends on playing the existing system. Distribution and retail of food is regulated, and so are the formal organizational requirements for commercial activities. This presupposes resources that aren't necessarily present in a neighborhood. For instance, what types of financial seed support are available for sustainability start-ups, when establishing a profitable company for food distribution is at best a secondary aim?

The *Bærekraftige liv* movement has established an organizational "toolbox" that distinguishes between local activities and overarching approaches, and that allows

experimenting beyond the individual level (e.g. establishing a formal association to be able to apply for and receive grants, a cooperative that can handle commercial activities such as *Matkollektivet*, and a foundation that can provide housing for activities without large economic tolls (*Lystgården*). As ideas and activities grow beyond individual engagement, scalable nudges also depend on participating in the larger societal frameworks of economy, regulation and exchange – although our experiments may counter the logic of bureaucracy and markets. The balance between keeping things local and open and adhering to external demands and professionalization is one that *Bærekraftige liv* continually struggles with. However, this may be the perfect place to be: between the personal and social aspects of neighborhood activism and engagement, and navigating the system we aim to change. Who said nudging would be easy?

“The gap between personal choices and global challenges is used as a playground for improvement, making social sustainability nudges a part of everyone's lives.”

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Water is an essential link between human societies and ecosystems, and can pose a serious challenge to sustainable development. However, if managed equitably and efficiently, water will be crucial to strengthening the resilience of economic, social and environmental systems. Issue 11 of Tvergastein seeks to explore the environmental and social aspects of water, by exploring intersectoral water challenges with a focus on the human and social dimensions.

We encourage contributors to send in their interpretation of this topic by 1st March 2018. We accept contributions in Norwegian and English in two categories: op-ed style (2,000-5,000 characters) and academic style (10,000-20,000 characters).

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Global Environmental Governance:

Building bridges to overcome tragedy of the commons and super wicked problems

Danielle Mendes Thame Denny

The contemporary scenario of global economic interdependence has led us to the necessity of creating new paradigms to understand political change. Power is nowadays distributed in such a way that no actor has the capacity to impose its own solutions. This piece develops on the necessity to generate new social and institutional arrangements to deal with this new scene and the super-wicked problems this interdependence generates, both in a global governance perspective and in the management of natural resources.



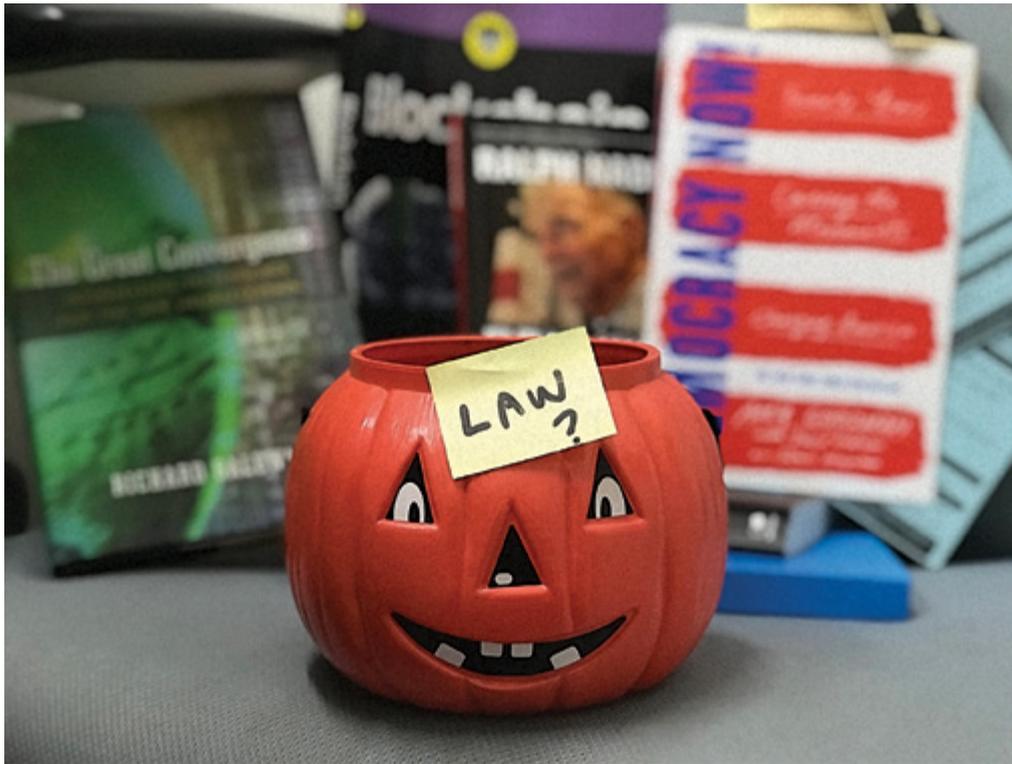


Photo: Danielle Denny

It may sound like Halloween's batch catching names, but it's not. The contemporary global environmental governance is facing "tragedy of the commons" and "super wicked problems". The lack of a supranational sovereign power poses challenges to global governance: on the one hand, the problem of identifying the fairest method to distribute environmental cut-backs among countries, companies and individuals and on the other hand, the political feasibility of such measures on a global scale. In this context, environmental law can be trapped in the wrong models, failing to address what it is supposed to alleviate, if some conceptual framework is not updated to insert forms of governance, based on procedural solutions to design a new sustainable economic paradigm.

Globalization is driven by information technology, which enables the cheap and

accurate movement of ideas across borders. Business became structured in global value chains (GVCs) and propelled by a rapid industrialization process of a handful of developing nations. This is what can be denominated the "Great Convergence."¹ Economic interdependence, with fast-paced technological change and common environmental challenges, makes the world more unpredictable and hard to control. Integration in global networks can be a promising growth strategy, and it has been very significantly implemented. In 2010, more than 25% of global gross exports were already double-counted² showing that the production of at least one country was used as income of the products exported for another.

In this new context, states share power with other institutions such as corporations,

local governments, civil society organizations, and individuals. Therefore, the demarcation between National Law and International Law is increasingly flimsy. "Formal international law is stagnating in terms both of quantity and quality. It is increasingly superseded by 'informal international lawmaking'³ involving new actors, new processes, and new outputs,"⁴ in fields ranging from finance and health to internet regulation and the environment. On many occasions, the "traditional structures of formal law making have become shackles."⁵

National norms and legal relationships with pure national efficacy are rare, as well as the exclusive application of international law in a watertight manner. On the contrary, the interdependence of the national scope with the international and of the public with the private sector is increasing at the same time as the complexity of the analysis. Procedures adopted voluntarily by private entities may have application on the national level and potentially influence the legal order of other states.⁶

"This highly heterogeneous set of rules leads to a 'polyarchic' distribution of power where no single actor, not even the most powerful nation, has the capacity to impose its own solution without taking into account the views of the others."



Photo: Danielle Denny

Poliarchy: the govern of many

Trade, technology and interactions on a global scale as well as the human impact on the environment created issues that require cooperation, such as the climate crisis. Countries' increased interdependence and

the need for coordination, relativizes their sovereignty. This highly heterogeneous set of rules leads to a 'polyarchic' distribution of power where no single actor, not even the most powerful nation, has the capacity to impose its own solution without taking into account the views of the others.⁷

The pragmatic cooperation of multiple international actors in pursuit of goals through the most varied forms of legal, technical, and administrative structuring can be defined as global governance. In this context, international regimes are just a few examples of this cooperative behavior; their structures tend to facilitate cooperation. Without them, however, there may also be cooperation, as there are converging expectations. The fact that there are explicit framework agreements is

not a necessary measure for coordination and to achieve shared goals. In addition, there is a vital role to be played by key governments. The leadership and commitment of them are essential to solve the problems, even if momentarily.

The slowdown in formal international lawmaking is accompanied by the rise of novel forms of cooperation that use different approaches and involve an orchestra of actors and processes,⁹ outside the traditional legal methodology of the International Law. Essentially, this is because traditional legal systems fail to deal with multiple factors, trans-disciplinary issues, and not country-specific interests.¹⁰ The policy preferences of nations diverged from the saturated existing treaties; an increasingly diverse network enables new forms of collaboration transcendent of the states and an increasingly complex information society, where specific knowledge means relevance.¹¹ “Orchestration is an indirect mode of governance that relies on soft inducements, not mandatory controls. It is common in many areas of global governance, where ‘governors’ (...) possess limited authority and power for hard, direct action.”¹²

Orchestra of governance

Even among public bodies, within states, new active players have practiced diplomacy. They cooperate with their counterparts across borders, articulate with regulators, sometimes supporting national interests and other times defying them.¹³ Articulations among finance ministries, competition authorities, central banks, parliaments, regions, provinces, or cities are some examples. This political articulation made by non-states and subnational actors can be defined as paradiplomacy and collaborates with the diverse network society in a very effective way.¹⁴ They affect policy-making and constrain the actions of the agents, sometimes even better than traditional treaties.¹⁵ Under

international law, even if something is not legally binding it can affect public policy-making and individual freedom. “Non-binding instruments or informal modes of cooperation with new actors and/or pursuant to novel processes may be as constraining – if not more so – than traditional treaties.”¹⁶

Nowadays, reputational risks in intangible economy¹⁷ are very effective to deter or stimulate policies. Reputation is a general organizational attribute that reflects how external stakeholders see the firm and value it as good or bad. This valuation has many practical effects like the markup price for products and services and the possibility of attracting “the best and the brightest,”¹⁸ which is vital for a company’s survival and development. Roberts and Dowling empirically analyzed that good reputation is a valuable asset that allows a firm to achieve persistent profitability in the long term and to sustain superior financial performance. Reputation is extremely relevant for the current intangible economy but still insufficient to understand how international rules become effective and what is necessary to build those “orchestration platforms.”²⁰

To pose an extra challenge to govern through “orchestration platforms” in the environmental area, governance interventions are intrinsically interconnected in many and complex ways. “Actions in one area or at one scale can, and often does, create ripple effects in other areas. The effects of interventions can be non-linear and can extend beyond the bounds of the original intervention.”²¹ To trigger coordinated and effective actions that can lead to changes beyond the superficial ones but transforming the paradigms, interventions must demonstrate: capacity to incite path-dependencies,²² with legal lock ins, potential of scaling to broader contexts, and capacity to generate the desired positive effects in a durable way. Non-states and subnational actors have an

important role to articulate such “orchestration platforms,”²³ but also private initiatives can be very effective.

The tragedy of commons = is Earth a life boat?

Environment is a common good to be used collectively by everyone;²⁴ therefore, everyone is interested and responsible for the conservation of natural resources and for the control of externalities such as transboundary pollution spillovers. Nonetheless, the evidence of a common interest and responsibility is not enough to inspire collective actions. On the contrary, the collaboration, if not stimulated by rules and mechanisms, tends to devolve to the self-interest of the agents with its consequent immobilization or aggravation of the problem. This situation is known as the tragedy of the commons.

Tragedy of the commons is a concept popularized by Garret Hardin in a historic paper; it implies that the existence of a common goal or interest is not enough to force a group of individuals to participate in collective action, even if the effects of such collaboration are beneficial to all members of a group, which is rarely the case. In another text, the same author applies this concept to justify not helping the poor.²⁵ In his view, the planet is like a lifeboat: if we try to save too many people, it sinks and everybody dies.

In response to this, Mancur Olson wrote a paradigmatic book in which he concludes that collective action can occur in small groups or in groups where there is coercion or selective incentives for individuals, reinforcing the interests of the group.²⁶ Because no individual member of a group has a decisive impact on the final outcome and social pressure is unlikely to occur, the players (the companies acting in a market, for example) have no reason to organize themselves in pursuit of the preservation of collective goods.

In this sense, effective engagement is only feasible if there is a multi-stakeholder involvement with transparency and cooperation at various levels, institutional, municipal, local, regional, and under the active supervision of stakeholders themselves.²⁷ Minor governance units linked by monitoring networks are the most viable models since large globally negotiated solutions become absolutely weak if there is no endorsement of polycentric initiatives with local action.

Elionor Ostrom, in a complementary way, recommends that the conflicts over the ecosystem and environmental problems can be solved based on the analysis of successful institutional arrangements. She identifies eight core measures to build a bridge to overcome these kinds of problems: clearly define the boundaries, have congruence between appropriation and accountability rules, reach collective choice agreements-such as voluntary and mandatory goals, monitor, establish sanctions, implement dispute resolution mechanisms, recognize organizational rights, and foster well-founded coherent initiatives and endeavors with ‘nested enterprises’.²⁸

Kelly Levin, Benjamin Cashore, Steven Bernstein and Graeme Auld expanded on the concept of tragedy of commons to go beyond the individual rational choices and the time-inconsistent preferences (choose something bad in the long term that is good in the short term). They recommend a path oriented and causal focused approach to influence the achievements of common goals. “Almost no country or intergovernmental agreement has developed policies consistent with this scientific evidence, and it is this fact we treat as irrational.”²⁹

Every individual can have his or her own perception of definitions, concepts, values, but perfectly agree about the need of “policies built on the causal logics of path-dependent processes can help constrain future behavior to achieve desirable longer-term social benefits”,

as the same authors highlight.³⁰ Even when enough scientific evidence is available, this lack of coherence is on one hand caused by the characteristic of common good and the lack of collective coordination, but on the other hand, it is also a matter of the diffuse, complex and intergenerational characteristics of the environmental crisis. Therefore, simple solutions are insufficient to address such complex problems.



Photo: Danielle Denny

Wicked problems

The concept of 'wickedness' is used to differentiate among these complex problems. Rittel and Webber defined the term "wicked problems" to those that share some of the core characteristics they identified.³¹ Basically, this kind of problem with no single and definitive formulation depends upon one's idea for solving it. There is no end: there are no criteria for sufficient understanding and thorough completion. Solutions are polyvalent, not dichotomist like true or false, good or bad. It is impossible to test the solution: the action is done during the process and maintains its effects. Every solution is definitive, a "one-shot", because it is impossible to learn by trial and error once all actions leave traces that cannot be undone. There is an infinite set of solutions, every problem is unique, and each problem is a symptom of another problem.

“(..) new institutional arrangements are needed to deal with this kind of contemporary super wicked problems, characterized by non-linear systems where everybody interact in unpredictable ways (..)”

And above all there are always many ways to explain this kind of problem; and they affect the wellbeing of many.³²

Levin, Cashore, Bernstein and Auld expand this concept into “super wicked problems” by adding new criteria to the definition of wickedness.³³ Therefore, ‘super wicked problems’ are ‘wicked problems’ with some extra difficulties: lack of time, participation of those who are seeking the solution in the aggravation of the problem, ineffectiveness of central authorities, and irrational conduct of the players in the long-term perspective.³⁴ Just as Hardin and Ostrom argued in their solution to the tragedy of commons, new institutional arrangements are needed to build the bridges to overcome this kind of contemporary super wicked problems, characterized by non-linear systems where everybody interacts in unpredictable ways, is affected reflectively by all actions and face the human tendency to



Photo: Danielle Denny

What are the tools to build those bridges?

In such a dissenting state of affairs, consensus about the goals to be reached and even concerns about the compliance of the agents is unnecessary and an implausible filigree. High degrees of conformity and consent can indicate for example that a norm is unambitious, innocuous and inefficient to change the behavior of the actors. To be more effective, Bernstein and Cashore recommend a path dependent causal oriented approach, and ideally with norms that create procedurals lock-ins to cause legal stickiness on the daily basis and to avoid immediate reversibility by other groups that eventually come to power.³⁵ The aim is to articulate a greater support over time and to expand the individuals in favor of the policy, even between those who originally oppose it. In doing so, a norm can be considered “influential” (better than effective, according to the author) and efficiently alter the behaviors that cause super wicked problems.³⁶

This demands a shift from a “focus on ‘compliance’ and ‘effectiveness’ to ‘influence’”³⁷ facilitating the analysis of the combined effects of these international and transnational efforts on domestic or firm policies and practices. These authors highlight a four-fold framework of pathways of influence (not ‘effectiveness’):

“In such a dissenting state of affairs, consensus about the goals to be reached and even concerns about the compliance of the agents is unnecessary and an implausible filigree.”

interventions in markets, international rules, norms and discourse with international effect, and direct access to domestic policy processes.³⁸ In this context, multiple ways to influence can be synergic, overlap, contradict themselves, or put in check authorities and mandates. Accordingly, the complex influential global governance interacts with a more flexible kind of sovereignty, in which other levels of power, such as regional or municipal, also have their say.



Rubik's Cube Collection. Photo: Scarygami

Global environmental governance, like a Rubik's cube is an interdependent puzzle, coordinating one side, independent from the others is a guaranteed path to failure. The best way to cope with these challenges and orient the economy to a greener scope, is to build bridges to enable an overall articulation of interests: public and private, international and national. In this sense, global governance and, more specifically, governance aiming at decarbonization and many other multilayer partnerships, are in the position to act and influence the market. But to do so, transnational legal ruling have to incite that cooperation in order to be effective in current context. No magic one-fits-all rule will be able to solve the conundrum, policymakers, private sector, and the society need to articulate a myriad of interests, involving fierce competition.

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The Dark Brew

Milda Jonusaite Nordbø

Coffee connects people across the globe. Every time you have a cup of coffee, you are engaging with a value chain that is now in an extremely vulnerable position. The coffee industry has to find a way to grow twice as much coffee due to rising demand, but on half of the land due to climate change.^{1,2} The ability of the coffee industry to succeed depends on the success of the farmers, which all ultimately depends on building better bridges.





Photo: Milda Jonusaite Norbø

Coffee is extremely sensitive to changes in the climate. The Arabica plant (the 'tasty' one) thrives between 18 and 21 degrees Celsius. As temperatures rise, which is already happening in coffee growing countries by 1-1.3 degrees Celsius, the quality and yield of the plant decreases. This happens for numerous reasons; warmer temperatures make the eggs of coffee-loving pests hatch quicker and increased humidity allows the Roya fungus - also known as coffee leaf rust - to thrive. With increasing temperatures worldwide, such diseases and pests are on the rise, resulting in a 15-85% loss of yield for coffee farmers already.³

The industry is attempting to tackle this by developing new coffee varieties that are more resistant to changes in temperature and diseases

and still taste good.⁴ Suitable technological change is crucial, and will be necessary for the industry to succeed. Yet, this is only one of the capacities needed to adapt to such rapid change. Developing and testing new varieties in labs takes time, and does not consider the ability of the people growing a climate sensitive crop to adapt to changes whilst simultaneously living in poverty. This is an oversimplification, but most of the 125 million people that depend on coffee for their livelihoods live in poverty. This matters simply because by drinking coffee, we are engaging with a value chain that continues to accept poverty as a standard of living for coffee producers. There are exceptions, but these are time and context specific examples of a value chain organized

differently, rather than a certification of fair trade⁵.

The other reason production of coffee in poverty matters is climate change. People living in poverty are more vulnerable to climate change and have a lower capacity to adapt to change. A study in Central America and Colombia shows that over the last 37 years low profitability coincided with coffee epidemics.⁶ Coffee diseases can often be managed if there is an early warning system, coupled with knowledge on how to combat the threat. Without economic resources to invest in necessary skills and inputs to carry out the interventions, a marginal coffee leaf rust infestation results in a devastating epidemic. The combination of economic and meteorological factors is the main driver of disease epidemics, meaning that climate related shocks and stressors have the biggest impact when the coffee prices are low. The coffee plant is not just biologically sensitive, but socio-economically fragile. This is where the bridge building is interesting; the success of the coffee industry relies on the ability of coffee growers to adapt to rapid change.⁷

The majority of coffee farmers at the moment do not have the capacity to adapt. The industry is faced with the following challenge; the demand for coffee is rising, expected to double by 2050, while the land suitable for growing coffee is expected to be halved by 2050.⁸ The industry cannot succeed without the farmers' capacity to handle the changes. The whole coffee sector has to invest in developing farmers' ability to plan for risk, manage uncertainty and reorganize for change. Their ability to adapt depends on the farmers' financial and psychological flexibility to make the required changes. That kind of flexibility is not characteristic of a life in poverty. Lastly, the ability of the industry to adapt depends on the farmers' level of interest to undertake the change.⁹

At the moment, the farmers are the ones suffering the costs of failed adaptation. This somewhat illogical system failure is about to catch-up with the other end of the value chain, namely the industry and the consumers. The future availability of coffee depends on our ability to build bridges across all stages of the value chain, or rather, a puzzle of bridges entangling all entities together.

“...the demand for coffee is rising, expected to double by 2050, while the land suitable for growing coffee is expected to be halved by 2050.”⁹

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Building Bridges to a Sustainable Future by Empowering the Youth

Lushane Mugunthan

When combatting vast and complex environmental issues, we cannot leave out the youth. This is a call for current leaders to create an environment for empowerment and participation of young people to develop their capacity and let them be active agents for innovative, sustainable change.



In this piece, I would like to address all nations, governments, and political leaders to look to the younger generations to create solutions for the environmental issues we are combatting today and the issues that will arise in the future. We are collectively, as a species, facing what is perhaps the greatest crisis we have ever encountered: rapid climate change. Governments around the world must place focus on inclusion of the youth, who will inherit this planet, and empower them to solve these issues. This is the first time in Earth's history that a living organism has been – to a large extent – the cause of an accelerated climate change as seen in present century. The topic presented is of great importance for the sustainable future of planet Earth and all life that occupies it.

A solution will not come from the same mind-set that has created the problems we face today. The generation of millennials has a tremendous responsibility to create innovative solutions for this complex and vast problem.

Youth and innovation

I have seen and been part of the rise of the youth. In Oslo, this summer, I was part of the organization Young Sustainable Impact (YSI). The aim of YSI is to find solutions for the 17 UN Sustainable Development Goals presented in 2015, by enabling the younger generations to take action through business ventures. Out of 10 000 applicants, 25 individuals under the age of 25 were chosen. These individuals worked for five months in an innovative program created by YSI. At the end of August, we all got together in Oslo and worked intensively over the timespan of two weeks. The conference concluded with the teams pitching innovative ideas to potential investors and business partners. This is only one of many organizations and companies who are focusing on impact related business notes. Mutual learning and knowledge transfer is essential.

If governments can establish an environment to start a venture, especially for youths, I believe this will remove the dogma

of failure. Failure is understood as “an act or instance of failing or proving unsuccessful; lack of success” or “non-performance or something due, required, or expected”.¹ The concept of failure is yet another imaginary thought conceived by our race, and we must establish new perspectives of how we look at failure. What if we were to look at failure as feedback? We would be able to find hundreds or thousands of different ways that did not work, and every time we would be able to learn from these setbacks. These setbacks will eventually make us wiser, stronger and enable us to find the right business model or strategy for the problem we are trying to solve. Many young people do not want to take risks due to failure. However, if we can change our notion of failure, and rather understand it as a way to grow and develop, this has the potential to create a generation that is able to take risks and make a positive impact on the world through business ventures.

Transforming the education system

In the 21st century the education system is in many ways flawed and therefore needs to be transformed. Similar to laws and constitutions, the education system has remained the same way for almost a thousand years now, without much change in the foundational values and technologies of the time. Technological advancements can be a start of personalised education, where every student will be able to learn according to their unique needs, interests and pace. Furthermore, the education system should leave space for creative knowledge acquirement. Creativity has guided us here and it will continue guiding us to the farfetched stars. Remember that our only constraint is our own imagination – if we collectively can imagine and believe the impossible, then it might be possible. As the great Albert Einstein once said, “where there's a will, there's a way”.² Believe that this will truly create a globalised

“Remember that our only constraint is our own imagination.”

and diverse planet, where every individual does what they want to do and find solutions together for real world problems.

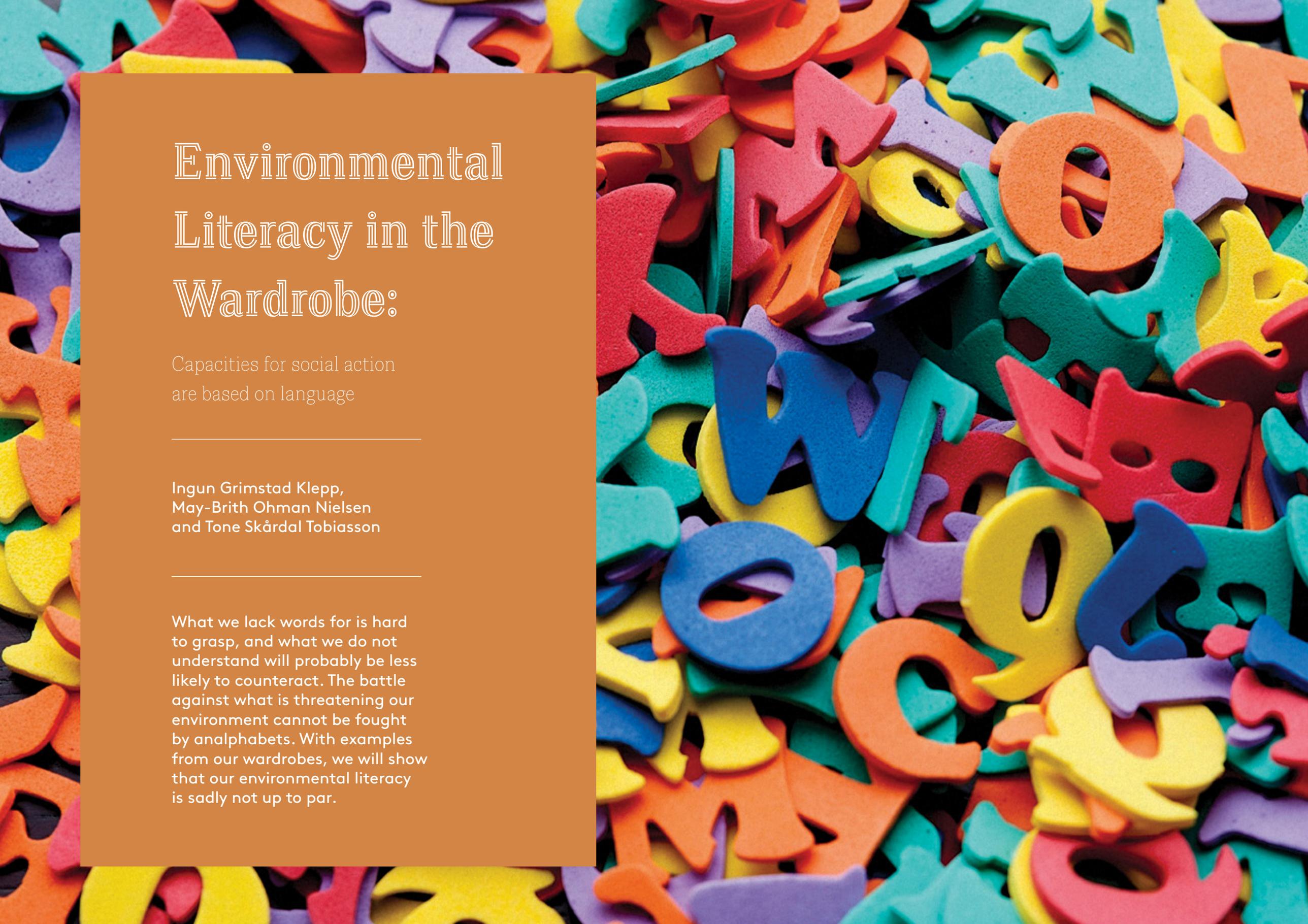
The future of youth empowerment

I believe environmental issues should be addressed through an intersection of governments, private sector and technological advancements. This is where true value, which will have a positive impact on the world, is created. Governments around the globe can build bridges for a more sustainable world by empowering the younger generations. Governments should make it easier for younger people to start companies, create incentives to do so and give support to newly started companies based on the credibility of the individuals taking this risk. We must also transform and adapt the education system, as it is essential to create a better educative environment for young people, where knowledge is acquired and retained to be later applied in the world. If the foundation of the education system is strong and adapted, youths will be empowered to take upon opportunities through social entrepreneurship. Young people have the potential to enable a domino effect where more and more people choose a reciprocal relationship to society and create a more just, equal and sustainable world for all.

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Environmental Literacy in the Wardrobe:

Capacities for social action
are based on language

Ingun Grimstad Klepp,
May-Brith Ohman Nielsen
and Tone Skårdal Tobiasson

What we lack words for is hard to grasp, and what we do not understand will probably be less likely to counteract. The battle against what is threatening our environment cannot be fought by analphabets. With examples from our wardrobes, we will show that our environmental literacy is sadly not up to par.



Thoughts and conversation, as part of knowledge development, depend on the words and concepts we envisage. Building bridges between layperson and scholar is a linguistic exercise. Involving everyone in political and private action depends on developing appropriate concepts together. In order to disseminate research, we often must start with the basic ABCs, and to move

forward in research, we need to search for methods that open up for conceptualizing what is not yet visible. In the following we will give some examples of this from our work on environmental problems related to apparel and fashion.

The concept of environmental literacy was introduced in the aftermath of the Stockholm conference in 1972 and the foundation of

UNEP. Since then, the concept has been developed into functional tools for educational system purposes and for the purpose of raising informed, competent and capable citizens of all ages and areas of society.¹ The great advantage of adopting a literacy perspective for our human relationship with the environment is that it emphasizes the basic insights that all knowledge, understanding, ways of knowing, skills, and capacities for social action are based on language, concepts, and words.

Defining environmental literacy

There are quite a few current and authoritative definitions of environmental literacy, but the one cited below resonates best with our research experience. It also reflects our experiences with the dissemination of research, both to professionals, to user groups, and to a wider audience. Our recommended definition builds on Harvey and Roth's work from 1977 and 1992, via Holweg et al 2011:²

Those who are *environmentally literate* possess, to varying degrees:

- the knowledge and understanding of a wide range of environmental concepts, problems, and issues;
- a set of cognitive and emotional³ dispositions;
- a set of cognitive skills and abilities;
- the appropriate behavioral strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental contexts.⁴

Holweg et al. emphasize that this definition treats cognitive (knowledge, skills, and abilities), emotional, and behavioral components as both interactive and developmental in nature: "That is, individuals develop along a continuum of literacy over time. Thus, they are not either environmentally

literate or illiterate."⁵

This is a position we are willing to embrace. We maintain that environmental literacy is a profound historical phenomenon; it is acquired over time, and it is highly time-sensitive. This means accepting that the components of environmental literacy are in constant flux, and that they need to change over time in order to keep up and be relevant. Environmental literacy is not acquired 'for life.' People's knowledge and ability to observe, read, act, etc. can, over time, deteriorate because the world around them changes. Thereby, we end up in a situation where people actually become less literate in the face of present day situations.

The same principles apply to environmental literacy. As the situation surrounding environmental issues change, be it deterioration, improvement, new threats, new knowledge, skills, abilities or strategies; literate individuals need to change in order to maintain their level of environmental literacy. This adaptation to change and altered circumstances is particularly vital with respect to new knowledge that changes our fundamental understanding of environmental issues and phenomena, whether this new knowledge is derived from research or from systematized practical experience.

The development of linguistic and conceptual tools is crucial, in order to acquire, possess, and constantly advance in knowledge, skills, and capacities for thinking and acting. Literacy requires complex competencies but also that the actual language and conceptual tools for observing, interpreting, phrasing, and criticizing are accessible, actually do exist, or are within reach. We will concentrate on three aspects:

1. Dominant vocabulary and modes of expression
2. Concepts that limit critical thinking
3. Transformative words and concepts

1. Dominant vocabulary and modes of expression

A particularly illustrative area to show this phenomenon is clothing. The hallmark of 'fast fashion' (FF) is that it represents a global value-chain and is mass-produced. In our on-going efforts towards more sustainable production and consumption patterns for clothing, we often meet a thought-pattern where apparel is reduced to fashion. Clothes are perceived as 'fashion', and the changes in the way clothes are used, produced, understood, disposed of, and discussed are strongly influenced by the language and logic of fashion. Fashion is understood in line with FF, where only the new has value, it is 'this year's' or 'this season's it-garment,' shortly thereafter the 'it' is 'out.' In both language and logic, it is the change (new, trend, etc.) we have words for, while the actual form, materials and history of clothing are not part of the discourse. They lead a ghostly existence, as Sophie Woodward⁶ so aptly pointed out.

FF is a global system for production and turnover of clothes that emerged in the 1980's. This was a direct consequence of China opening up for production and has resulted in a catastrophic increase in cheap clothing (often dubbed 'cheap chic'), a negative environmental impact, as well as a detrimental impact on animal and human welfare and health. This enormous growth in volume corresponds with a similar growth in dissatisfaction with appearance and self-worth⁷.

Fashion's logic and language does not only affect those who directly profit from FF, but also journalism and every-day language and thus limit other wordings, use of concepts, and communication in the field. The methods that dominate current culture and Social Studies (eg. quantitative surveys, qualitative research-interviews and focus groups) are largely based on asking people questions, ie. language.

"In both language and logic, it is the change (new, trend, etc.) we have words for, while the actual form, materials and history of clothing are not part of the discourse."

For clothing research, this means that we are collecting an echo of what our informants have heard and learned from marketing and the cheer-leading squad (the fashion press in the widest sense). Thus, we do not get access to the alternative narratives, only the faint echo of a language where words such as 'fashion,' 'in,' 'new,' 'style,' etc. are central. Our counter-attack has been to develop and present methods where we open up wardrobes with techniques that offer a more material anchoring. The result is 50 different methods from 50 contributors from a range of fields and businesses collected in the book "Opening up the Wardrobe – a methods book."⁸ This phenomenon can be observed in many fields. Within the fields of pesticides for gardening and other food production, as well as in forestry and landscape management, there are long traditions among influential groups to discuss these substances and their application in a basically 'chemical' language, and a cognitive landscape of old school toxicology. This limits the production of knowledge and often serves to conceptually overrun or reject critics who bring issues up from other angles and experiences.

2. Concepts that limit critical thinking

Concepts, words, symbols and physical figures with authoritative approval or support can also serve as discussion-stoppers, masks, or even serve to hide environmental problems and counter critical discussion by displaying assuring text and objects in plain sight. This can be intentional or unintentional, but related to environmental literacy issues, we will focus on the actual function.

An example that relates to clothing is fiber labelling. When, for example, the label states 100% polyester, this is perceived as 100% of the weight and content of the clothing⁹. Fiber labelling is often confused with content declarations that exist, eg. for food. But the fiber labelling only refers to the raw material, while all other chemicals, treatments, etc. that the textile has been exposed to, become doubly invisible. None of the substances on the authorities' 'worst' list of potentially toxic chemicals are fibers per se, nor are they

subject to labelling laws. But many of them are present in garments, either as residues from the production process or as substances, adding certain permanent properties to the garment. As the authorities only require the fiber labelling, the clothes are perceived as 'clean' more or less by default.

It is also absolutely possible to understand 'fashion' as a blurring term, a term that covers up the emperor's (lack of) clothing savvy. Despite the fact that apparel increases in volume, clothes also deteriorate in quality, and the emperor and many others, who expect to be 'in' and 'renewed' clothing- and fashion-wise, are becoming less and less satisfied with their appearance, in tandem with rising environmental impacts. Moreover, we also face some other confusing and blurring words.

'Circular economy' and 'closing the loop' are current favorites among politicians, NGOs and science proponents. These concepts have been and can be used to increase environmental literacy, but unfortunately, they are often used



“The circle is used to hide the fact that producing something we don’t need, can never be ‘green.’ To make more trash from trash creates more waste, not less.”

for opposite means. We envision nice/simple images of circles where nothing is added and nothing escapes in an eternal, sustainable circuit. Similarly, these terms are used to give recycled materials a high status. However, these concepts can actually hamper environmental literacy.

The fashion industry has adopted the idea of circularity with fervor. This enables the fashion and apparel industry to continue business as usual and increase production (clothing production has doubled from 2000 to 2014, and the average person buys 60% more items of clothing while keeping them half as long as 15 years ago, according to a recent Greenpeace study¹⁰) while claiming their green ‘commitment’. The circle is used to hide the fact that producing something we don’t need, can never be ‘green.’ To make more trash from trash creates more waste, not less. The fact that the loop is far from (or in any near future will become) closed, does not stop the eagerness of industry or politicians to adopt this approach. They continue their dance around the golden calf aka ‘green growth,’ while the environmental footprint continues to increase.

In the report by Greenpeace, the concept of ‘slowing the loop’ was proposed as a

better way of dealing with the ever-present elephant in the room: Over-production and FF’s business model of constantly replacing ‘last season’s must haves’ with new ‘stuff’. The Greenpeace report is a timely attack on the Pulse Report, which was launched at the Copenhagen Fashion Summit in May 2017 by the Global Fashion Agenda and the Boston Consulting Group, alongside a call for all companies present to sign up for recycling and ‘closing the loop.’ Unfortunately, the Pulse Report’s recommendations to address fashion’s environmental and social footprint are proposed in order to continue its inherently unsustainable growth. Despite recognition of the serious environmental and social problems being caused by the fashion industry today, confirming much of Greenpeace’s analysis in its recent Timeout for Fast Fashion publication, there appears to be little awareness that the ever-increasing turnaround of low quality fashion items is the very problem that needs to be overcome. The question of strategies to slow down the flow of materials is barely touched on.

3. Transformative words and concepts

In order to gain knowledge, we need to develop concepts and terms. In the food sector, concepts like ‘slow’ and ‘local’ have had important impact. ‘Local’ related to food, has offered more variety, more focus on local culture and nature, a wider selection, new distribution channels, increased interest in taste and the relationship between raw materials and the result; critique of mass-production and unnecessary additives, packaging and transport. But what is the situation with regards to clothing? Here, again, we lack words. What is ‘local clothing culture’? What are ‘good’ or ‘healthy’ clothes, actually?

As part of the on-going project KRUS, we try to develop concepts and words borrowed from food. Camouflaged as a knitting book,



based on Norwegian wool,¹¹ we have written about the diversity of yarns from local niche producers and industrially manufactured based on a Norwegian raw material. Such books – about the variety of a raw material and how to use them in the best way – are not unusual in food, with beautiful pictures and tempting recipes. Hopefully this small trail will lead to others following, and that it will be possible to talk about clothes not only as a global commodity but also with words like ‘slow’, ‘local’, ‘good’, ‘democratic’ and so on.

A common future and understanding

There is a dichotomy between the threats against our own and our children’s future, be it climate change issues, toxic chemicals or over-consumption – and the counter-measures our society so far are ready to apply. As a democratic society we are dependent on people not being alphabets, and as a future sustainable society we are dependent on environmental literacy. Our examples from wardrobes, language and concepts surrounding clothes have shown that they are not suitable to develop environmental literacy. Quite the opposite, as current language and discourse is giving legitimacy to FF’s dominance. It is

therefore important that laypersons as well as scholars are engaged and contribute in the development of a functional language that promotes literacy and helps us understand environmental issues and the human and social aspects of them – and that counter so-called green-washing.

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«Kli-fi»

på villspor

Thorunn Gullaksen Endreson,
Kristian Bjørkdahl
og Karen Lykke Syse

Endreson, Bjørkdahl and Syse explore Norwegian climate fiction's (cli-fi) communication of anthropogenic climate change and the human-nature relationship. This op-ed was originally published in *Klassekampen* October 25th 2017, and is based on an article in *Norsk litterær Årbok 2017: "Kli-fi' på villspor: klimakrisen i norsk samtidslitteratur"*.



«I år er naturen tilbake også i norsk samtidslitteratur etter å ha vært borte i flere tiår, mener litteraturkritiker Marta Norheim». Sitatet er tatt fra en artikkel i Aftenposten mandag 16. oktober, og er sakset fra Norheims ferske *Oppdateringar frå Lykkelandet: Røff guide til samtidslitteraturen*.¹ Røff guide er dekkende her, for naturen har vitterlig vært tilstedeværende i samtidslitteraturen de siste årene. Vi vil sågar hevde at naturen er for mye til stede, eller tilstede på en måte som ikke hjelper oss videre.

Vi er enige i at skjønnlitteraturen kan ha en rolle å spille; den kan gi mening til klimaendringenes «uhåndgripelige og abstrakte» karakter, slik økokritikeren Antonia Mehnert² formulerer det. Den litterære fiksjonen egnert seg spesielt godt der vitenskapelige fremstillingsmåter kommer til kort. Hun hevder videre at litteraturen kan gi oss fremstillinger av en usikker fremtid og er derfor viktig for diskusjoner om klimaendringer.

Mens usikkerhet og kompleksitet på mange måter er problemer for vitenskapen, kan det for skjønnlitteraturens vedkommende like gjerne ses som et felt av muligheter. Dessuten er såkalt kli-fi – skjønnlitteratur som tematiserer menneskeskapte klimaendringer – mer tilgjengelig enn vitenskapelige «faktatekster».

«Vi vil sågar hevde at naturen er for mye til stede, eller tilstede på en måte som ikke hjelper oss videre.»

Romaner leses gjerne med større iver enn rapporter. Dermed kan skjønnlitteraturen potensielt bidra til å forme vår forståelse av de globale klimaendringene.

I en artikkel i *Norsk Litterær Årbok 2017* har vi har lest fire samtidsromaner, to fra 2016 og to fra 2014: Tomas Espedals *Året*, Agnar Lirhus' *Liten kokebok*, Brit Bildøens *Sju dager i august* og Mette Karlsruks *Den beste hausten er etter monsun*. Vi spurte oss hvordan disse romanene gjør klimakrisen til et litterært objekt.

Det vi fant var at romanene tar opp i seg klimakrisen først og fremst ved å speile følelser og reaksjoner som vi til stor del finner igjen i våre faktiske holdninger til klimaendringene. De tematiserer klimaendringene gjennom *gjenkjennelse*, der karakterenes langt på vei håpløse – apatiske, eller også fornektende

– valg og skjebner står til den følelsen av desperat, men likevel likeglad, rådvillhet som mange av oss opplever i møte med klimaendringene. Dette er interessant nok, men vår påstand er at disse bøkene samtidig vikler seg inn i forslitte litterære motiver, der nedarvede kategorier og distinksjoner – ikke minst Menneske og Natur – danner ramme og motivasjon for fortellingen. Slik forblir en rekke litterære muligheter utforsket. Bøkene ruster oss dermed ikke til å forstå de menneskeskapte klimaendringene som et fenomen uten presedens, som en situasjon der gamle kategorier bryter sammen. De tar oss med andre ord aldri forbi gjenkjennelse med den apatiske tilstanden vi nå befinner oss i.

Hovedkarakterene hos Espedal og Lirhus søker til naturen for å løse sine eksistensielle problemer, og slik representerer de den romantiske, naive naturdyrkeren. Bildøens heltinne bryter sammen av en bagatell, mens naturkatastrofene som utspiller seg på TV-skjermen møtes med resignasjon og fortregning, slik også sorgen over det tapte barnet blir fortregnet. Hos Karlsruk makter en jagerflyger ikke annet enn symbolske handlinger for å bøte på klimakrisen, mens hun selv bidrar til å forsterke den globale oppvarmingen.

En velvillig lesning av disse romanene ville være at de på treffende vis speiler følelser og reaksjoner som de fleste av oss opplever i møte med klimaendringene, slik sosiologen Kari Marie Norgaard viser i sin bok *Living in Denial*.³ Ved å speile våre egne fortrenningsmekanismer viser romanene samtidig frem at dette er en blindgate. Svaret på klimakrisen er åpenbart ikke å dyrke sin egen hage, à la *Candide*, slik protagonisten hos Lirhus gjør. Ei heller nytter det å trekke seg tilbake til naturen, som fortelleren hos Espedal, stenge seg inne som Bildøens Sofie, eller spre utslippene sine jevnt utover for å bøte på sin dårlige samvittighet, som Karlsruks jagerflyger.



Disse bøkene gjenspeiler en naturromantikk som ikke lengre er gyldig. Antropocen er et varsel om at den forslitte distinksjonen mellom Menneske og Natur står for fall. Derfor må litteraturen gjøre noe annet enn å vise frem karakterer som lengter tilbake til en uberørt natur.

Det finnes ikke et oppskriftsmessig svar på hvordan litteraturen kan bidra til den verden som den både kommer fra og henvender seg til. Klimaendringer kan være ramme, protagonist, kilden til et narrativt vendepunkt, et bakteppe, et motiv, eller en tidvis referanse. De kan fremstå som «problem», som «forstyrrelse» eller «kilde til bekymring». Fremstillingen kan være ironisk, didaktisk eller dystopisk. Dette er bare noen av de narrative mulighetene som finnes. Romanen trengs for å gi mening i antropocen. Det er nødvendig med et alternativ til vitenskapelige fremstillinger. Men det underliggende spørsmålet mener vi bør være det Timothy Morton stiller i boken *The Ecological Thought*: «Hvordan kan vi bevege oss videre fra melankolien vi opplever i møte med en forgiftet planet?»⁴ Det holder ikke å bare vise frem den antropoceniske melankoli.

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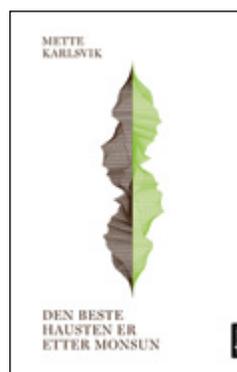
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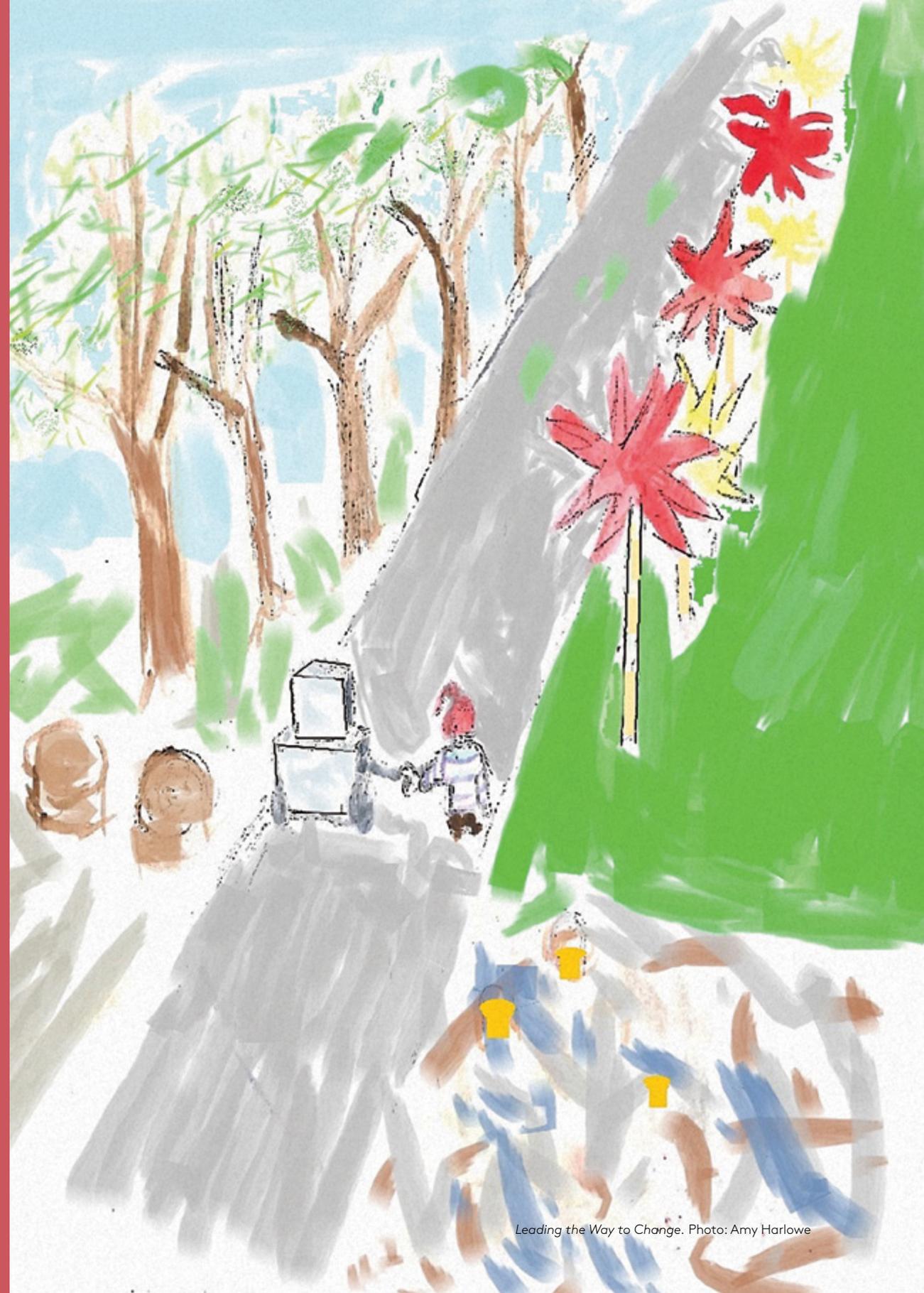
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Trees, Robots, and Childhood:

The way early media
shapes our understanding

Amy Harlowe

Stories can help shape and form children's perspectives and opinions about the world around them. This piece looks at how certain children's tales can do this, specifically in communicating more complex environmental issues to young audiences. *Wall-E* and *The Lorax* are examined for this communication.



“But those trees, those trees,
those Truffula trees”¹

How can stories we read and watch as children influence our thoughts and ideas later in life? For me, both the movie, *Wall-E* and the book, *The Lorax* by Dr. Seuss are intriguing stories used to communicate environmental issues to children. Thus, I ask, could these two cases be viewed through an ecocritical lens, reflecting on how an environmental narrative is produced through the media?² What is their potential to instill in the young a base knowledge or passion for these issues that are so critical? For, me I think this was the case, but how might we know?

Wall-E follows the story of a trash collecting robot, *Wall-E*, in a post-disaster world where extreme consumerism and garbage have left planet Earth uninhabitable. *Wall-E* must bring proof of life: a single green plant, to the now space-bound humans; with this plant, the people can return to live on Earth.³

The Lorax is an illustrated book that tells the story of the destruction of the fictitious Truffula trees and their surrounding ecosystem

at the hands of the Once-ler and his thneed business. This story vividly shows to children a harmed ecosystem, resulting from chopping down trees for thneeds, and the thneed factory’s pollution of the surrounding area.

The cute robots of *Wall-E* and the fun rhyme and colorful images in *The Lorax* captivate, yet stand in stark contrast to the unfolding images of the damaged environments. Both tell attractive and exciting stories, which gain the attention of young audiences and at the same time, clearly illustrate relevant environmental problems.

Learning to Question

Both stories clearly communicate issues of sustainability to children as they vividly depict the destructive force of the commercial overuse of natural resources, a framing that reinforces critical thinking skills. In *Wall-E*, the big store brand Buy N Large brings about the problem. In *The Lorax*, the Once-ler’s saying “business is business and business must grow”⁴ strikes the same chord, where both businesses grow until the ecosystems can no longer sustain their respective societies. With each case, there is clear a lack of regard for a sustainable use of

resources, told in a manner understandable to young audiences.

Children witness how the destruction is not just detrimental for humans but also for the ecosystems, and with this massive human impact; these stories are framed with an anthropogenic view of the world.⁵ In *Wall-E*, the massive amounts of trash have ended all organic life on Earth (excluding cockroaches). In *The Lorax*, not only are the trees lost, but the hungry Bar-ba-loots who ate Truffula fruit, and the Swomee-Swans and the Humming Fish, facing water and air pollution from the thneed factory, must leave. It is the humans who have made this significant and harmful impact.⁶ Consequently, these stories are cautionary tales that effectively evoke empathy for the plight of the Earth and loss of creatures’ homes, while teaching about these issues in approachable ways.

Unlikely Heroes

As children’s media, these tales also take on significance because in each there is an unlikely hero to which children can relate. In *Wall-E*, it is the less than glamorous trash-collecting robot, *Wall-E*, who must help save the day. Likewise, in *the Lorax*, initially it is the small yellow creature, the Lorax, who must speak for the trees, Bar-ba-loots, Swomee-Swans, and Humming Fish. When the Lorax is unable to stop the Once-ler, the hope then lies with the child of the story, as the Once-ler gives him the last of the Truffula seeds to take care and protect a new forest and ecosystem. Such unlikely heroes are perhaps more relatable to a younger audience, as they are childlike and do not yet possess the power of the adult world. These heroes give the idea that even one small person (or robot) can make an impact.⁷ The figures parallel environmental activism and place it in the hands of children, giving them the chance to have an impact using their environmental consciousness.

“These heroes give the idea that even one small person (or robot) can make an impact.”⁷”

An Impacted Society

The impact of *The Lorax* is clear as it permeates in parts of the U.S. culture, where even in the highly commercialized parks of Orlando, the Truffula trees (in metal form) stand tall, evoking this childhood memory for adults and children alike. The story is found in libraries and read in classrooms. *The Lorax* also takes a note-worthy significance, as it is a fundamental part of certain summer camps in the U.S., as was the case with environmental camps in my life. *Wall-E* is also very popular.

Looking back now as an adult with an environmental background and knowledge, I see how these elements changed how I think about nature. The subtle power of stories to engage and amuse but also educate and encourage has allowed these tales and their lessons to stick in the minds of my peers and me.

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Lorax climate march.

People's climate change engagement and willingness to act

Kjersti Fløttum

Climate change is framed and perceived in a variety of ways that affect both political and individual engagement and willingness to act. In this article Fløttum argues that the diversity of framings and perceptions of both problems and solutions should be acknowledged and researched, and emphasises the need to bridge political and individual action in order to tackle the complexity of climate change.



I recycle paper, plastic, glass, cardboard and metal, I sign petitions, I turn off the lights, I fret over my airplane miles, I dream of hurricanes, tornadoes, floods, and blizzards, I take the bus, I write a poem, I turn down the temperature, I read up on heat waves and urban demographics, I buy local, I retweet George Monbiot and Keith Barnham, I reuse envelopes, I donate money and clothes, I take a train, I watch the news, I put the coffee grains and potato peelings in the compost, I apologize...¹

What can we as individuals do to contribute to tackling climate change? People's responses vary from "We must all contribute" to "Nothing". Many are more deeply engaged and points to measures such as greenhouse gas emission reduction, improving public transportation, international collaboration, but also to their own consumption patterns and lifestyles. However, there is a need for bridging political and individual action, and for facilitation of and guidance in making "green" choices.

The complexity of climate change

Both political and individual actions are required in order to tackle the grand societal challenge of climate change and move towards a low carbon and sustainable society. This societal transition depends on an increased alignment between decision makers' strategies and people's opinions about, and attitudes to, the climate change issue.^{2,3,4} For many it is a challenge to understand what climate change is or what it will mean to their lives and environment, especially so since climate is an invisible phenomenon, and climate change is something that cannot be observed directly.^{5,6}

Scientific observations and explanations

provide an unequivocal conclusion on the reciprocal influence between climate and humans.⁷ In addition, there is the fact that climate change is a global phenomenon, but which is mostly experienced locally – by people, in many different ways in different regions of our planet.⁸ Consequences of climate change are now experienced worldwide. Even though all natural catastrophes cannot be explained by climate change, more and more of the extreme weather events as cyclones, floods, sea level rise and drought, are explained as stronger and more dramatic due to climate change.⁹ Regarding people, we acknowledge that some are clearly more vulnerable than others. Furthermore, climate change has moved from being predominantly a physical phenomenon to being simultaneously social, political, economic, cultural, ethical and communicational.¹⁰

This multidimensional phenomenon has become one of our grand societal challenges – where people are involved with their beliefs, worldviews, opinions, values and interests. No wonder there are many discussions and controversies about how to understand it, as also suggested by Mike Hulme in his 2009 seminal book "Why we disagree about climate

"... climate change has moved from being predominantly a physical phenomenon to being simultaneously social, political, economic, cultural, ethical and communicational."

change".¹¹ No wonder people speculate about the future, their children and grandchildren, their daily lives and life styles. Karen O'Brien points to dramatic transformations: "Meeting this ambitious target [of limit warming to 2°C] and adapting to the impacts and risks associated with a warmer world will require transformations of a scope, magnitude, speed, and penetration that are unprecedented in human history."¹² In order to know more about how these transformations will or can be realised, a relevant starting point is to study people's conceptions and preferences. But first – in what way, more precisely, are people important in this process?

Why are people important?

The Intergovernmental Panel on Climate Change (IPCC) provides a clear answer in its Synthesis of Assessment Report 5 from 2014, expressing it as follows in the first headline statement: "Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems."¹³ This means that we, or at least many of us, constitute a major influence on the climate system. We are the cause of climate change, or in narrative terms, we are the *villains*.¹⁴ But at the same time, millions of people are *victims*; those who have contributed the least are the most exposed and vulnerable. Implicitly, the statement by the IPCC also says that we are – or we should be – the solution, i.e. we are the ones that could contribute to reducing the negative consequences of climate change, for both humans and nature. Then, in the climate change global story, an important question is whether there are or will be any *heroes*? To what extent are we willing to contribute?

To sum up, the complexity of relations and responsibilities points to the importance

of people in the climate change issue. This importance is also the reason why it is necessary to undertake more research on the human dimension of climate change, research that originates from the humanities and the social sciences. The integration of human and social sciences has been and is currently discussed in many scholarly contexts. For example, Palsson and colleagues from seven different countries express it as follows: "Given human activities' scale and impact, as well as the overly narrow perspectives of environmental research's dominant natural sciences, a major effort is necessary to place the perspectives and insights of the humanities and social sciences' perspectives and insights at the forefront."¹⁵ With this as a backdrop, let us consider some questions to ask and approaches to undertake in order to understand more about people's engagement and willingness to act.¹⁶

How to understand the many conceptions of the many-faceted issue of climate change?

The complexity we meet depends to a large extent on the many factors influencing the diversity of people's conceptions, such as belief, worldviews, values, cultures, interests, and behaviour. Thus, there is definitely a need for continuous research with humanistic perspectives and approaches. This is needed per se, but also in order to complement the climate change knowledge base on which policy decisions and measures are dependent. Transitions from a fossil based to a sustainable low carbon society presuppose will and capability of political action. However, in order to make wise and well-founded decisions, a broad understanding of cultural, linguistic, historical and moral aspects of anthropogenic climate change is needed.¹⁷

In fact, over the last two decades, the human dimension of climate change has attracted increasing attention from scholars

“The way in which climate change is framed – say, as a technological or ethical issue – may influence what types of solutions receive public support.”

from the social sciences and humanities, developing into a rich multidisciplinary effort, with contributions from many different fields.¹⁸ The kinds of data sources and materials that have been studied are as manifold as the different disciplinary approaches, ranging from the analysis of textumediaal materials – such as scientific papers, policy reports, newspaper articles, blogs and other social media – to methodological approaches such as opinion surveys, psychological experiments, and fieldwork.

In the following, I will give a few examples of approaches that help to understand 1) how people may be influenced through circulating conceptions of climate change related to framing and word choices, and 2) what they think of possible solutions to tackle climate change.

Framing

The general idea underlying framing analyses is that a communicating text – a news story about a political event, for example – emphasizes some aspects of the facts and de-emphasizes others. It concerns how different perspectives may dominate in representations of climate change, and thus how they may influence people in various ways. A classical definition of framing, used in many different disciplinary

contexts, is the one by Entman: “To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.”¹⁹

Framing analysis has been used in many analyses of issues related to climate change, and Nisbet and Newman have suggested a generalised frame typology.²⁰ For example, the question of climate change mitigation can be framed as an ethical issue of our responsibility for future generations, as a question of technological solutions, or as a question of economic costs and benefits. Successful framing can give actors the power to define what the debate is about and which voices should have a say. The way in which climate change is framed – say, as a technological or ethical issue – may influence what types of solutions receive public support. However, the effects of frames on public opinion will depend on a number of factors, including how well the frames fit with people’s worldviews, values and mental models.²¹

Framing in the media

It is obvious that media have a crucial role in framing and in influencing their audiences. Numerous studies have been undertaken, among these the one by James Painter from 2013, including investigations of media coverage of climate change issues in six countries – Australia, France, India, Norway, the UK and the USA.²² In simplified terms, three main frames were observed: the disaster frame was the most common, the uncertainty frame was the second most common, the third one was the opportunity frame. The first one is negatively oriented, within a gloom-and-doom perspective. The third one, opportunity, has a more positive flavour; however, in this context this frame corresponded overwhelmingly to



The way climate change is framed affects our perception of appropriate action.

opportunities from not doing anything about reducing greenhouse gas emissions.

Since 2013, climate framing has changed. We have seen numerous new opportunity frames, that are positive, related to the possibilities of contributing to a sustainable and better society. These frames may originate from industry and business, but also from individuals, often related to their lifestyles. Studies have shown that there is reason to believe that we will see more variants of life style framing in the years to come.²³ Finally, I would like to mention a specific Norwegian frame, the “little Norway” frame, used in clearly opposite perceptions, as in the bold “Little Norway should be a pioneer” versus the evasive and non-committed “Little Norway cannot save the world”.

Young people's request for opportunities

“People” are not a homogenous group, far from it, and in the climate issue young people are showing special interests in many of the relevant questions, and particularly so for the questions concerning the future. In a study where some 200 high school students were included, they were asked about their conceptions of the future in 30 years. Three more or less caricatural pictures were shown to them (ecological disaster, techno-fixed future, and a “green” back-to-nature future), and they were asked which one they thought would be the most probable picture of our society in 30 years.²⁴ The answers were clear: the students opted for the techno-fixed future, and expressed an optimistic view and a strong belief in technology. When asked about what they found most motivating for contributing to reducing consequences of climate change, the answers were not so clear, but generally they wanted to see more opportunities, and not the many negative and “doomsday” representations that they found discouraging.

Survey discourse

I will now turn to some interpretations made by Norwegian citizens through their answers in national and representative surveys.²⁵ The material here is constituted by freely formulated answers to open-ended survey questions, which I call “survey discourse”. First, one methodological comment on why open-ended questions were used in some of the surveys undertaken. The reason is that open questions permit respondents to freely formulate their answers and use their own frame of reference, providing much more nuanced data than can be derived from closed-ended survey questions, where respondents have to choose between fixed alternatives, often formulated by the researchers themselves.²⁶

The data I will present stems from a 2015 national representative survey undertaken by the Norwegian Citizen Panel, included in the University of Bergen DIGSSCORE infrastructure. The question was formulated as follows: “Concerning climate change, what do you think should be done?” We received answers from 4634 respondents, in total 93,952 words. The length of the answers varied from 1 to 146 words; with a median response length of 14 words. The nature or the form of the answers also varies significantly, which can tell us something about the respondents’ engagement in the issue.²⁷

Some respondents challenge the complication presupposed in the question, by one single word or by a couple of short sentences, as in answers saying just “Nothing!!!” Or they refute the whole issue as here: “Climate Change is related to cycles. The world changes, without us being able to do much about it.” The majority, however, had the form of a list of measures, a sequence of sentence fragments as in this example: “Undertake more research on renewable energy. Lower taxes on new, more environmental cars. Develop public transport, in particular outside cities.”

The most developed answers were the long stories or more or less complete narratives. Here is an example, demonstrating a variant of an underpinning narrative structure (my emphasis):

It's industry that influences the climate to the greatest extent, not individuals. *Industrialized countries must take the initiative!* To impose taxes on developing countries as much as industrialized countries is not a fair solution in the fight against high CO2 emissions. Developing countries do not have the opportunity to buy CO2 quotas from other countries, like Norway and other hypocritical countries do. *The G20 countries must come together* to limit CO2 emissions. It doesn't help if the West cuts when Asia doesn't participate. If we want to prevent economic stagnation in today's developing countries, then the West cannot demand the same cuts in CO2! After all, there is a need for highly developed technology, which is something developing countries don't have, to *limit high emissions*.

The content of the answer constitutes a relatively clear linear narrative. We have, in short, the complication presupposed by the question (something has to be done), followed by a potential reaction of industrialized or G20 countries taking the initiative, leading to a potential resolution of limiting high emissions.

However, there is much more in this answer. The respondent undertakes a kind of dialogue or debate with alternative or competing narratives.²⁸ This is produced among other markers by the recurrent use of polemic negation “not”.²⁹ Thus, the structurally simple narrative enters into a dialogue with, and refutes, alternative narratives of other voices. The respondent presents her/his own position on the issue by relating argumentatively to those of others, reflecting the political salience of the climate question, and in this sense also pointing to various villains and victims of the issue.



What is the most difficult, or easy, to do?

In order to follow up the study presented above where many answers were of the general and not very committed kind (“we must all contribute”), we undertook a study focusing on individual conceptions of what is considered as difficult or easy to do.³⁰ The survey, also carried out by the Norwegian Citizen Panel, gave us 1076 answers. The results from the survey are presented below, ranked from the perceived most difficult to the perceived least difficult (or easiest) measure:

1. Use public transport instead of private car
2. Reduce number of long holiday flights
3. Eat less meat
4. Buy less goods than before
5. Buy energy efficient products even though there are cheaper alternatives
6. Save energy
7. Buy long lasting or recyclable products

These answers, in general, provide some useful information about people's preferences, what preoccupies them. They also indicate a correspondence with the results presented above, where solutions related to transportation was the measure that the majority of the respondents pointed to.³¹

Invisibility and visibility

Let us now return to the issue of climate being an invisible phenomenon. In a key note speech given in Bergen in 2015, Mike Hulme started with the question “Seeing Climate Change: For the Few, For the Many?” which was developed into different possibilities of seeing climate change:

Through science (knowledge is made), through citizen's experience (knowledge is everywhere), through creative art (knowledge is veiled). These different claims about the visibility of climate change circulate widely across public arenas and become enrolled by different political interests and actors. They are rooted in different epistemologies, they motivate citizens in different ways and they carry different implications for democracy.³²

These are important points that deserve further reflection. While in this article I have mostly dealt with the framing and the language used in the climate issue, we must not forget that climate change is represented – made visible and performed – in many different types of representation: fiction literature, poetry, theatre, film, music, dance, visual arts and installations.³³ An example could be the performance “Moana: The rising of the sea”,³⁴ that was set up in collaboration between the University of the South Pacific and the ECOPAS project, University of Bergen. A dramatic story is performed through song, music and dance told by people from small island states threatened by sea level rise.

Final remarks

The human dimension of climate change is one of diversity; a diversity in culture, texts, voices, actors, interests – and thereby also a diversity in engagement and willingness to act. This must be acknowledged and taken into account in further research, under the overarching aim

of providing new and urgent insight to the common knowledge base on climate change.³⁵ In the endeavour of tackling climate change, and moving towards a sustainable future, the number of both villains and victims should be considerably reduced and the number of heroes substantially increased, be they brave politicians, industrial leaders or every-day life concerned individuals.



'Ice Watch' installation, Paris.
Photo: Agence France Presse (AFP)

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Planet-Friendly Parenting:

How two women are helping parents make environmentally conscious choices.

Interviews with Saffia Farr of JUNO magazine and Eve Bell of Baba+Boo.

Sarah Shrestha-Howlett

The environmental challenges we face today are numerous and varied, just as the people who are affected by them. When we discuss how to better communicate climate change, we perhaps make the mistake of generalising those we are communicating to into a single group. In so doing, we fail to appreciate the different pressures faced by different members of our societies. One group of people who face particular challenges in terms of making 'greener' choices are parents. According to a study conducted in the US, a child increases a parent's carbon footprint by nearly six times¹. Of course, this varies across countries; the study continues to explain that the carbon impact of a child in the US is 160 times more than that of a child from Bangladesh². With such alarming figures, communicating the environmental impact parents, in particular, face and how this can be reduced, is crucial for the futures of children the world over.



*Saffia Farr, Editor of JUNO Magazine.
Photo: Jess Stephens*



*Eve Bell, Chief Ninja of Baba+Boo.
Photo: Baba+Boo*

Interviewed two entrepreneurs and mothers; Saffia Farr, Editor of natural parenting magazine JUNO, and Eve Bell, 'Chief Ninja' of reusable diaper company Baba+Boo; who are building bridges to encourage and help parents make environmentally conscious decisions.

Saffia Farr – JUNO Magazine
Saffia Farr became Editor for JUNO magazine in 2011 after living in Egypt and Kyrgyzstan for many years. The overarching theme of JUNO is “a natural approach to family life”, and Saffia’s 6 years with the magazine have seen a great many developments. Published 6 times a year, each issue of JUNO is beautiful, unique and provides an important platform for parents to share environmentally conscious approaches to parenthood. I asked Saffia a few questions about JUNO and its contribution to environmental discussions as a whole.

Tell us a bit about JUNO magazine.
Our aim is to inspire and support parents as they journey through the complex maze of parenting, at all ages, not just the baby stages. It is not our intention to judge or prescribe a fixed way to do things “right”. For this reason, most of our contributors are parents themselves, simply sharing their experiences so that others may reflect and decide to try that idea, or simply pass over it. We make each issue of JUNO look as beautiful and inspirational as possible so that it’s a joy to read and receive.

Tell us a bit about why you think JUNO, or more generally similar initiatives, are important? How is JUNO helping communicate environmental issues to your readers?
Our whole ethos is about time and experiences being more important than consumption of

“...most of our contributors are parents themselves, simply sharing their experiences so that others may reflect and decide to try that idea, or simply pass over it.”

“things”. Yes, we have adverts – the reality is that we need the revenue to be able to keep the cover price down – but they are very carefully selected and must keep with our ethos. It’s also important to us that the adverts align with the editorial and are helpful to readers, so we might have a feature on reusable menstrual products then information about where readers can go and buy those products alongside that.

Our focus is that what is important is family time rather than buying things. We try to be a counterbalance to the “10 things you must buy for your new baby” type articles. You don’t need to buy anything for a new baby, they just need love and time, but that can be so difficult for many people. That’s why including helpful and supportive features is so important and we hope this is the most productive way to spread a message of non-consumption. In a more specific way, we have articles about certain environmental issues, such as single use plastic for example. We also have a regular column on environmentally aware parenting focussing on things that are really practical – and free to do – ideas like: start a compost heap and get outdoors! We also share information about more environmentally-aware products that families can choose such as reusable



Why Carrying Matters, Issue 44.

diapers, reusable menstrual products and natural toiletries, many that don’t use plastic.

What do you think are some of the biggest environmental challenges parents face today? Do you think there are ways to overcome these challenges that are doable for the average parent?

We help our readers make informed choices, but in a gentle and non-judgemental way. We just share that the information is out there. Every family is different and make their choices on how to be environmentally aware in different ways, such as using washable diapers, using public transport, being vegan, growing veg or going to the library rather than buying books. I think the biggest challenge parents face is pressure to comply or fit in or follow the latest trends, so we encourage our readers to just step back and enjoy a simpler life with each other, such as shared meal times or time outside.

“I think the biggest challenge parents face is pressure to comply or fit in or follow the latest trends, so we encourage our readers to just step back and enjoy a simpler life with each other...”



Eco Wedding, Issue 44.

Has JUNO influenced your lifestyle and how?

I've never been a big consumer – I don't enjoy shopping! And my grandparents were organic farmers, so growing your own fruit and vegetables and avoiding chemicals is something that feels normal to me. But what has changed my outlook is how much I have learnt through working on JUNO and through the amazing people I meet as a result. I find comfort through working on JUNO to understand that many parents feel the same and there is not an easy solution. What I've learnt is that just being there for your children and talking about your concerns is such an important start.



Wild and Slow, Issue 44.

You've just released your 50th issue – congratulations! What have been some of the highlights for you over the years?

That's so hard to say...I've really enjoyed some of the events we have attended such as Tribal Hearts Festival, the Storytelling Festival at Embercombe and more recently, the APUK conference. Those events give me the opportunity to meet JUNO readers and contributors as well as to introduce the magazine to new families. It really helps me gain perspective when I talk to people first hand. We've also some wonderful memories as a family from those events. I've loved getting to know some amazingly talented and creative people. I'm so grateful to the contributors who make JUNO what it is.

The next issue of JUNO magazine is published on 1st December, with some fantastic features on the magic of the season, how wraps are made, slow travel and the regular mix of columns, crafts, book reviews and recipes. Available to view online at: www.junomagazine.com.



A natural alternative to single-use diapers. Photo: Baba+Boo

Eve Bell – Baba+Boo

Following a career as a buyer and with two children under 18 months, Eve Bell set-out on a mission to rid the world of single-use diapers. In 2000, she started a reusable diaper business, Baba+Boo, which aims to make a positive difference for the future of the planet. Her diapers are affordable, stylish and easy-to-use and are changing the face of reusable diapers across the UK; here's how.

Tell us a bit about reusable diapers vs. single-use diapers.

In the UK alone, the government spend £34 million pounds a year on disposing of these single-use diapers. Collectively as a nation, we throw 8 million away a day. Take that in for a moment. Then know that 7 million trees are cut down a year to make these single-use diapers.

So aside from those jaw-dropping figures, reusable diapers are natural and don't contain the nasties that single-use ones do. The absorbency comes from a chemical reaction. Cloth diapers use natural materials for that.

They also save you a lot of cash. £200 vs. £1000.

You've recently published a blog about making reusables the new normal. How do you propose we do that?

Firstly, changing the language. Single-use instead of disposable. Nothing is disposable. It has to go somewhere.

Then, it is about lobbying governments, lobbying councils, talking to midwives and health visitors. We will be asking for the most help from the advocates, the reusable diaper users who can be the change makers. They will be the biggest part of this change. They already do the best job.

“Nothing is disposable. It has to go somewhere.”



Stylish, affordable and easy-to-use reusable diapers.
Photo: Baba+Boo



Baba+Boo Panda Bear newborn reusable cloth diaper.
Photo: Baba+Boo

How does Baba+Boo make reusable diapers an accessible alternative for the average parent?

We pride ourselves on our customer service. It is so important to us that each and every customer feels confident in using the diapers. We put everything into making our diapers user-friendly for parents, yet they also have to be the best for their babies too. I personally love getting to know our customers. So yes, communicating makes them accessible to parents and they become our advocates.

Tell us a bit about why you think Baba+Boo, or more generally similar initiatives, are important? How is Baba+Boo helping communicate environmental issues?

I think the people are waking up to the fact that we need to look after the planet. Nothing is infinite. We are over-consuming at unsustainable levels. We don't need any more stuff. It's costing too much on a lot of levels. Social media is helping with this process, more people have a voice and we are really glad that our voice is heard. We just need to shout a bit louder and we certainly intend to.

Aside from alleviating diaper waste, what do you think are some of the biggest environmental challenges parents face today? What issues are you personally attempting to tackle in your day-to-day life?

Waste is a huge thing for me. My dad was always watching what we put in bin and that was in the eighties. It is a million times worse today. So much plastic is in everything we buy. This is something we try as a family to watch. I am mindful when buying food and avoid packaging if possible. We aim to reduce rather than recycle.

More than that, what drives me to distraction is how much 'stuff' there is in the

“I think showing other people how much more fulfilling life is by living naturally is actually the way forward, because living with less gives you so much more.”

world. Especially when you become pregnant and you are faced with this huge wall of 'stuff' that you think you are going to need. What you need is actually minimal. I have issues with how much is manufactured for commercial gain as opposed to what is actually needed, which is not a lot.

Finally, in what ways do you think parents can better communicate and support one another to make environmentally conscious choices?

I think the community of natural parenting is amazing. I learn things every day. Children learn by watching, and I don't think this changes as we grow up (if we actually ever do that!). I think showing other people how much more fulfilling life is by living naturally is actually the way forward, because living with less gives you so much more.

Baba+Boo has just released its latest winter collection; new diaper prints, new designs of organic cotton clothing and some treats for parents too. Check-out her fantastic range planet-friendly products here: www.babaandboo.com.

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The Festive Bridge Builder:

Øyafestivalen leads by example

Teresia Sætre Aarskog
and Vilde Haugrønning

The Norwegian music festival Øyafestivalen has an outspoken goal to be 'the greenest festival in the world', and is widely known for their measures to reduce their carbon footprint. Based on a written interview with Sustainability Manager, Cathrine Røsseland, this Op-ed explores the role of this festival as a communicative bridge builder in society towards sustainable practices and mindsets.



Each August Tøyen park, in the middle of Oslo, is transformed into Norway's biggest music festival, a beloved and popular event featuring a mix of well-known international and national artists, as well as the young and up-and-coming. Beyond the festivities and music, however, lies a wish to contribute with something more.¹

Øyafestivalen is well-known for its environmental profile and has received several prizes and acknowledgements for its organizers' work towards reducing the carbon footprint of the festival. With measurability as a focus, they have divided their environmental work into five categories; Energy, Waste, Food, Purchasing and Transport, all included in their comprehensive environmental accounting. Since 2002, environmental issues have been a core value, and their goal is to be 'the greenest festival in the world'. As this has become a defining feature of *Øyafestivalen*, their Sustainability Manager, Cathrine Røsselund, works hard with her team to keep up with their reputation and make sure they continue to deserve their Outstanding-certification given by A Greener Festival.

When we contacted *Øyafestivalen* for this issue, however, we wanted to go beyond the

“Festivals can be seen as time-limited mini-society with all the infrastructure we depend on on a daily basis. This format provides a unique opportunity to explore and evaluate new solutions that might be scaled up and utilised in society as a whole.”

practical solutions and accounting, and talk about communication. With an audience of 80,000 each year, in the middle of the environmentally progressive city of Oslo, such an event seems like a great arena for communicating a bigger message. In a written interview, Røsselund writes: “Festivals can be seen as time-limited mini-society with all the infrastructure we depend on on a daily basis. This format provides a unique opportunity to explore and evaluate new solutions that might be scaled up and utilised in society as a whole.”

Embracing this opportunity with all they have got, the music festival aspires to put a

positive spin on environmental issues through engaging dialogue and inclusive activities. By showing how it could be done, they hope to inspire their collaborators, volunteers, artists and audience to make sustainable choices outside of *Øyafestivalen*. One of their measures is to include their collaborators in the environmental policies of the festival. Sponsors and collaborators are required to follow the environmental policies set by the festival, and such requirements could potentially mean the need for adjustments. By requesting their collaborators to be more sustainable, the festival has the potential to inspire environmental thinking and alternative 'green' ways of handling their business.

Røsselund emphasizes their wish to communicate environmental issues to the festival audience. This communication is mainly done through practical activities directly connected to environmental action. Their waste management strategy, organized by a green youth organization, Natur og Ungdom, is an example of this. Wearing their green t-shirts and collecting waste, Natur og Ungdom serves as a distinct and visible example for the audience. According to Røsselund, people find it inspiring to see and meet volunteers who are basically doing a “trash job” for the good of the environment. In Røsselund's own words, “This is not to point a finger at the audience and accuse them of doing something wrong or not caring about the environment. It is simply a way to let the audience meet people who spend a lot of time working for environmental issues. Several people experience this as a productive way of communicating; they understand the seriousness of the issue and are inspired to change their behavior. You don't throw garbage on the ground when you know that a person standing a few meters from you will have to come over and pick it up.”

Another of their more visible measures is to serve vegetarian food, and in 2017 75% of

their menu was meat free. 37% of the food sold was either fish or vegetarian. “This means we have a higher share of vegetarian than the statistical share of the public in general, which shows that if you serve good, high quality food, fewer people will care if the food has meat in it or not,” writes Røsselund. By now their audience has high expectations for the festival's environmental engagement, and the festival's own audience survey shows positive statistics: “88% say they recycle their garbage on a daily basis. 71% say they limit their use of electricity. 57% say they eat less meat than before due to environmental reasons.” In addition to practical action, next year's festival is aiming to include panel discussion about environmental issues. If so, the festival is not only communicating implicitly through environmental action but also explicitly through concrete information and engaging debates.

To Røsselund personally, it is important to use her time on something she finds meaningful and where she can make a difference; “To me there is no doubt that we are looking at future challenges [...] We need to open our eyes and think about what a welfare society really is; witless and blind consumption or taking care of our values and teaching the next generation dignity and respect for themselves and our surroundings?” These are big questions for a music festival to take on, you might say, but by doing their part and collaborating with different actors in society they serve as a positive inspiration and a dedicated bridge builder, indeed.

References

¹ The paper is based on a written interview with *Øyafestivalen*'s Sustainability Manager, Cathrine Røsselund, as well as information from their website (see www.oyafestivalen.no)



Cathrine Røsselund is *Øyafestivalen*'s Sustainability Manager
Photo: Einar Aslaksen



Natur og Ungdom's engagement in environmental issues is visible during the festival
Photo: Maja Brenna

Contributors

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Simon Neby is a neighbor, living in the Landås part of Bergen, Norway. He is also a board member in the *Bærekraftige liv* association and cooperative. He loves mountains, and is downright scared of the possible consequences of human interference with nature and climate. In his day job, he works as a research professor at the Uni Research Rokkan Centre, specializing in administrative policies and coordination efforts in complex policy areas—such as climate and healthcare policies.

Danielle Denny is a PhD candidate of International Environmental Law at the Universidade Católica de Santos, Brazil with a research fellowship from Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. She is a former visiting associate researcher at Whitney and Betty MacMillan Center for International and Area Studies at Yale University, USA and an associate professor at Faculdade Armando Álvares Penteado and Universidade Paulista, Brazil. The author presented some ideas of this paper on the First Postgraduate Colloquium on the Frontiers of International Environmental Law, at University of Oslo, on September 21, 2017.

Milda Jonusaite Nordbø is half way through her PhD in Human Geography at the University of Oslo. Milda is from Lithuania, has lived in South Africa, but Norway is what she calls home at the moment. She just returned from half a year in Burundi where she did fieldwork diving into coffee production in a changing climate. Milda's work is centred around finding unique examples of people that believe creating positive change among endless challenges is possible. She has followed such people in the coffee industry trying to understand how they go about trying to turn part of their vision into reality.

Lushane Mugunthan was born and raised in Norway, but his family is from Sri Lanka. Currently Lushane is finishing up his studies at Hong Kong University of Science and Technology. He worked with the Young Sustainable Impact (YSI) organisation that aims to enable young people to create innovative start-ups that address the Sustainable Development Goals. Lushane intends to work alongside his generation to build a more sustainable future.

Ingun Grimstad Klepp is a Research Professor at Consumption Research Norway (SIFO), Oslo and Akershus University College of Applied Sciences (HIOA). Klepp works with research on sustainable textiles, clothing, laundry and leisure consumption and has written numerous articles and books on these themes. Currently she is mainly working with wool and heads the research project KRUS ('Crimp'), as well as a project for the international wool industry. Klepp is an engaged disseminator and was recently recognized for this by the Research Council.

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Amy Harlowe, originally from the Boston area in the U.S. is currently pursuing a Master's degree in Development, Environment, and Cultural Change at SUM. She holds a bachelor's degree from the University of Chicago in Environmental Studies and English Language Camp; Literature.

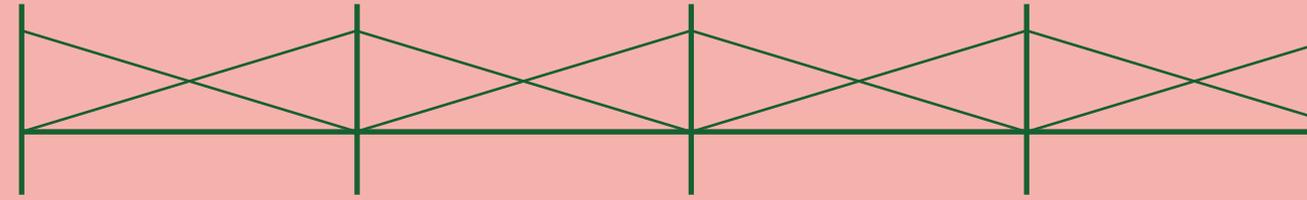
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Editorial Board



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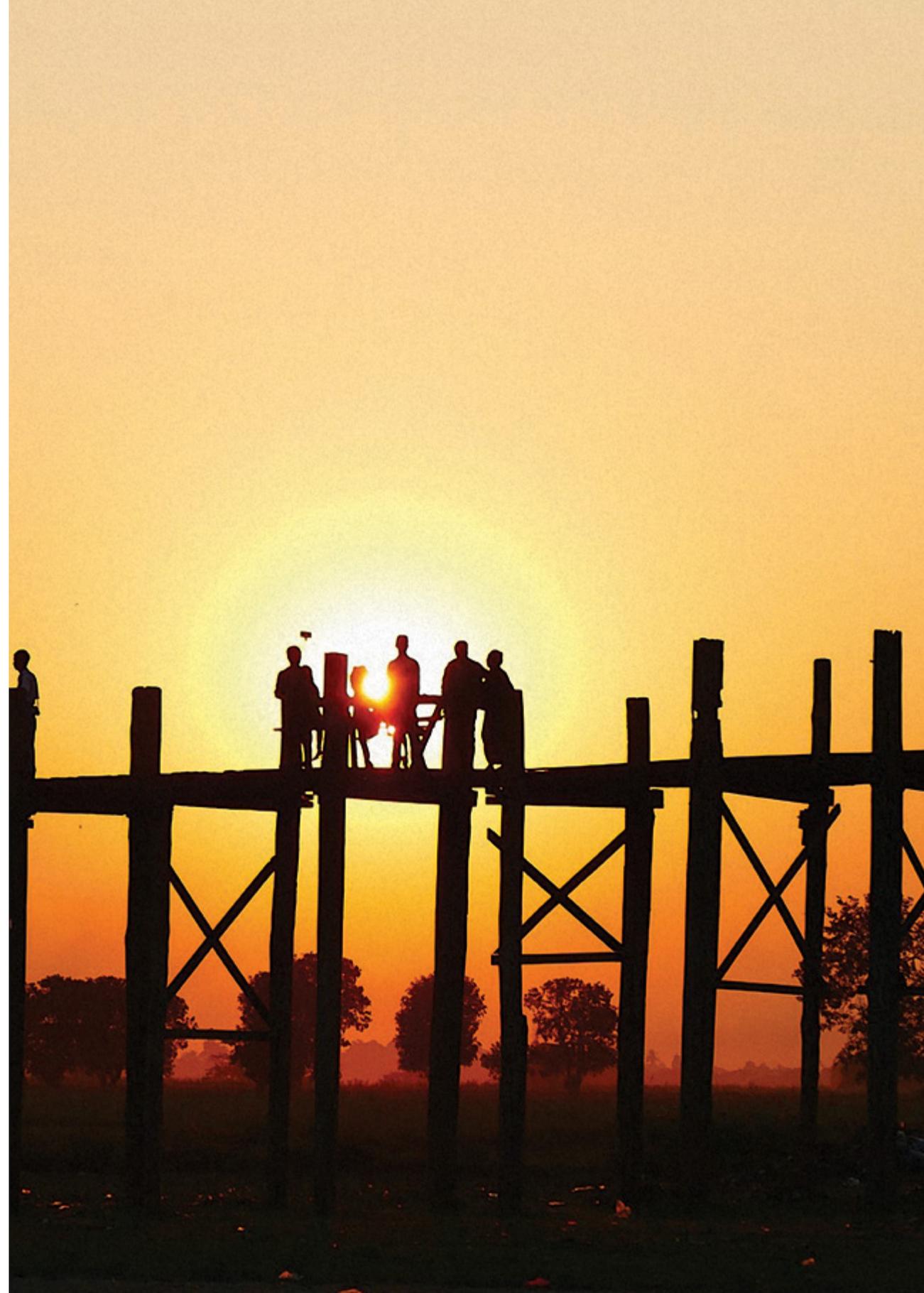
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TVERGASTEIN bears the name of Arne Næss' cabin retreat in the mountains of Hallingskarvet. It was there that Næss, an activist and one of the most wide ranging philosophers of the last century, wrote the majority of his work. These writings, his unique ecophilosophy, and his life of activism continue to inspire environmentalists and scholars in Norway and abroad. In making this journal its namesake, we aim to similarly join academia with advocacy for the environment. We aspire to the "enormous open views at Tvergastein" and the perspective Næss found there.

